

Catalog
2009/2010



LOS ANGELES COMMUNITY COLLEGE DISTRICT OFFICE

770 West Wilshire Blvd.
Los Angeles, CA 90017
(213) 891-2000

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LOS ANGELES TRADE- TECHNICAL COLLEGE

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Los Angeles Trade-Technical College

400 West Washington Boulevard
Los Angeles CA 90015-4181

www.lattc.edu

Telephone (213) 763-7000

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Getting to Los Angeles Trade-Technical College

- **FROM THE HARBOR FRWY. SOUTH**
Exit Adams Blvd. to 23rd Street, turn left to Grand Ave., turn left to college
- **FROM THE SANTA MONICA FRWY. EAST**
Exit on Grand Ave., turn right to college
- **ON THE BLUE LINE**
Grand Ave. Station; for information, www.metro.net
- **FROM THE SANTA MONICA FRWY. WEST**
Exit on Los Angeles Street to 17th Street, turn left on Grand Ave., to college
- **FROM THE HARBOR FRWY. NORTH**
Exit on Adams Blvd., turn right to Grand Ave. and left to college



Produced by the Office of Academic Affairs

LATTC

LOS ANGELES TRADE-TECHNICAL COLLEGE



2009-2010 GENERAL CATALOG

2009-2010 CALENDAR

FALL SEMESTER 2009

August 31 - December 19, 2009

WINTER INTERSESSION 2010

January 5 - February 6, 2010

SPRING SEMESTER 2010

February 8 - June 4, 2010

Catalog available in alternate media formats.

A MESSAGE FROM THE PRESIDENT

Welcome to Los Angeles Trade-Technical College!

We are so glad you have selected our college as part of your educational journey. This is a very unique institution because it offers both award-winning career-technical training integrated with a lengthy list of general education classes. If you look inside this catalog, you will find offerings unmatched at most community colleges. Please take a look at our “green” curriculum and training that can launch you into the workforce in two years. We have an extremely talented and committed faculty and staff that are always willing to assist in your academic development.



Not only are we offering new courses, but we are opening several new buildings on campus. Our Child Development Center is a state-of-the-art facility designed to meet child care needs as well as training in childhood development. Our South Campus is housing a new technology building and a new student services building. Those two spaces will help us meet your needs in new and more effective ways.

Make sure you take advantage of every resource on campus, the Writing Center, the computer lab, the veteran's office or ASO. We are here to make your educational pathway a truly successful one.

Thanks for making Trade Tech, your community college!

Dr. Roland “Chip” Chapdelaine

President

LOS ANGELES TRADE-TECHNICAL COLLEGE

2009-2010 ACADEMIC CALENDAR

FALL SEMESTER 2009

Fall semester begins	August 31
Saturday classes begin	September 5
Labor Day	September 7
Last day to apply for graduation for students completing in December, 2009	October 9
Veterans Day (College closed)	November 11
Thanksgiving Holidays (College closed)	November 26 - 29
Final examination period	December 13 - 19
Fall semester ends	December 19, 2009

WINTER INTERSESSION 2010

Winter Intersession begins	January 5
Martin Luther King's birthday (College closed)	January 18
Winter Intersession ends	February 6

SPRING SEMESTER 2010

Spring semester begins	February 8
President's Day (College closed)	February 12 - 15
Saturday classes begin	February 20
Last day to apply for graduation for students completing in June, 2010	March 26
Spring recess	March 29 - April 5
Cesar Chavez birthday (College closed)	March 31
Final examination period	May 28 - June 4
Memorial Day (College closed)	May 31
Spring Semester ends	June 4

SUMMER SESSION 2010

Summer Intersession begins	June 14
Independence Day (College closed)	July 5
Summer Intersession ends	August 22

RESPONSIBILITY TO BE INFORMED

It is the student's responsibility to read the information presented in this catalog and to know and observe all policies and procedures related to his/her program. Regulations will not be waived nor exceptions granted because a student pleads ignorance of policies, procedures, or deadlines.

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GENERAL INFORMATION

ABOUT LOS ANGELES TRADE TECHNICAL COLLEGE (LATTC)

MISSION STATEMENT OF LOS ANGELES TRADE TECHNICAL COLLEGE

Los Angeles Trade-Technical College is a comprehensive, public community college offering learner centered associate degree and certificate programs to students who reflect the global diversity of the Los Angeles region. The college offers a unique education that fosters creativity, critical thinking, and applied learning experiences. Our programs are rigorous, technologically current, and designed to promote student success.

LATTC partners with all sectors of the community to ensure that our programs are relevant, provide service-learning opportunities, and develop leadership that strengthens urban communities. Our colleges, therefore, should be accessible to all individuals who have the capacity and motivation to profit from higher education. Curricula and services of our colleges should provide means for fulfilling the promise of open access.

We recognize the necessity to adapt to the changing educational needs of the Los Angeles Community Colleges' communities and to the growing diversity among students. The quality of the educational experience is to be judged by its value to students and communities, not merely by quantitative appeal. We further recognize that academic freedom is essential to excellence in education.

COLLEGE ADVISORY COMMITTEES

The demands of industry determine the various phases of business, technical and trade training carried on by the college. Placement and successful progress of students are the measures of effectiveness of the pre-employment training. Increased productivity, job satisfaction, and advancement of the employed trainee attest to the effectiveness of the program. For these reasons all training is developed and carried on with the advice and assistance of the college advisory committees.

Membership in each of the groups is composed of community-wide representatives from labor and management, and from federal, state and local agencies who are concerned with the business, trade and technical programs offered. These advisory committees meet on the invitation of the college administration at least once a year and on additional occasions when considered necessary. They give counsel and advice in regard to evaluating training programs, approve plans to meet current training needs, review past accomplishments, and forecast trends affecting training and employment. Members of the various advisory committees are an important part of the educational program of the college. The people who serve on the committees are selected because of their leadership in the economic life of Los Angeles. The advisors bring to the college expert advice and sound thinking on

business, trade and technical problems. Thus the work of the classroom reflects the rapid changes in community and industry.

ACCREDITATION

Los Angeles Trade-Technical College, a California public, tax-supported community college, is officially accredited by the Western Association of Schools and Colleges and is fully approved by the Board of Governors of the California State University and independent colleges and universities to give full credit for appropriate courses completed. The Culinary Arts program is also accredited by the American Culinary Federation and Educational Institute. The Registered Nursing program is also accredited by the National League of Nursing.

ACCURACY STATEMENT

The Los Angeles Community College District and Los Angeles Trade-Technical College have made every effort to make this catalog accurate and may, without notice, change general information, courses, or programs offered. The reasons for change may include student enrollment, level of funding, or other issues decided by the district or college. The district and college also reserve the right to add, change, or cancel any rules, regulations, policies and procedures as provided by law.



ABOUT THE LOS ANGELES COMMUNITY COLLEGE DISTRICT (LACCD)

EDUCATIONAL PHILOSOPHY OF LACCD

The Los Angeles Community Colleges affirm the principle that individuals should have opportunities to develop to their full potential. To that end, our main responsibility is to students and to the provision of education, which benefits students and enables them to contribute to society.

Our colleges, therefore, should be accessible to all individuals who have the capacity and motivation to profit from higher education. Curricula and services of our colleges should provide means for fulfilling the promise of open access.

We recognize the necessity to adapt to the changing educational needs of the Los Angeles Community Colleges' communities and to the growing diversity among students. The quality of the educational experience is to be judged by its value to students and communities, not merely by quantitative appeal. We further recognize that academic freedom is essential to excellence in education.

FUNCTIONS OF THE LOS ANGELES COMMUNITY COLLEGE DISTRICT

Consistent with the educational philosophy and mission of the Los Angeles Community Colleges, Los Angeles Trade-Technical College offers the following types of educational programs and services:

- **Transfer.** A college transfer program which enables the student who completes two years of study to continue upper division (third year) work at accredited four-year colleges and universities through careful and continuous articulation with accredited collegiate institutions and high schools
- **Occupational.** An occupational education program planned to offer the student basic business, technical, and professional curricula to develop skills which can lead to employment, job advancement, certification, or the associate degree.
- **General Education.** A program of general education comprised of associate degree programs and other planned experiences which develop knowledge, skills, and attitudes necessary for the student to be effective as a person, a family member, a worker, and a citizen, thereby enhancing the quality of life for the individual and for the society-at-large.
- **Transitional Education.** A program of remedial and basic skills education for students needing preparation for community college level courses and programs; and English as a Second Language instruction for immigrants, foreign students and other students with limited English proficiency.
- **Counseling and Guidance.** A counseling and guidance program incorporating academic, career, and personal counseling and assistance in matters of admissions, financial aid, job placement

and student activities; to assist the student in the establishment of educational goals and in the selection and pursuit of a life work compatible with his or her interests, aptitudes, and abilities.

- **Continuing Education.** A program of continuing education comprised of graded and un-graded classes to provide opportunities for personal and occupational competence that supplement formal full-time college attendance.
- **Joint Programs.** Joint programs with business, industry, labor, education, government and other institutions which are of mutual benefit to sponsoring institutions, enhance the educational opportunities of program participants, and advance the mission and functions of the District.

MISSION STATEMENT OF THE LACCD

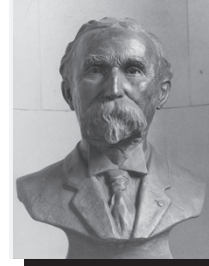
The mission of the Los Angeles Community Colleges is to provide comprehensive lower-division general education, occupational education, transfer education, transitional education, counseling and guidance, community services, and continuing education programs which are appropriate to the communities served and which meet the changing needs of students for academic and occupational preparation, citizenship, and cultural understanding. In pursuit of this mission, we endeavor to: promote equal opportunity for participation; maintain appropriate standards for academic achievement; provide an educational environment which meets the needs of students with varied learning skills; provide support services which contribute to instructional effectiveness and student success; affirm the importance of multi-cultural, international, and inter-cultural collegiate experiences that foster individual and group understanding; manage effectively educational and financial resources.



TRADE-TECH: A PROUD HISTORY

Los Angeles Trade-Technical College (LATTC) has been proud to serve the greater Los Angeles community for over eighty years.

Our history began shortly after the close of World War I, when members of the Los Angeles Board of Education, the Chamber of Commerce, and business and labor leaders held a series of conferences to talk about Los Angeles' need for a centralized vocational training program. Out of those meetings came the initial concept of what would become Trade-Tech, modeled on a class in power sewing offered to downtown garment workers. By the end of 1924, training programs in "beauty culture", printing, plumbing, and the building trades were offered at various locations around the city and briefly consolidated in a soon-to-be outgrown building located at Eighth and Grand Avenues.



Frank Wiggins, whose original vision helped create Trade-Tech

During WWII, thousands of "Rosie the Riveters" enrolled at Trade-Tech, lending their skills to support the war effort.

In the early Spring of 1925, the Los Angeles Board of Education created the Frank Wiggins Trade School, naming it after a prominent Los Angeles Chamber of Commerce member who had been a driving force in promoting the development of vocation training. The school relocated to a new building at 1646 South Olive Street in 1926, and through the ensuing years gained a reputation for the success of its graduates in industrial careers as well as the dedication of its faculty and staff.

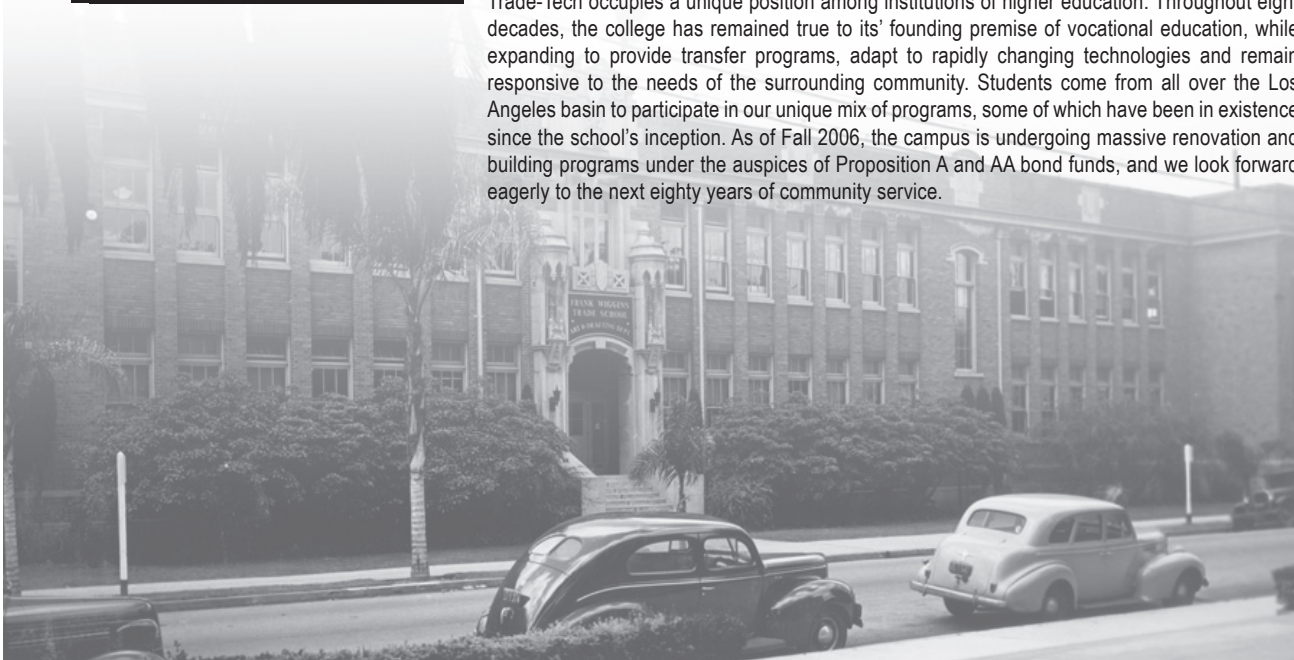
The advent of World War II created an exponential demand for the college's training programs in support of the war effort. The college's Aircraft and Welding Trades departments operated directly under the supervision of the federal War Production Training Program, while the majority of other programs were quickly reformatted to provide short-term training of six to ten weeks' duration, often at war production plants located throughout the city.



The end of the war and the return to a civilian economy, together with the infusion of federal funds for training veterans, led to an expanded demand for education and training at the college. In July of 1948, in response to veteran's retraining needs as well as Los Angeles' post-war population boom, the college was granted the authority to expand their curriculum and offer an Associate in Arts degree in vocational disciplines as well as academic and Liberal Arts areas.

LATTC moved to its current location in 1957. In 1966, an existing educational institution with a strong business program, Metropolitan College, was merged with Trade-Tech, resulting in an even broader range of educational offerings. Finally, in 1969, LATTC joined the newly formed Los Angeles Community College District (LACCD), making LATTC one of the nine colleges that comprise the District.

Trade-Tech occupies a unique position among institutions of higher education. Throughout eight decades, the college has remained true to its' founding premise of vocational education, while expanding to provide transfer programs, adapt to rapidly changing technologies and remain responsive to the needs of the surrounding community. Students come from all over the Los Angeles basin to participate in our unique mix of programs, some of which have been in existence since the school's inception. As of Fall 2006, the campus is undergoing massive renovation and building programs under the auspices of Proposition A and AA bond funds, and we look forward eagerly to the next eighty years of community service.



EDUCATIONAL PROGRAMS

Los Angeles Trade-Technical College has approval from the District Board of Trustees and the State Chancellor's Office to offer the following occupational programs and to grant the degrees and/or certificates as indicated.

Major Code		Degree	Certificate	Major Code		Degree	Certificate
0201.00	Architectural Technology	•	•	0934.23	• Programmable Logic Controllers		
0201.02	• Computer Aided Drafting			0934.21	• Voice Data Video and Fire Life Safety Technician		
0299.00	• Digital Design			0952.22	• Motor Control		
0299.01	• Historic Preservation			0934.01	Electronics Communication	•	•
2206.11	• Community GIS Mapping			0934.17	• Advanced Electronics Assembly and Repair		
0299.00	• M.A.P.S/G.I.S		•	0934.25	• Basic Electronics Assembly and Repair		
0948.20	Automotive Collision Repair	•	•	0934.18	• Digital Circuits Technician		
0948.00	Automotive And Related Technology	•	•	0934.31	• Electronics Communications Technician		
0948.00	• Engine Performance			0999.02	• Robotics		
0948.01	• Transmission Repair			0934.27	• Semiconductor Devices Technician		
0948.02	• Mechanical Repair			0934.35	• Telecommunication Field Technician		
0948.04	• Brake Suspension and Steering Technology			0709.05	• IT Security Specialist - Level I		
1306.32	Baking, Professional	•	•	0708.11	• CIS/Linux Networking Certificate		
	Business			0934.81	• Fiber Optics Network Cabling Specialist		
0502.00	• Accounting	•	•	0999.01	• Soldering Surface Mount Technology		
0502.01	• Accounting Clerk		•	1501.00	English	•	
0502.05	• Accounting Clerk Assistant			1303.10	Fashion Design	•	•
1499.01	• Bilingual Law Assistant			1303.33	• Apparel Computer Technology		
0509.51	• Customer Service Specialist			1303.11	• Fashion Technology	•	
0506.31	• Governmental Supervision		•	1303.10	Fashion Design-Adjunct		•
0502.12	• Income Tax Preparation Specialist			1303.20	Fashion Merchandising	•	•
0506.01	• Management/Supervision	•	•	1303.22	• Fashion Promotion		
0509.50	• Marketing and Public Relations	•	•	1303.21	• Retail Fashion Management		
0502.04	• Payroll Specialist			0516.00	Labor Studies	•	•
0506.03	• Project Management Specialist			4901.00	Liberal Arts	•	
0511.00	• Real Estate	•	•	0956.31	Machine Shop CNC	•	•
0509.51	• Retail Merchandising	•		0956.32	Machine Shop CNC - Adjunct		•
0509.52	• Sales and Marketing Specialist			0934.02	Microcomputer Technician I.T. Essentials	•	•
0709.01	• Website Development & Maintenance Assistant/Small Bus			0708.18	• A + Microcomputer Technician		
0506.02	• Small Business Entrepreneurship		•	0504.00	Mortgage Finance – Plan A	•	
0952.50	Cabinetmaking and Millwork	•	•	0504.00	Mortgage Finance – Plan B	•	•
0951.51	Construction Technologies	•	•	0504.04	• Mortgage Loan Officer		
0952.10	Carpentry	•	•	0504.03	• Financial/Home Ownership Counselor		
0952.11	Carpentry: Construction Technologies	•	•	0504.01	• Bank Teller		
0955.00	Chemical Technology	•	•	0948.31	Motorcycle Repair Mechanics		•
0954.01	• Process Plant Technology				Operation and Maintenance Engineering		
0958.01	• Solid Waste Management Technology		•	0945.13	• Steam Plant		•
1305.10	Child Development - Plan A	•		1203.00	Nursing, Registered	•	
1305.11	Child Development - Plan B	•		1302.20	Nursing, Vocational	•	•
1305.15	• Center Director			1230.35	• Certified Nurse Assistant (C.N.A.)		
1305.16	• Infant Care Teacher			1230.81	• Home Health Aide (HHA)		
1305.12	• Preschool Teacher		•		Physical Education		
1305.14	• Preschool Teacher Assistant			0835.71	• Aquatics		
1305.17	• School Age Programs Teacher/Daycare			0835.61	• Coaching		
2102.01	Community Planning and Economic Development	•	•	1305.52	• Elementary Movement Education/Playground		
0506.01	• Nonprofit Executive Management			0835.81	• Fitness for Special Population		
2102.03	• Community Safety Specialist			0835.10	• Dance, Beginning		
0511.03	• Urban Real Estate Development			0835.11	• Dance, Advanced		
2102.01	• Neighborhood Emergency Preparedness Specialist			0952.30	Plumbing	•	•
0511.01	• Apartment Management			0952.31	Plumbing: Construction Technologies	•	•
	Computer Applications and Office Technologies			0958.00	Process Technology	•	•
0514.00	• Administrative Assistant	•	•	0945.11	Refrigeration and Air Conditioning Mechanics-AA	•	•
0514.03	• General Office Assistant			0945.10	Refrigeration and Air Conditioning Mechanics-AS	•	•
0514.02	• Information Processing Specialist	•	•	0946.11	• Fundamentals of Refrigeration & Air Conditioning		
1402.03	• Legal Office Assistant			1306.11	Restaurant Management	•	•
0514.21	• Medical Office Assistant	•	•	1013.01	Sign Graphics	•	•
0514.01	• Office Assistant-Clerical	•	•	0999.01	Street Maintenance Technology	•	•
0701.00	Computer Information Systems	•	•	1303.32	Tailoring-Adjunct		•
3007.00	Cosmetology	•	•	1013.00	Visual Communications	•	•
1306.30	Culinary Arts	•	•	0958.00	Water Systems Technology	•	
1306.30	• Baking, Professional	•	•	0958.02	• Supply Water Technology		•
1306.31	• Restaurant & Food Services Management	•	•	0958.03	• Wastewater Technology		•
0947.00	Diesel and Related Technology	•	•	0958.40	• Solid Waste Management Technology		•
0952.24	Electrical Construction and Maintenance	•	•	0956.51	Welding Gas and Electric	•	•
0935.01	• Basic Electrician Trainee			0956.51	Welding Gas and Electric: Construction Technologies		•
0935.01	• National Electrical Code			1002.21	• Metal Sculpture		•

DISTRICT AND COLLEGE POLICIES

ACADEMIC FREEDOM

The Faculty shall have the academic freedom to seek the truth and guarantee freedom of learning to the students.

EQUAL EMPLOYMENT OPPORTUNITY

The policy of the Los Angeles Community College District is to implement affirmatively, equal opportunity to all qualified employees and applicants for employment without regard to race, color, national origin, ancestry, religion, creed, sex, age, handicap, marital status, medical condition (cancer related), sexual orientation, or veteran status. Positive action will be taken to ensure that this policy is followed in all personnel practices, including recruitment, hiring, placement, upgrading, transfer, demotion, treatment during employment, rate of pay or other forms of compensation, selection for training, layoff, or termination. A vigorous Equal Employment Opportunity Program will be maintained to ensure appropriate utilization of certain protected groups in specific areas and levels within the district workforce through the implementation of specific result oriented procedures and activities (Board Rule 101301). Inquiries regarding Equal Employment Opportunity at Los Angeles Trade-Technical College should be directed to the College Equal Employment Opportunity Representative, Dr. Letia Royal-Burnett, Compliance Office, (213) 763-7066.

CONOCIMIENTO LIMITADO DEL INGLÉS

Las clases para aprender oficios están abiertas a todos los estudiantes, aún para los que tienen dificultad con el idioma. Aunque la falta de conocimiento del idioma inglés no es una barrera para matricularse en estas clases, se recomienda a los alumnos que utilicen los servicios que el colegio ofrece con este fin.

DRUG-FREE WORKPLACE POLICY

In accordance with SECTION 22 of the DRUG-FREE SCHOOLS AND COMMUNITIES ACT OF 1989, Los Angeles Trade-Technical College strives to maintain a drug and alcohol free campus for its students and employees. The unlawful manufacture, distribution, dispensation, use or possession by students and college employees of illegal controlled substances or alcohol in all buildings, property, facilities, service areas, or on District business is prohibited (per Board Rules regarding Standards Of Conduct, Section 9803.19).

The College shall maintain a drug and alcohol free awareness policy to inform students and employees about the dangers and health risk of drug and alcohol abuse in the workplace, on the campus and during college sponsored activities. Students and employees will be informed of the sanctions that will be imposed for policy violations and the availability of drug/alcohol counseling, treatment and rehabilitation assistance. This information will be distributed yearly to all students and employees.

All students and employees are required to comply with this policy as a condition of their continued student status or employment. Any student or

in a Substance Abuse Rehabilitation Program, and/or may be subject to disciplinary action, up to and including dismissal or exclusion under applicable District Policies. In addition, an employee convicted of any workplace drug crime, must notify the college personnel office within five (5) days of conviction.

FAMILY EDUCATION RIGHTS AND PRIVACY ACT

See Student Records and Directory Information.

FREEDOM OF SPEECH AREA AND PROCEDURES

Board Rule 9902, Article IX, States, "The college president shall designate an area or areas on the college campus as areas for free discussion and expression by all persons. A Free Speech Area may only be located where there is a normal flow of student traffic with unlimited accessibility. Necessary campus rules governing the operation of such areas shall govern only the time, place and manner in which said areas are to be used. All such rules shall be applied equally and fairly to all persons desiring to use the Free Speech Areas. No restrictions shall be placed on subject matter, topics or viewpoints expressed in Free Speech Areas.

In compliance with the above Board Rule, the college president has designated the K-Mall Quad as the Free Speech Area. All individuals or organizations wanting to use the Free Speech Area, fill out an application and approval from the Vice President of Student Services office, located in A-129, prior to use of this area. The guidelines and rules for use of this area, along with time, place, manner will be distributed to the interested party. This procedure does not apply to activities sponsored by the college.

GRADUATION RATES

In compliance with the Student-Right-to-Know and Campus Security Act of 1990, the graduation rate of full-time, certificate or degree seeking students who entered in the Fall 1999 semester and graduated no later than academic year 2001-2002 is 21.6%; the Transfer rate is 35.1%.

More information about Student Right-to-Know Rates can be found at the California Community Colleges "Students Right-to-Know Rates Information Clearinghouse Website" located at <http://srk.cccco.edu>.

LIMITED ENGLISH PROFICIENCY

Occupational education classes are open to all students. Although the lack of proficiency in English is not a barrier to enrollment in occupational education courses, it is recommended that students needing remedial English assistance utilize the services of the college that are provided for persons who are limited in English proficiency or have English as a second language as a bridge for entry into the vocational program.

NONDISCRIMINATION POLICY

All programs and activities of the Los Angeles Community College District shall be operated in a manner which is free of discrimination on the basis of race, color, gender, national origin, ancestry, religion, creed, pregnancy, marital status, medical condition (cancer related), gender orientation, age, disability, or veteran status (Reference: Board Rule 1202). Inquiries regarding Equal Employment Opportunity issues should be directed to Dr. Letia Royal-Burnett, Compliance Officer, at (213) 763-7066. Inquiries relating to disabilities and special accommodations per the Americans with Disabilities Act should be directed to Ms. Donna Lichtman, Director of Disabled Students Programs and Services, (213) 763-3773, TDD (213) 763-5375.

POLÍTICA SIN DISCRIMINACIÓN

Los Angeles Community College District ofrece igualdad de oportunidades en todos los programas y actividades educativas, libre de discriminación en cuanto se refiere a raza, color, lugar de origen, ascendencia, religión, creencias, sexo, estado de gestación, estado civil, estado de salud (tratándose de cáncer), orientación sexual, edad, incapacidad física o estado como veterano. (Referencia: Board Rule 1202). Las indagaciones o quejas acerca de la Equal Employment Opportunity deberán ser dirigidas a la Srta. Letia Royal-Burnett al teléfono (213) 763-7066. Las indagaciones relacionadas con la incapacidad o arreglos especiales para incapacitados, según el Acta para Americanos Incapacitados, deberán ser dirigidas a la Srta. Donna Lichtman, Directora de los Programas y Servicios a Estudiantes Incapacitados, al teléfono (213) 763-3773 y para Medios de Telecomunicación para sordo-mudos o TDD al teléfono (213) 763-5375.

OPEN ENROLLMENT

Unless specifically exempted by law, every course for which State apportionment is claimed is fully open to any person who has been admitted to the College and who meets the appropriate academic prerequisites.

SEXUAL ASSAULT

In compliance with AB 1088, the Los Angeles Community College District is committed to providing a safe environment for its students, faculty, and staff. The Los Angeles Community College District Board of Trustees condemns any act of sexual assault committed on any of its facilities. In the event of sexual assault committed on the grounds or in facilities maintained and/or used by the District, any victim of a sexual assault who is one of the District's students, faculty, staff, or visitors shall promptly receive appropriate treatment and full and accurate information. Individuals who commit sexual assault while on properties within the control of the District shall be subject to appropriate criminal prosecution and/or District disciplinary procedures. Confidentiality is fundamental to all aspects of cases dealing with sexual assault. The names of sexual assault victims shall not be revealed by persons responsible for implementing and enforcing the provisions of this Chapter, except with the consent of the victim. District Office of Equal Employment Opportunity/Diversity (213) 891-2315 or College Sheriff (213) 763-3600.

SEXUAL HARASSMENT

The policy of the Los Angeles Community College District is to provide an educational, employment and business environment free from unwelcome sexual advances, requests for sexual favors, and other verbal or physical conduct or communications constituting sexual harassment. Employees,

students or other persons acting on behalf of the District who engage in sexual harassment as defined by the District's policy or by state or federal law shall be subject to discipline, up to and including discharge, expulsion or termination of contract.

The specific rules and procedures for reporting charges of sexual harassment and for pursuing available remedies are incorporated in the LACCD Board Rules, Chapter 15.

The Los Angeles Community College District has a policy which provides formal and informal procedures for resolving complaints. Copies of the policy may be obtained from the Vice President of Academic Affairs, and the Vice President of Student Services, or by calling the Office of the Vice Chancellor of Educational Services at (213) 891-2279, or the Office of Equal Employment Opportunity/Diversity at (213) 891-2315.

Any member of the college community, which includes students, faculty, and staff, who believes, perceives, or actually experienced conduct that may constitute sexual harassment, has the right to seek the help of the College. Every employee has the responsibility to report such conduct when it is directed towards students to the District Office of Equal Employment Opportunity/Diversity (213) 891-2315.

Potential complainants are advised that administrative and civil law remedies, including but not limited to injunctions, restraining orders or other orders may be made available.

SMOKING/NON-SMOKING PROCEDURE

In an effort to preserve the rights of both smokers and non-smokers, the college has designated both smoking and non-smoking areas. This policy ensures that drifting smoke will not be sucked into classrooms, offices and other non-smoking areas. Non-smoking areas of the College are designated as any classroom, building or other enclosed facility, including hallways, porches, decks, arcades, and sidewalk adjacent to the building which any student is required to occupy or which is customarily occupied by non-smoking students.

CAMPUS SECURITY ACT

Los Angeles Trade-Technical College, in compliance with the Federal Student Right to Know and Campus Security Act of 1990, provides the campus crime statistics for three calendar years. The College Security Report is posted at the college Sheriff's office website which can be accessed through the web address: http://www.lattc.edu/lattc/sheriff/sheriff_crime_stats.htm. A paper copy of the report is also available upon request at the college Sheriff's office.

STUDENT RIGHTS AND RESPONSIBILITIES

STANDARDS OF STUDENT CONDUCT

A student enrolling in one of the Los Angeles Community Colleges may rightfully expect that the faculty and administrators of the colleges will maintain an environment in which there is freedom to learn. This requires that there be appropriate conditions and opportunities in the classroom and on the campus. As members of the college community, students should be encouraged to develop the capacity for critical judgment and to engage in the sustained and independent search for truth. All persons shall respect and obey civil and criminal law, and shall be subject to legal penalties for violation of laws of the city, county, state and nation.

All visitors making use of the facilities or grounds of any college of the District will be asked to sign a statement that they have received the Standards of Conduct and the rules relating to campus visitors adopted by the Board of Trustees. A signature will not be a prerequisite to activities on campus. A record will be kept of all persons who use the facilities or grounds of the college.

Conduct in all of the Los Angeles Community Colleges must conform to District and college rules and regulations. Violations of such rules and regulations may result in disciplinary action depending on the individual's status as student, faculty, staff or visitor. Violations of conduct on campus rules and regulations include but are not limited to the following:

Board Rule 9803.10

Willful Disobedience. Willful disobedience to directions of College officials acting in the performance of their duties.

Board Rule 9803.11

Violation of College Rules and Regulations. Violation of College rules and regulations, including those concerning student organizations, the use of College facilities, or the time, place, and manner of public expression or distribution of materials.

Board Rule 9803.12

Dishonesty. Dishonesty, such as cheating, or knowingly furnishing false information to the colleges.

Board Rule 9803.13

Unauthorized Entry. Unauthorized entry to or use of the college facilities.

Board Rule 9803.14

College Documents. Forgery, alteration, or misuse of college documents, records, or identification.

Board Rule 9803.15

Disruption of Classes. Obstruction or disruption of classes, administration, disciplinary procedures, or authorized college activities.

Board Rule 9803.16

Theft of or Damage to Property. Theft of or damage to property belonging to the college, a member of the college community, or a campus visitor.

Board Rule 9803.17

Interference With Peace of College. The malicious or willful disturbance of the peace or quiet of any of the Los Angeles Community Colleges by loud or unusual noise, or any threat, challenge to fight, fight, or violation of any rules of conduct as set forth in this Article. Any person whose conduct violates this section shall be considered to have interfered with the peaceful conduct of the activities of the college where such acts are committed.

Board Rule 9803.18

Assault or Battery. Assault or battery, abuse or any threat of force or violence directed toward any member of the college community or campus visitor engaged in authorized activities.

Board Rule 9803.19

Alcohol and Drugs. Any possession of controlled substance which would constitute a violation of Health and Safety Code section 11350 or Business and Professions Code section 4230, any use of controlled substances the possession of which are prohibited by the same, or any possession or use of alcoholic beverages while on any property owned or used by the District or colleges of the District. "Controlled substances," as used in this section, include but are not limited to the following drugs and narcotics:

- opiates, opium and opium derivatives
- mescaline
- hallucinogenic substances
- peyote
- marijuana
- stimulants and depressants
- cocaine

Board Rule 9803.20

Lethal Weapons. Possession, while on a college campus or at a college sponsored function, of any object that might be used as a lethal weapon is forbidden all persons except sworn peace officers, police officers, Sheriff, and other governmental employees charged with policing responsibilities.

Board Rule 9803.21

Discriminatory Behavior. Behavior while on a college campus or at a college-sponsored function, inconsistent with the District's non-discrimination policy, which requires that all programs and activities of the Los Angeles Community College District be operated in a manner which is free of discrimination on the basis of race, color, national origin, ancestry, religion, creed, sex, pregnancy, marital status, sexual orientation, age, handicap or veterans status.

Board Rule 9803.22

Unlawful Assembly. Any assemblage of two or more persons to 1) do an unlawful act, or 2) do a lawful act in a violent, boisterous or tumultuous manner.

Board Rule 9803.23

Conspiring to Perform Illegal Acts. Any agreement between two or more persons to perform illegal acts.

Board Rule 9803.24

Threatening Behavior. A direct or implied expression of intent to inflict physical or mental/emotional harm and/or actions, such as stalking, which a reasonable person would perceive as a threat to personal safety or property. Threats may include verbal statement, written statements, telephone threats or physical threats.

Board Rule 9803.25

Disorderly Conduct. Conduct which may be considered disorderly includes; lewd or indecent attire or behavior that disrupts classes or college activities; breach of the peace of the college; aiding, or inciting another person to breach the peace of the college premises or functions.

Board Rule 9803.26

Theft or Abuse of Computer Resources. Theft or abuse of computer resources including but not limited to:

- a. Unauthorized entry into a file to use, read, or change the contents, or for any other purpose.
- b. Unauthorized transfer of a file.
- c. Unauthorized use of another individual's identification and password.
- d. Use of computing facilities to interfere with the work of a student faculty member or college official, or to alter college or district records.
- e. Use of unlicensed software.
- f. Unauthorized
- g. Use of computing facilities to access, send or engage in messages which are obscene, threatening, defamatory, present a clear and present danger, violate a lawful regulation and/or substantially disrupt the orderly operation of a college campus.
- h. Use of computing facilities to interfere with the regular operation of the college or district computing system.

Board Rule 9803.27

Performance of an Illegal Act. Conduct while present on a college campus or at a location operated and/or controlled by the District or at a District-sponsored event, which is prohibited by local, State, or federal law.

Board Rule 9804

Interference with classes. Every person who, by physical force, willfully obstructs, or attempts to obstruct, any student or teacher seeking to attend or instruct classes at any of the campuses or facilities owned, controlled or administered by the Board of Trustees of the Los Angeles Community College District, is punishable by a fine not exceeding five hundred dollars (\$500) or imprisonment in a county jail not exceeding one year, or both such fine and imprisonment. As used in this section, "physical force" includes, but is not limited to, use of one's person, individually or in concert with other, to impede access to or movement within or otherwise to obstruct the students or teachers of the classes to which the premises are devoted.

Board Rule 9805

Interference with performance of duties of employees. Every person who attempts to cause, or causes, any officer or employee of any of the Los Angeles Community Colleges or any public officer or employee to do or refrain from doing, any act in the performance of his/her duties, by means of a threat to inflict any injury upon any person or property, is guilty of a public offense.

Board Rule 9805.10

Assault or abuse of Instructor. Every parent, guardian, or other person who assaults or abuses any instructor employed by the District in the presence or

hearing of a community college student or in the presence of other community college personnel or students and at a place which is on District premises or public sidewalks, streets, or other public ways adjacent to school premises, or at some other place where the instructor is required to be in connection with assigned college activities is guilty of a misdemeanor.

Board Rule 9806

Unsafe Conduct. Conduct which poses a threat of harm to the individual and/or to others. This includes, but is not limited to, the following types of conduct: Unsafe conduct in connection with a Health Services Program (e.g., Nursing, Dental Hygiene, etc.); failure to follow safety direction of District and/or college staff; willful disregard to safety rules as adopted by the District and/or college; negligent behavior which creates an unsafe environment.

STUDENT DISCIPLINE PROCEDURES

Community college districts are required by law to adopt standards of student conduct along with applicable penalties for violation (Education Code Section 66300). The Los Angeles Community College District has complied with this requirement by adopting Board Rule 9803, Standards of Student Conduct (See above).

The District has adopted Board Rule 9804, Student Discipline Procedures, to provide uniform procedures to assure due process when a student is charged with a violation of the Standards of Student Conduct. All proceedings held in accordance with these procedures shall relate specifically to an alleged violation of the established Standards of Student Conduct. These provisions do not apply to grievance procedures, or residence determination and other academic and legal requirements for admission and retention.

Disciplinary measures may be taken by the College independently of any charges filed through civil or criminal authorities, or both.

Copies of the Student Discipline Procedures are available in the Vice President of Student Services Office, Temporary Building, T-F.

COMPLIANCE OFFICER

Pursuant to the Student Grievance Procedure, the College compliance officer has been appointed by the President to assist the student in obtaining informal resolution of his or her grievance. If an informal resolution is not obtained, then the compliance officer will arrange for the formation of a Grievance Hearing Committee to hear the student's grievance and will facilitate the hearing process pursuant to District Administrative Regulation E-55. The Compliance Officer, Dr. Letia Royal-Burnett, may be contacted at (213) 763-7066.

STUDENT GRIEVANCE PROCEDURES

The purpose of the Student Grievance Procedures is to provide a prompt and equitable means for resolving student grievances, per Board Rules 91101-91102.

The procedures enumerated in Administrative Regulation E-55 shall be available to any student or applicant for admission, who believes a College decision or action has adversely affected his or her status, rights, and/or privileges as a student. The procedures shall include, but not be limited to, alleged violations of Title IX of the Higher Education Amendments of 1972 (and applicable regulations), grievances relating to disabled students as defined by Section 504 of the Rehabilitation Act of 1973, and grievances relating to course grades to the extent permitted by Education Code Section 76224(a). Section 76224(a) provides:

"When grades are given for any course of instruction taught in a community college district, the grade given to each student shall be the grade determined by the instructor of the course and the determination of the student's grade by the instructor, in the absence of mistake, fraud, bad faith, or incompetency, shall be final."

For additional information regarding the procedures for filing a student grievance, or for copies of the adopted Student Grievance Procedures, contact the college Compliance Officer.

STUDENT RECORDS AND DIRECTORY INFORMATION

The Los Angeles Community College District, in compliance with Federal and State law, has established policies and procedures governing student records and the control of personally identifiable information. The Los Angeles Community College District recognizes that student records are a confidential matter between the individual student and the College. At the same time the District has a responsibility to fulfill public information needs (i.e., information about students participating in athletics, announcement of scholarships and awards, etc.). To meet this responsibility the District may release Directory Information unless the student states in writing that he or she does not want it released. The responsibility for carrying out these provisions is charged to the College Registrar, designated by the chief administrative officer on each campus. The Registrar may be contacted via the Office of Admissions. Copies of Federal and State laws and District policies and procedures are maintained by the Registrar and are available for inspection and inquiry.

All student records maintained by the various offices and departments of the College, other than those specifically exempted by law, are open to inspection by the student concerned. The accuracy and appropriateness of the records may be challenged in writing to the Registrar. A student has the right to receive a copy of his or her record, at a cost not to exceed the cost of reproduction. (Requests for transcripts should be made directly to the Office of Admissions).

No student records, including Directory Information, will be released without the written consent of the student concerned except as authorized by law. A log of persons and organizations requesting or receiving student record information is maintained by the Registrar. The log is open to inspection only to the student and the community college official or his or her designee responsible for the maintenance of student records.

Directory Information includes the student's name, city of residence, participation in officially recognized activities and sports, weight and height of members of athletic teams, dates of attendance, degrees and awards received, and the most recent previous educational agency or institution attended by the student. This information will not be released to anyone if the student marks "NO" on question "permission to Release Student Information" on the College Application or if the student marks "NO" on the College's Release of Directory Information form. This form is available in the Admission Office.

In addition, under federal law, the military is entitled to receive the following student information for recruitment purposes: student directory information as defined above, student address, telephone number, date and place of birth, and major field of study. This information will not be released to the military if the student marks "NO" on question "permission to Release Student Information" on the College Application or if the student marks "NO" on the College's Release of Directory Information form.

All inquiries regarding student records, Directory Information, and policies for records access, release, and challenge should be directed to the Registrar via the Office of Admissions. Students have the right to file a complaint with the United States Department of Education concerning alleged violations of Federal and State laws governing student records.

STUDENT RIGHT TO KNOW

Los Angeles Trade-Technical College in compliance with the Federal Student Right to Know and Campus Security Act of 1990 provides campus crime statistics in the college schedule of classes and on the college website at www.LATTC.edu.

ACCESS TO CAMPUS FACILITIES

Most campus buildings are open from 6:00 a.m. to 10:00 p.m. Monday through Thursday. Persons may be asked to produce identification if there is a question regarding their authorization to be in a certain area. Campus buildings are normally locked from 5:30 p.m. Friday to 6:00 a.m. Monday. The college Sheriff will open specific areas for Saturday classes and special events.

POLICY FOR RESPONSIBLE COMPUTING USE

The Los Angeles Community College District and Los Angeles Trade-Technical College provide computing facilities (computers, networks, software and computerized records) for use by students and college personnel to facilitate education, research, academic development and service to the public. Each individual user of these facilities is expected to do so responsibly, to use computing resources ethically, to respect the rights and privacy of others, and to use computing facilities so as not to violate copyright or patent protections or license agreements.

College computing facilities are not to be used for commercial purposes or non-College related activities without written authorization from the College. The College reserves the right to limit, restrict, or extend computing privileges and access to its information resources as it deems necessary to ensure the rules and regulations of the District and College are followed.

Students receive computer lab user guidelines as part of their course information. To obtain more specific information about College policies and standards for computing use, or to obtain a copy of the full text of Los Angeles Community College Administrative Regulation, E-76, Use of District and College Computing Facilities, contact the Administrative Projects Office/ College Computing, A-108, (213) 763-7040.

ACADEMIC POLICIES AND PROCEDURES

ATTENDANCE AND ENROLLMENT

ATTENDANCE

Only students who have been admitted to the college and are in approved active status may attend classes.

Students should attend every meeting of all classes for which they register. To avoid being dropped from class, students should contact the instructor when they are absent for emergency reasons.

Students who are pre-registered in a class and miss the first meeting may lose their right to a place in the class, but the instructor may consider special circumstances. Whenever students are absent more hours than the number of hours the class meets per week, the instructor may drop them from class. In addition, the instructor will consider whether there are mitigating circumstances which may justify the absences. If the instructor determines that such circumstances do not exist, the instructor may exclude a student from the class.

Students are responsible for dropping a class that they stop attending. If the class is not dropped, the student may receive an "F" in that class and be responsible for enrollment fee. Any drops or exclusions that occur between the end of the 4th week and the end of the 12th week will result in a "W" on the student's record which will be included in the determination of progress probation. Drops are not permitted beyond the end of the 12th week. An evaluative grade ("A", "B", "C", "D", "F", "CR", or "NC") will be assigned to students who are enrolled past the end of the 12th week even if they stop attending class, except in cases of extenuating circumstances. After the last day of the twelfth week (or 75% of the time the class is scheduled, whichever is less) the student may withdraw from class upon petition demonstrating extenuating circumstances and after consultation with the appropriate faculty. For further details, refer to "W" section of "Grading Symbols and Definitions."

FINAL EXAMINATIONS

Final examinations are required in all courses; no student will be excused.

UNITS OF WORK/STUDY LOAD

Maximum and minimum unit requirements may apply, as follows:

Unit Maximum

- The maximum study load is 18 1/2 units during a regular semester, 12 units in two summer sessions, and 7 units during winter session. The normal class load for students in the fall or spring semester is from 12 to 18 units a semester for full-time students. A college program of 15 units is equal to at least a 50-hour workweek for most students.

Students who desire to take 19 or more units must obtain approval from the Registrar through petition.

- Those students who will be employed while attending college should consider reducing their programs accordingly. It is suggested that those students who are employed full-time should enroll in no more than one or two classes or 9 units maximum.

Full-Time Definition

- A study program of 12 units or more (4 units or more in Summer and Winter session) is considered a full time study program.

Minimum study loads for specific programs:

- Veterans and veterans' dependents: 12 units
- Social Security benefits: 12 units
- Foreign Students (F-1 visa): 12 units
- Athletes: 12 academic units

The Veterans Administration uses the following definition for eligibility:

- full-time benefits: 12 or more units
- 3/4-time benefits: 9 through 11 units
- 1/2-time benefits: 6 through 8 units
- less than 1/2 time: 3 through 5 units (Reservist and National Guard)

ACADEMIC STANDARDS

ACADEMIC PROBATION

Academic Standards - Probation

The following standards for academic and progress probation shall be applied as required by regulations adopted by the Board of Governors of the California Community Colleges. Probation shall be determined based on all student course work dating from Fall, 1981; course work completed prior to Fall of 1981 is excluded from probation calculations. A student shall be placed on probation if any one of the following conditions prevail:

- ACADEMIC PROBATION.** The student has attempted a minimum of 12 semester units of work and has a cumulative grade-point average less than a "C" (2.0).
- PROGRESS PROBATION.** The student has enrolled in a total of at least 12 semester units and the percentage of all units in which a student has enrolled and for which entries of "W" (Withdrawal), "I" (Incomplete), and "NC" (No Credit) are recorded reaches or exceeds fifty percent of all units attempted.
- TRANSFER STUDENT.** The student has met the conditions of a or b at another college within the Los Angeles Community College District.

Units Attempted

"Units Attempted," for purposes of determining probation status only, means all units of credit in the current community college of attendance for which the student is enrolled.

Removal from Probation

A student shall be removed from probation upon meeting the criteria specified in this section.

Academic Probation

A student on academic probation for a grade point deficiency shall be removed from probation when the student's cumulative grade-point average is 2.0 or higher.

Progress Probation

A student on progress probation because of an excess of units for which entries of No-Credit (NC), Incomplete (I), and/or Withdrawal (W) are recorded shall be removed from probation when the percentage of units in this category drops below fifty percent (50%).

Academic Standards - Dismissal

A student shall be subject to dismissal and subsequently be dismissed under the conditions set forth within this section. Dismissal shall be determined based on student course work dating from Fall, 1981; course work completed prior to Fall of 1981 is excluded from dismissal calculations.

Academic Probation

A student who is on academic probation shall be subject to dismissal if the student has earned a cumulative grade-point-average of less than 2.0 in all units attempted in each of 3 consecutive semesters. A student who is on academic probation and earns a semester grade-point-average of 2.0 or better shall not be dismissed as long as this minimum semester grade-point-average is maintained.

Progress Probation

A student who is on progress probation shall be subject to dismissal if the cumulative percentage of units in which the student has been enrolled for which entries of No-Credit (NC), Incomplete (I), and/or Withdrawal (W) are recorded in at least 3 consecutive semesters reaches or exceeds fifty percent (50%). A student who is on progress probation shall not be dismissed after a semester in which the percentage of units in which the student has been enrolled for which entries of "W," "I," and "NC" are recorded is less than fifty percent (50%).

DISMISSAL

A student who is subject to dismissal, and who has not been continued on probation through the appeal process, shall be notified by the College President, or designee, of dismissal which will become effective the semester following notification. Dismissal from any one college in the District shall disqualify a student from admission to any other college in the District.

Appeal of Dismissal

A student who is subject to dismissal may appeal to the College Dismissal Committee by submitting a Return From Disqualification Petition to the College Admissions Officer (see a counselor to initiate petitions). Dismissal may be postponed and the student continued on probation if the student shows significant improvement in academic achievement but has not been able to achieve to a level that would meet the requirements for removal from probation.

Readmission After Dismissal

A student who has been dismissed may request reinstatement after 2 semesters have elapsed. The student shall submit a written petition requesting Return From Disqualification in compliance with College procedures. The College Dismissal Committee will meet in the first week of August and the first week of December each year to review these petitions. See the current College schedule for the date of the next meeting. Readmission may be granted, denied, or postponed subject to fulfillment of conditions prescribed by the college.

ACADEMIC RENEWAL

Students may submit a petition to the Office of Admissions and Records to have their academic record reviewed for academic renewal action of substandard academic performance (less than "C") under the following conditions:

1. Students must have achieved a grade-point-average of 2.5 in their last 15 semester units, or 2.0 in their last 30 semester units completed at any accredited college or university. These units must be completed after the coursework to be renewed; and
2. At least two calendar years must have elapsed from the time the course work to be removed was completed. If the above conditions are met, academic renewal shall be granted, consisting of:
3. Eliminating from consideration in the cumulative grade-point average up to 18 semester units of course work, and
4. Annotating the student academic record indicating where courses have been removed by academic renewal action. Academic renewal actions are irreversible. Graduation honors and awards are based on the student's cumulative grade-point average for all college work attempted. This policy is adopted for use in the Los Angeles Community College District only. Other institutions may differ and students planning to transfer to another college should contact that institution regarding its policy.

Academic Petition/Administrative Petition

Students should file an Academic Petition form when they are requesting assistance with: course repetition, course substitution, enrollment in more than 18-1/2 units, catalog rights and other related concerns. The petition forms may be obtained in Counseling Office. Petitions must be signed by the counselors before submittal to Admissions and Records Office, Building R-100. Students should file an Administrative Petition form when they are requesting assistance with Academic renewal, return from disqualification (dismissal), and other related concerns. Administrative Petition forms are available in the Office of Admissions and Records, R-102. and submitted in the same office. When filing for return from disqualification, the petition forms must be reviewed and signed by the counselors before submittal to Admissions and Records Office. Specific petition forms are available for requesting permission for: , grade changes, Credit By Examination , and lining out successfully repeated course.

CREDITS AND GRADES

CREDIT FOR ADVANCED PLACEMENT (AP)

The College offers credit for grades of 3 or better on a variety of College Board Advanced Placement Exams. Students should file a General Petition in the Admissions Office, R-102 and have an official copy of their test results sent to the school.

COLLEGE LEVEL EXAMINATION PROGRAM (CLEP)

The college grants credit for scores of 500 points (or 50%) or better on a variety of CLEP examinations. Students should contact counseling (H-130D) or Admissions (R-102) for additional information.

CREDIT FOR PREREQUISITES

Students may not concurrently enroll in and receive credit for an advanced course and its prerequisite(s). Students may not enroll in and receive credit for the prerequisite(s) to an advanced course if they have previously completed the advanced course. Violation of this regulation will result in exclusion from class and denial of course credit.

CREDIT BY EXAMINATION

Some courses in the college catalog are eligible for credit by examination.

1. Methods of obtaining credit by examination

- Achievement of a score of 3 or higher on an Advanced Placement Examination administered by the College Entrance Examination Board.
- Credit by satisfactory completion of an examination administered by the college in lieu of completion of a course listed in the college catalog.
- Achievement of a score that qualifies for credit on an examination administered by other agencies approved by the college.

2. Determination of Eligibility to take College Administered Examinations

- Must be currently registered in the college, in good standing, and with a minimum grade point average of 2.0 in any work attempted at the college.
- Must have completed 12 or more units in the LACCD.
- May petition for credit by examination if they are
 - eligible to take such course for credit under existing regulations.
 - have not completed a course or are not in the process of taking a course which is more advanced than the course for which credit is requested. This requirement may be waived at the discretion of the appropriate administrator.

3. Maximum credit allowable for credit by examination

The maximum number of units allowable for credit by examination for the Associate Degree shall be fifteen (15) units. Credit by examination transferred from other institutions is counted towards this maximum.

4. Limitations

Credits acquired by examination are not applicable to meeting such unit load requirements as Selective Service deferment, Veteran's or Social Security benefits.

5. Recording of Credit

- If a student passes the examination, the course shall be posted on his/her cumulative record indicating "Credit" in the "Grade" column.
- The number of units of credit recorded for any course may not exceed those listed in the college catalog.

6. Acceptance Towards Residence

Units for which credit is given pursuant to the provision of this section shall not be counted in determining the 12 units of credit in residence requirement.

7. Recording of Grade

Students who successfully pass an approved examination shall have the record of such examination entered on their record as "CRX" as provided by the District Grading Symbols and Definitions Policy. The student's records shall also be annotated "Credit by Examination".

Designated Courses - Credit By Exam

Automotive Collision Repair	all courses
Astronomy	1
Baking, Professional	111, 112
Building Construction Techniques	all courses
Cabinetmaking and Millwork	all courses
Carpentry	all courses
Chemical Technology	113, 123, 141
Computer Applications/Office Technologies	2
Computer Information Systems	700, 701
Cosmetology	121, 122
Culinary Arts	111, 112
Drafting	all courses
Electrical Construction and Maintenance	all courses
Electronics Technology	151, 152, 153, 154, 155, 156, 157, 158
Environmental Science	1
Fashion Design	111, 112, 120, 122, 222, 223, 224, 225, 226, 227, 228, 229, 236, 237, 238, 239, 240, 241
Fashion Merchandising	1, 10
Geography	1
Geology	1
Health Occupations	17

History	11, 12
Machine Shop-CNC	all courses
Mathematics	all courses
Nursing, Registered	50, 60, 61, 62, 63, 65, 66, 67, 68, 69, 185, 285, 385
Nursing, Vocational	185, 285, 385, 615, 625, 626, 631, 632, 635
Office Machines	2
Piping Technology	all courses
Plumbing	all courses
Refrigeration and Air Conditioning Mechanics	all courses
Sheet Metal Work	all courses
Sign Graphics	all courses
Solid Waste Management Technology	all courses
Street Maintenance	all courses
Supply Water Technology	all courses
Tailoring	all courses
Visual Communications	all courses
Waste Water Technology	12, 13, 14, 16, 17, 18
Welding Gas: Electric	all courses

CREDIT/NO-CREDIT OPTION

The College President may designate courses in the College Catalog wherein all students are evaluated on a "credit/no-credit" basis or wherein each student may elect on registration or no later than the end of the first 30% of the term, whether the basis of evaluation is to be "credit/no-credit" or a letter grade. These courses will be noted in the College Catalog as being eligible for the Credit/No-Credit Option.

- 1. USAGE FOR SINGLE PERFORMANCE STANDARD.** The credit/no-credit grading system shall be used in any course in which there is a single satisfactory standard of performance for which unit credit is assigned. A grade of Credit (CR) shall be assigned for meeting that standard, and a grade of No-Credit (NC) shall be assigned for failure to do so.
- 2. ACCEPTANCE OF CREDITS.** All units earned on a "credit/no-credit" basis in accredited California institutions of higher education or equivalent out-of-state institutions shall be counted in satisfaction of community college curriculum requirements.
- 3. RECORDING OF GRADE.** A student who is approved to be evaluated on the "credit/no-credit" basis shall receive both course credit and unit credit upon satisfactory completion of the course. Satisfactory completion for credit is equivalent to the grade of "C" or better. A student who does not perform satisfactorily will be assigned a "No-Credit" (NC) grade.
- 4. GRADE POINT CALCULATION.** Units earned on a "credit/no-credit" basis shall not be used to calculate grade-point averages. However, units attempted for which "No-Credit" (NC) is recorded shall be considered in probationary and dismissal procedures.
- 5. STANDARDS OF EVALUATION.** The student who is enrolled in a course on a "credit/no-credit" basis will be held responsible for all assignments and examinations required in the course and must meet the standards of evaluation which are identical for all students.

6. CONVERSION TO LETTER GRADE. A student who has received credit for a course taken on a "credit/no-credit" basis may not convert this credit to a letter grade.

7. COURSE REPETITION. A student who has received a grade of "No-Credit" (NC) may repeat the course by meeting the requirements set forth by the District Course Repetition to Improve Substandard Grades Policy.

Designated Courses - Credit/No Credit

Architectural Technology	all courses
Architecture	all courses
Astronomy	1, 2
Biology	3, 6, 7, 20, 23
Chemical Technology	all courses
Chemistry	all courses
Computer Applications & Office Technology	64
Cooperative Education	all courses
Developmental Communications	23, 35
Electronics Communications	all courses
Electronics Technology	all courses
Geology	1, 6
Labor Studies	all courses
Learning Skills	all courses
Mathematics	all courses
Microbiology	all courses
Microcomputer Technician	all courses
Physics	all courses
Solid Waste Management	all courses
Supply Water Technology	all courses
Waste Water Technology	all courses

CREDIT FOR COURSES COMPLETED AT NON-ACCREDITED INSTITUTIONS

Students transferring from non-accredited institutions may, after successful completion of 30 units with a "C" or better grade-point average, apply for up to 15 units of credit in courses which parallel the offerings of the College. The following exceptions may be made to this regulation:

1. Credit for Graduates of Diploma Schools of Nursing

The following amount of credit is authorized for graduates of Diploma Schools of Nursing who enter the Los Angeles Community Colleges:

- Thirty (30) semester units of credit will be given to graduates of Diploma Schools of Nursing under the following conditions:
 - The student presents a valid, current California certificate as a licensed registered nurse to the designated administrative officer;
 - The student has completed at least 12 units of credit at the College to which application is made.

- b. The work of graduates of Diploma Schools of Nursing outside California will be recognized if the student has a valid, current California license. Credit will be given even though the license was obtained on the basis of reciprocity with another state rather than by examination.
- c. Candidates for the Associate of Arts or Associate of Science Degree are exempt from Health Education as a general education requirement. No other general education requirements will be waived.
- d. Additional courses in Nursing may be taken for credit only upon approval of the Nursing Department.
- e. The transcript is not to reflect the major field nor should the diploma, where given, indicate Nursing as a major.

2. Credit for Military Service Training

Students who are currently serving in or have served in the military service, should, after successful completion of at least one course with the Los Angeles Community Colleges, request an evaluation of credit earned through military service training schools and/or military occupational specialties.

3. Credit for Law Enforcement Academy Training

Credit for basic recruit academy training instructional programs in Administration of Justice or other criminal justice occupations shall be granted as follows:

- a. Credit will be given for training from institutions which meet the standards of training of the California Peace Officers Standards and Training Commission.
- b. A single block of credit will be given and identified as academy credit.
- c. One (1) unit of credit may be granted for each 50 hours of training, not to exceed ten (10) semester units or their equivalent. Credits granted by an institution of higher education for basic recruit academy training, under the above provisions, shall not be identified as equivalent to any required course in the major.

COURSE REPETITION

Course Repetition to Improve Sub-standard Grades

No specific course or categories of courses shall be exempt from course repetition. This policy applies to courses taken at colleges within the Los Angeles Community College District. Courses completed through the provisions of Board Rule 6704 - Credit by examination may not be used to remove a substandard grade.

First Course Repetition to Remove a Sub-standard Grade

Upon completion of a repeated course the highest grade earned will be computed in the cumulated grade point average and the student's academic record so annotated. All grades awarded will show on student's permanent records to insure a true and complete academic history.

Second Course Repetition to Remove a Sub-standard Grade

Upon completion of the second repetition, the grade used in computing the student's cumulative grade point average shall be the highest grade earned, and the student's record so annotated. The two lower substandard grades will not be used in the computation of the grade point average. All grades awarded will show on student's permanent records to insure a true and complete academic history.

Third Course Repetition to Remove a Sub-standard Grade

A student may repeat the same course for a third time provided the student has:

1. Received two substandard grades for the same district course
2. Filed a petition specifying the course(s) to be repeated and stating the extenuating circumstances upon which the petition is based. "Extenuating circumstances" are verified cases of accidents, illness, or other circumstances beyond the control of the student.
3. The petition is approved by the local academic senate or a committee acting on behalf of the academic senate, and by the college president or designee.

Upon completing of the third repeat, the grade earned will not be used in the computation of the grade point average. All grades awarded will show on student's permanent records to insure a true and complete academic history.

Course Repetition: Special Circumstances

Repetition of courses for which substandard work (less than "C") has not been recorded shall be permitted only upon advance petition of the student and with written permission of the College President or designee based on a finding that circumstances exist which justify such repetition. In such repetition under special circumstances, the student's permanent academic record shall be annotated in such a manner that all work remains legible. Grades awarded for repetition under special circumstances shall not be counted in calculating a student's grade-point average.

Campus Procedure

Student will be notified of an Administrative Exclusion from a class if the student is enrolled in a class under above circumstances and has not filed a petition in advance and received approval. In this case the student may file a petition to repeat under special circumstances in Room R-102 following receipt of a Drop notice.

Course Repetition and Activity Repetition

Certain courses in the Catalog may be repeated for additional unit credit. These courses, marked "RPT" in the Course Section of the Catalog, allow the student an expanded educational experience each time the student enrolls in the course. Enrollment in these courses is limited in any similar activity to a maximum of three repeats for a total of four (4) enrollments, regardless of the repeatability of individual courses. The activity limitation also applies to courses which are not repeatable in themselves but for which similar activities exist. For example, there are several similar course titles in Art, Music, Theater, and Physical Education which are considered to be the same activity. A student may enroll four times in courses which are considered to be the same activity, such as twice in Theater 279, Musical Theater (RPT 3), and twice in Theater 280, Musical Theater Workshop (RPT 3). Any combination may be used as long as 4 enrollments in one activity is not exceeded.

This activity enrollment limitation begins with the Fall 1983 term. Excess enrollment will result in administrative exclusion. Consult a counselor for the latest restricted activity enrollment list.

NOTE: Whenever the student's record is reviewed for the purpose of determining his or her unit credits, all of the student's record is reviewed, not just the course work since the beginning of Fall 1983.

PETITIONS

Students should file a petition form when they are requesting assistance with: academic renewal, course substitution, enrollment in more than 18-1/2 units, return from disqualification (dismissal), and other related concerns. Specific petition forms are available for course repetition to improve substandard grades, grade change, and lining out successfully repeated courses. The petition forms may be obtained in the Office of Admissions and Records, room R-102, and filed in the same office. Students must consult a counselor, advisor, mentor or Department Head when filing a petition.

GRADING SYMBOLS AND DEFINITIONS

Only the symbols in the grading scale given in this section shall be used to grade all courses offered in fulfillment of the requirements for an associate or baccalaureate degree, a certificate, diploma, or license. Grades shall be averaged on the basis of the point equivalencies to determine a student's grade-point-average, using the following evaluative symbols:

Symbol	Definition	Grade Point
A	Excellent	4
B	Good	3
C	Satisfactory	2
D	Passing, less than satisfactory	1
F	Failing	0
P	Pass (at least equal to a "C" grade or better - units awarded are not counted in GPA)	
CRX	Credit by exam	
NP	No-Pass (equal to a "D" or "F" grade - units are not counted in GPA) (P and NP grades may be given only in courses authorized by the District Credit/No-Credit Option and Credit by Examination Policies.)	

Grade Point Average (GPA), cumulative and semester, may be calculated by dividing the total Grade Points by the total units attempted. (The symbol for Units Attempted is U-A, the symbol for grade points is G-P). The following non-evaluative symbols may be entered on a student's record:

Symbol Definition

(I) Incomplete

Incomplete academic work for unforeseeable, emergency, and justifiable reasons at the end of the term may result in an "I" symbol being entered in the student's record. The condition for removal of the "I" shall be stated by the instructor in a written record. This record shall contain the conditions for removal of the "I" and the grade assigned in lieu of its removal. This record shall be given to the student, with a copy on file in the college Admissions Office until the "I" is made up or the time limit has passed. A final grade shall be assigned when the work stipulated has been completed and evaluated, or when the time limit for completing the work has passed. The "I" symbol shall not be used in calculating units attempted nor for grade points. **THE "I" MUST BE MADE UP NO LATER THAN ONE YEAR FOLLOWING THE END OF THE TERM IN WHICH IT WAS ASSIGNED.** The student may petition the instructor for a time extension due to unusual circumstances. Note: Courses

in which the student has received an Incomplete ("I") may not be repeated unless the "I" is removed and has been replaced by a grade of "D" or "F". This does not apply to courses which are repeatable for additional credit.

(IP) In Progress

The "IP" symbol shall be used only in those courses which extend beyond the normal end of an academic term. "IP" indicates that work is "in progress," but that assignment of a substantive grade must await its completion. The "IP" symbol shall remain on the student's permanent record in order to satisfy enrollment documentation. The appropriate evaluative grade and unit credit shall be assigned and appear on the student's record for the term in which the required work of the course is completed. The "IP" shall not be used in calculating grade-point averages. If a student enrolled in an "open-entry, open-exit" course is assigned "IP" at the end of an attendance period and does not complete the course during the subsequent attendance period, the appropriate faculty will assign an evaluative symbol (grade) as specified above to be recorded on the student's permanent record for the course.

(W) Withdrawal

Withdrawal from a class or classes shall be authorized through the last day of the twelfth week of instruction or 75% of the time the class is scheduled to meet, whichever is less. No notation ("W" or other) shall be made on the record of a student who withdraws during the first four weeks, or 30% of the time the class is scheduled, whichever is less. Withdrawal between the end of the fourth week (or 30% of the time the class is scheduled to meet, whichever is less) and the last day of the twelfth week of instruction (or 75% of the time the class is scheduled to meet, whichever is less) shall be authorized after informing the appropriate faculty. A student who remains in class beyond the twelfth week or 75% of the time the class is scheduled shall be given a grade other than a "W," except in cases of extenuating circumstances. After the last day of the twelfth week (or 75% of the time the class is scheduled, whichever is less), the student may withdraw from class upon petition demonstrating extenuating circumstances and after consultation with the appropriate faculty. Students should obtain a petition in the Admissions Office. Extenuating circumstances are verified cases of accidents, illness, or other circumstances beyond the control of the student. Withdrawal after the end of the twelfth week (or 75% of the time the class is scheduled, whichever is less) which has been authorized in extenuating circumstances shall be recorded as "W." The "W" shall not be used in calculating units attempted nor for the student's grade-point-average. W's will be used as factors in progress probation and dismissal.

GRADES AND GRADE CHANGES

The instructor of the course shall determine the grade to be awarded to each student in accordance with the preceding Grading Symbols and Definitions Policy. The determination of the student's grade by the instructor is final in the absence of mistake, fraud, bad faith, or incompetency. The removal or change of an incorrect grade from a student's record shall only be done upon authorization by the instructor of the course. Petitions for grade changes are obtained and filed in the office of Admissions and Records, R-102. **Grade Change Petitions must be submitted within one year after the grade was assigned.** In the case of fraud, bad faith, or incompetency, the final determination concerning removal or change of grade will be made by the College President.

GRADE REQUEST PROCEDURES

Students can receive information on their grades through the Student Telephone Enrollment Process (STEP) or on the internet at www.laccd.edu. See Telephone Grade Request Procedures in the class schedule for instruction on how to receive grade information by telephone. If you need a copy of your grades, you may use the computer located in the Lobby of the Admissions Office for the printout. This printout is NOT a Transcript or a Verification of Enrollment. If you need an Official Transcript or a Verification of Enrollment, you may request them from the Admission Office.

TRANSCRIPTS

Upon written request of the student, a copy of the student's academic record shall be forwarded to the student or his or her designated addressee in ten (10) working days or less by U.S. mail or other responsible forwarding agency.

A student or former student shall be entitled to two free copies of the transcript of his or her record or to two free verifications of the student's records or combination of both. Additional copies shall be made available to the student, or to an addressee designated by the student at a cost of \$3.00 each. Students may request same day processing to expedite their requests for an additional fee of \$7.00 per transcript. This option is subject to the college's ability to provide this service. Requests for transcripts or verifications may be obtained in the Office of Admissions and Records, R-102. Transcripts from another institution are not available for copying.

The student's transcript may be withheld if 1) any library books or other library materials are charged to the student and are unreturned, or 2) there are any unpaid fees, charges or other obligations due to the College or District. The transcript may be withheld until these obligations of the student are discharged.

Incoming transcripts: academic official transcripts submitted to the college will only be honored if they are addressed to the Los Angeles Trade-Technical College, Admissions Office via U.S. mail.

PREREQUISITE POLICY

Many courses listed in the class schedule will indicate suggested prerequisite, co-requisite/concurrent enrollment or recommended preparation/advisory listed after the name of the course. These recommendations were made after careful consideration by the faculty of that department. The Los Angeles Community College District has adopted a policy based upon a model developed by the State Chancellor's Task Force in conjunction with the State Academic Senate and Chief Instructional Officers and based upon Title V Article 2.5 Section 55200 and Article 4 Section 55530 of the Matriculation Regulations. In other words, your success is our primary goal. Your rights entitle you to file a "Challenge Form" to challenge any prerequisite if you believe one or more of the following:

1. I have the knowledge, ability or skill to succeed in the course despite not meeting the prerequisite or co-requisite.
2. I will be subject to undue delay in attaining the goal of my educational plan because of the enrollment limitation, or because the prerequisite or co-requisite course has not been made reasonably available.
3. The prerequisite or co-requisite has not been established in accordance with applicable college policies and procedures.
4. The prerequisite or co-requisite is in violation of Title 5, Section 55200-55202 of the California Code of regulations.

5. The prerequisite or co-requisite, or enrollment limitation is either unlawfully discriminatory or is being applied in an unlawfully discriminatory manner.
6. The basis upon which the college established the enrollment limitation does not exist. Note: You have the right to participate in all activities related to matriculation components whether eligible for exemption or not. The matriculation program is our plan to ensure your success. For more information contact the Matriculation Department in Building "K"-010, 763-5348 or the Assessment Center "C-107", 213-763-5339.

ACADEMIC HONORS

DEAN'S HONOR LIST

Each semester (Fall and Spring) - an Honor List is composed of students who have satisfactorily completed 12 or more units in a given semester with a 3.5 grade point average OR have completed 6 to 11.5 units in a semester with a 3.5 grade point average and have completed a cumulative total of 12 or more units with a 3.5 grade-point average in all work attempted. In recognition of this scholastic accomplishment, each student is honored and awarded a certificate. The certificate issued for the first and second semesters is titled DEAN'S HONOR LIST.

PRESIDENT'S HONOR AWARD

Students who have met the requirements for the Dean's Honor List for three consecutive semesters qualify for the President's Honor Award.

DISTINGUISHED GRADUATE AWARD

The Distinguished Graduate Award is one of the most significant and praiseworthy honors available to students at Los Angeles Trade-Technical College. Students are honored at the College Commencement exercises. In order to be considered for the award, a candidate must:

- Apply for the Associate Degree.
- Achieve a cumulative grade-point-average of 3.70 or better in all college work at the time of application, and be in good standing.
- Complete at least 50% of all units utilized for the award within the Los Angeles Community College District.
- Achieve a grade-point-average of 3.70 and be in good standing in all college work attempted at the end of the Fall semester if graduation requirements will not be completed until the end of the Spring semester.

After the final grade point evaluation, if the student achieved a 3.70 GPA, he or she will be awarded the Distinguished Graduate Award.

GRADUATION AND TRANSFER INFORMATION

GRADUATION REQUIREMENTS

ASSOCIATE DEGREE

The Board of Governors of the California Community Colleges has authorized the Los Angeles Community College District Board of Trustees to confer the degrees of Associate in Arts and Associate in Science. The program of study leading to the Associate Degree requires sufficient depth in a field of knowledge (the major) to contribute to lifetime interest and broad exposure to other areas of learning (the general education requirements).

Philosophy of General Education

General Education symbolizes a successful attempt on the part of the college to lead students through patterns of learning experiences designed to develop certain capabilities and insights. Among these are the ability to think and to communicate clearly and effectively, both orally and in writing, to use mathematics, to understand the modes of inquiry of the major disciplines, to be aware of other cultures and times, to achieve insights gained through experience in thinking about ethical problems, and to develop the capacity for, and sense of, self-understanding.

Associate Degree Requirements

The following Associate Degree requirements apply to students entering for the first time after July 1, 1983. Continuing students with uninterrupted attendance and demonstrating satisfactory graduation requirements listed in the catalog in effect at the time of their initial enrollment (Catalog Rights). A continuing student is one who has completed a minimum of one course per semester, except that completion with a "W" will be accepted for one semester only. Students who interrupt their attendance become subject to any new requirements which are in effect at the time they re-enroll.

I. Unit Requirement

60 to 64 units of degree applicable course credit in a selected curriculum. One credit hour of community college work is approximately three hours of recitation, study, or laboratory work per week throughout a term of 16 weeks.

II. Scholarship Requirement

A "C" (2.0) grade average or better in all college work attempted in the curriculum upon which the degree is based.

III. Competency Requirement.

Students must demonstrate competence in reading, in written expression, and in mathematics. The following courses and examinations are approved to meet the competency requirement for the associate degree as defined in Board Rule 6201.12:

A. The competency requirement in reading and written expression may be met by:

1. Completion of a course in College Reading and Composition with a grade of "C" or better. Or

2. Completion of any one of the following courses (or its equivalent at another college) with a grade of "C" or better:
English 101; Journalism 101

**** Not offered at L.A. Trade-Tech**

B. The competency requirement in Mathematics* may be met by:

1. Completion of one of the following courses (or its equivalent at another college) with a grade of "C" or better:
Math 125 or any higher level mathematics with a prerequisite of mathematics 115 or its equivalent (Math 125, 215, 216, 225, 227, 230, 235, 236, 240, 245, 260, 265, 266, 267, 270, 275);
Statistics 1** Or
2. Achievement of a score of 15 or higher on the District Mathematics Competency Examination.

***Board Rules 6201.14, 62201.12, & 6012.12**

**** Not offered at L.A. Trade-Tech**

IV. Residence Requirement

Completion of at least 12 units of work in residence and attendance at the college during the semester in which the graduation requirements are completed. Exceptions may be made under special circumstances.

V. Course Requirements

Majors requiring 18-35 units complete Graduation Plan A. Majors requiring 36 or more units complete Graduation Plan B. Effective for all students admitted for the Fall 2009 term or any term thereafter, each course counted toward the major requirements must be completed with a grade of "C" or better or a "P" if the course is taken on a "Pass-No Pass" basis.

VI. Graduation Application

Students must complete an application with a Counselor and file it in the Admissions office during the first 6 weeks of the semester in which students expect to complete degree/certificate requirements.

Graduation Application for Degree/Certificate

All students must file an application for degree/certificate evaluation during the first 6 weeks of the semester in which they expect to complete their degree/certificate requirements with a Counselor. Students completing the course work during the Summer Session must file an application during the first 6 weeks of the preceding Spring Semester. Late applications are not accepted. Applications for Degree/Certificate evaluation, for discontinued instructional programs, will NOT be accepted beyond 3 years after the program is removed from the College Catalog. Students should see a counselor for evaluation of requirements for graduation.

Applications are available in the Admissions and Records Office, R-Building, R- 102, Graduation Windows 9 and 10. Prior to the end of the semester in which the application is filed, students will be notified by mail of their degree/certificate evaluation. Students who do not complete requirements must submit a new application during the first 6 weeks of the semester in which they expect to meet requirements. Students successfully completing all requirements will be NOTIFIED THROUGH THE U.S. MAIL when their degree/ certificate is ready for pick-up, based on the following schedule:

- Students completing all requirements by January will have degree certificate ready after June 15.
- Students completing all requirements by June will have degree/certificate ready after August 15.
- Students completing all requirements by July (Summer Session) will have degree/certificate ready after September 15.

STUDENTS MUST PRESENT THE NOTIFICATION CARD AND PICTURE IDENTIFICATION WHEN PICKING-UP DEGREE/ CERTIFICATE.

Diplomas and/or Certificates will only be held for one year after the Diploma/ Certificate graduation date. Qualified graduates who do not pick-up their Diploma/Certificate within the above time frame must submit a request for a duplicate Diploma/Certificate and will be assessed a fee for duplicate preparation.

CERTIFICATE OF ACHIEVEMENT

The Certificate of Achievement shall be granted by Los Angeles Trade - Technical College to any student who successfully completes a sequence of courses established by the department and approved by the college in certain designated programs. That sequence of courses shall include but not be limited to the essential occupational courses required in the major. All courses applied to a certificate program must be completed with a grade of "C" or better.

Application for a Certificate of Achievement must be filed in the semester in which the certificate is granted with a Counselor. Students completing the course work during the summer session must file an application during the first six weeks of the prior spring semester.



2009-2010 GRADUATION PLAN "A" STUDENT PROGRAM ADVISEMENT WORKSHEET for the Associate in Arts or Associate in Science Degree

Student's Name:

(Please print) Last First Middle SSN (or student ID#)

Units Requirement: 60 to 64 units of course credit in a related curriculum.**Major Requirement:** At least 18 semester units of study taken in a single discipline or related disciplines.**Scholarship Requirement:** A "C" (2.0) grade average or better in all college work attempted in the curriculum upon which the degree is based.**General Education Requirements:** Successful completion of at least 30 semester units of general education as indicated in the areas below.**Students who are interested in transferring to a four-year college or university should visit the University Transfer Center, H-130 or consult with a counselor regarding which courses can transfer.**

	Units comp	Units in progress	Units needed	Equiv. courses other CC's		Units comp	Units in progress	Units needed	Equiv. courses other CC's
A. NATURAL SCIENCES (3 units minimum)					D. LANGUAGE & RATIONALITY (12 units minimum)				
Anthropology 101					1. English Composition/English Competency Requirement				
Astronomy 1, 2, 5					Completion of one of the following courses (or its equivalent at another college) with a grade of "C" or better				
Biology 3, 6, 7, 20, 36					English 101				
Chemistry 40, 51, 65, 70, 101, 102, 211, 212, 221					2. Communication & Analytical Thinking				
Chemical Technology 111, 121					Select two courses from the list below. To meet the mathematics competency, complete at least one course listed in Section a below (or its equivalent at another college) must be completed with a grade of "C" or better OR				
Electronics 2					Achievement of a score of 15 or higher on the District Mathematics Competency Examination				
Environmental Science 1					a. Math 125				
Geography 1					**Statistics 1				
Geology 1, 6					**Computer Technology 60				
Microbiology 1, 20					**Electronics 10, 12, 14				
Physical Science 1, 14					**General Engineering Technology 121				
Physics 1, 2, 3, 4, 6, 7, 11, 12, 14 [†] , 29 [†] , 32 [†]					**Engineering Technology 49, 50, 51				
Psychology 2					b. Computer Information Systems 701				
B. SOCIAL & BEHAVIORAL SCIENCES (9 units minimum)					English 103				
1. American Institutions & U.S. History					Philosophy 6, 8				
History 11, 12, 13, 41, 42, 43, 44, 52, <i>or</i>					Speech 101, 103, 104, 151				
Political Science 1 <i>or</i>					3. Select an additional course from D1 or D2 above				
Students can elect to take a competency exam. The exam is available upon request from the Social Science Department, room F-225, (213) 763- 3938					E. HEALTH & PHYSICAL EDUCATION (3 units minimum) Select one option				
2. Social Sciences (Select one course from the list below):					1. Health 2 or 6 (meets both Physical Education & Health requirements)				
Anthropology 102, 109, 121					2. 1 unit of P.E. and choose one from Health 8, 11, 12, 21, 31, 32, 33, 35, 41, 42, 44, 45, 46, 47, 50, 51, or 52				
Business 1, 5					TOTAL				
Child Development 1, 2, 3, 11, 42									
Economics 1, 2									
Geography 2									
History 86, 87									
Labor Studies 4									
Political Science 2, 7									
Psychology 1, 11, 17, 32, 41, 69									
Sociology 1, 2, 28									
Speech Communication 121, 122, 122H									
3. One additional course from B1 or B2 above									
C. HUMANITIES (3 units minimum)									
American Sign Language 1, 2									
Arabic 1									
Architecture 130 [†] , 131 [†]									
Art 101, 102, 103, 104, 201, 202, 300, 501, 502									
Chinese 1, 2									
English 102, 203, 205, 205H, 206, 206H, 207, 208, 212, 212H, 213, 215, 215H, 218, 219, 220, 220H, 234, 240, 270									
French 1, 2, 3, 21									
Humanities 1, 2, 54, 60, 61, 73									
Japanese 1, 21, 22									
Journalism 105									
Music 101, 141, 142									
Philosophy 1									
Physical Education 750, 761, 762, 800									
Spanish 1, 2, 3, 4, 21, 22, 35, 36									
Speech 130									
Theater 100, 210, 507									
Visual Communications 106 [†] , 108 [†] , 120 [†] , 130 [†]									

You must apply for graduation. Forms and instructions are available in the Admissions and Records Office, R-Bldg, Room 102, Graduation windows 9 and 10.

Counselor's Signature

Date

2009-2010 GRADUATION PLAN "B" STUDENT PROGRAM ADVISEMENT WORKSHEET for the Associate in Arts or Associate in Science Degree

Student's Name: _____

(Please print)

Last

First

Middle

SSN (or student ID#)

Units Requirement: 60 to 64 units of course credit in a selected curriculum.**Major Requirement:** At least 36 semester units of study taken in a single discipline or related disciplines.**Scholarship Requirement:** A "C" (2.0) grade average or better in all college work attempted in the curriculum upon which the degree is based.**General Education Requirements:** Successful completion of at least 18 semester units of general education as indicated in the areas below.**Students who are interested in transferring to a four-year college or university should visit the University Transfer Center, H-130, or consult with a counselor regarding which courses can transfer.**

	Units comp	Units in progress	Units needed	Equiv. courses other CC's		Units comp	Units in progress	Units needed	Equiv. courses other CC's
A. NATURAL SCIENCES <i>(3 units minimum)</i> Anthropology 101 Astronomy 1, 2, 5 Biology 3, 6, 7, 20, 36 Chemistry 40, 51, 65, 70, 101, 102, 211, 212, 221 Chemical Technology 111, 121 Electronics 2 Environmental Science 1 Geography 1 Geology 1, 6 Microbiology 1, 20 Physical Science 1, 14 Physics 1, 2, 3, 4, 6, 7, 11, 12, 141, 291, 321 Psychology 2					D. LANGUAGE & RATIONALITY <i>(6 units minimum)</i> 1. <u>English Composition/English Competency Requirement</u> <i>Completion of one of the following courses (or its equivalent at another college) with a grade of "C" or better</i> English 101 2. <u>Communication & Analytical Thinking</u> <i>To meet the mathematics competency, complete at least one course listed in Section a below (or its equivalent at another college) must be completed with a grade of "C" or better OR Achievement of a score of 15 or higher on the District Mathematics Competency Examination</i> a. Math 125 **Statistics 1 **Computer Technology 60 **Electronics 10, 12, 14 **General Engineering Technology 121 **Engineering Technology 49, 50, 51 <i>Select 3 units from the following courses only if competency exam was taken and passed</i> b. Computer Information Systems 701 English 103 Philosophy 6, 8 Speech 101, 103, 104, 151				
B. SOCIAL & BEHAVIORAL SCIENCES <i>(3 units minimum)</i> 1. <u>American Institutions & U.S. History</u> History 11, 12, 13, 41, 42, 43, 44, 52, or Political Science 1 or <i>Students can elect to take a competency exam. The exam is available upon request from the Social Science Dept., room F-225, (213) 763-3938</i> 2. <u>Social Sciences</u> <i>Select 3 units from the following courses only if competency exam was taken and passed</i> Anthropology 102, 109, 121 Business 1, 5 Child Development 1, 2, 3, 11, 42 Economics 1, 2 Geography 2 History 86, 87 Labor Studies 4 Psychology 1, 11, 17, 32, 41, 69 Political Science 2, 7 Sociology 1, 2, 28 Speech Communications 121, 122, 122H					E. HEALTH & PHYSICAL EDUCATION <i>(3 units minimum) Select one option</i> 1. Health 2 or 6 (meets both Physical Education & Health requirements) 2. 1 unit of P.E. and choose one from Health 8, 11, 12, 21, 31, 32, 33, 35, 41, 42, 44, 45, 46, 47, 50, 51, or 52				
C. HUMANITIES <i>(3 units minimum)</i> American Sign Language 1, 2 Arabic 1 Architecture 130 ¹ , 131 ¹ Art 101, 102, 103, 104, 201, 202, 300, 501, 502 Chinese 1, 2 English 102, 203, 205, 205H, 206, 206H, 207, 208, 212, 212H, 213, 215, 218, 219, 220, 220H, 234, 240, 270 French 1, 2, 3, 21 Humanities 1, 2, 54, 60, 61, 73 Japanese 1, 21, 22 Journalism 105 Music 101, 141, 142 Philosophy 1 Physical Education 750, 761, 762, 800 Spanish 1, 2, 3, 4, 21, 22, 35, 36 Speech 130 Theater 100, 210, 507 Visual Communications 106 ¹ , 108 ¹ , 120 ¹ , 130 ¹					TOTAL				

You must apply for graduation. Forms and instructions are available in the Admissions and Records Office, R-Bldg, Room 102, Graduation windows 9 and 10.

Counselor's Signature _____

Date _____

2009-2010 CALIFORNIA STATE UNIVERSITY GENERAL EDUCATION CHECK SHEET

Student's Name:

(Please print) Last

First

Middle

SSN (or student ID#)

Title 5 of the Administrative Code allows Los Angeles Trade-Technical College to specify a pattern of General Education courses which are acceptable to meet the General Education requirements at any of the California State Universities and Colleges. **UNITS IN AREA A AND B3 MUST BE COMPLETED WITH A "C" OR BETTER AND ARE REQUIRED FOR ADMISSION.** Students must maintain an **overall grade point average of "C" or better in all courses. Certification of these units is not automatic and must be requested.** Students must see a counselor to have records evaluated for certification. Each area, A through E, may be certified individually when completed. Course may be used in only one area.

A student who does not meet certification requirement will be evaluated by the State University and may be required to complete additional the General Education courses.

Lower Division Major Requirements: In addition to the General Education pattern, students transferring to the CSU may complete Lower Division Major Requirements at LATTTC. Visit the University Transfer Center, H-130 or consult with a counselor for a list of these courses.

(Students must complete a minimum of 60 semester units of transferable credit unless they were eligible to be admitted as freshmen.)

CSU Certification Requirements	Units comp	Units in progress	Units needed	Equiv. courses other CC's	CSU Certification Requirements	Units comp	Units in progress	Units needed	Equiv. courses other CC's
A. COMMUNICATION & CRITICAL THINKING (9 units minimum) Select one course from each of A1, A2, & A3 A1. Oral Communication: Speech 101, 103, 151 A2. Written Communication: English 101, 101H A3. Critical Thinking: English 102, 103; Philosophy 6, 8; Speech 104					D. SOCIAL, POLITICAL AND ECONOMIC INSTITUTIONS AND BEHAVIOR: HISTORICAL BACKGROUND (9 units minimum) Select one course from D6, one from D8, and a third course from another D1-D10 category. Note: Courses which may be used to satisfy American Institutions at CSU are denoted by (†) and include Political Science 1 with a U.S. History Class (History 11, 12, 13, 41, 42, 43). D0. Sociology Sociology 1, 2 D1. Anthropology: Anthropology 102, 109, 121 D2. Economics: Economics 1, 2 Labor Studies 8 D3. Ethnic Studies Speech 122, 122H D4. Gender Studies Anthropology 109 History 52 Psychology 32 D5. Geography Geography 2 D6. History: History 11†, 12†, 13†, 41†, 42†, 43†, 44, 52, 86, 87 D7. Interdisciplinary: Child Development 1 Speech 122, 122H D8. Political Science: Political Science 1†, 2, 7 D9. Psychology: Child Development 1 Psychology 1, 11, 32				
B. PHYSICAL UNIVERSE & ITS LIFE FORMS (9 units minimum) Select one course from each of B1, B2, and B3: At least one course must have a laboratory. Laboratory courses are marked with an asterisk (*) B1. Physical Science Astronomy 1, 2* Chemistry 51*, 65*, 70*, 101*, 102*, 211*, 212*, 221* Geography 1 Geology 1, 6* Physical Science 1, 14* Physics 1*, 2*, 3*, 4*, 6*, 7*, 11*, 12, 14* B2. Life Science Anthropology 101 Biology 3*, 6*, 7*, 20* Microbiology 1*, 20* B3. Mathematical/Quantitative: Mathematics 225, 227, 230, 235, 236, 240, 245, 260, 265, 266, 267, 270, 275					E. LIFELONG UNDERSTANDING AND SELF-DEVELOPMENT (3 units minimum) Select one course Health 2, 6, 8, 11, 21, 52 Psychology 41				
C. ARTS, LITERATURE, PHILOSOPHY AND FOREIGN LANGUAGE (9 units minimum) Select at least one course from C1, one from C2, and a third course from C1 or C2 C1. Arts Architecture 130†, 131† † 2 units only Art 101, 102, 103, 104, 201, 202, 501 Music 101, 141, 142 Physical Education 800 Theater Arts 100, 507 C2. Humanities American Sign Language 1, 2 English 102, 203, 205, 205H, 206, 206H, 207, 208, 212, 212H, 213, 215, 215H, 219, 220, 220H, 234, 240, 270 French 1, 2, 3 History 52 Humanities 1, 2, 60, 61, 73 Japanese 1, 21 Philosophy 1 Physical Education 750 Spanish 1, 2, 3, 4, 21, 22, 35, 36 Speech 130					TOTAL				
					Certification of these units is not automatic and must be requested. First, see a counselor to have records evaluated for certification. Counselors forward completed certification form to Admissions Office Credit Clerks. Coursework from other colleges or universities must be on file (official transcript) in the Admission Office.				
					_____ Catalog Year				
					[] Fully Certified [] Partially Certified				
					_____ Counselor's Signature/Date				
					_____ Graduation Clerk's Signature/Date				

6.4.09 via

2009-2010 UC/CSU – IGETC GENERAL EDUCATION CHECK SHEET

Student's Name: _____
 (Please print) Last First Middle SSN (or student ID#)

The Intersegmental General Education Transfer Curriculum (IGETC) is a series of courses that community college students can use to satisfy lower division general education requirements at any CSU or UC campus. The IGETC provides an option to the California State University General Education Requirements. Students in high unit majors are encouraged to follow a particular UC campus' breadth requirements instead of the IGETC. See a counselor for additional information. **IMPORTANT:** The IGETC must be certified prior to transfer! If not certified, a student will be required to complete the four-year university's own general education/breadth requirements and additional lower-division coursework may be required. **All courses must be completed with "C" grade or higher.** (See your counselor for certification)

LEGEND: C = Completed IP = In Progress or AP Exam	EC = Equivalent Course R = Remaining	Units comp	Units in progress	Units needed	Equiv. courses other CC's	LEGEND: C = Completed IP = In Progress or AP Exam	EC = Equivalent Course R = Remaining	Units comp	Units in progress	Units needed	Equiv. courses other CC's
AREA 1 - ENGLISH COMMUNICATION CSU - 3 courses required, one from each group below, 9 semester units UC - 2 courses required, one each from Group A and B, 6 semester units Group A: English Composition (1 course, 3 semester units) English 101, 101H Group B: Critical Thinking - English Composition (1 course, 3 semester units) English 103 Group C: Oral Communication (CSU only) (1 course, 3 semester units) Speech 101, 104, 151						AREA 4 - SOCIAL AND BEHAVIORAL SCIENCES (at least 3 courses, 9 semester units) At least three from two disciplines or an interdisciplinary sequence. Anthropology 102, 109, 121 Child Development 1 Economics 1, 2 Geography 2 History 11*, 12*, 13*, 41*, 42*, 43*, 44, 52**, 86, 87 Labor Studies 8 Political Science 1**, 2, 7 Psychology 1, 11, 32 Sociology 1, 2 Speech 122, 122H					
AREA 2 - MATHEMATICAL CONCEPTS AND QUANTITATIVE REASONING (1 course, 3 semester units) Math 225, 227, 235*, 236*, 245, 260, 265*, 266*, 267, 270, 275						AREA 5 - PHYSICAL AND BIOLOGICAL SCIENCES (at least 2 course, 7-9 semester units) One Physical Science course and one Biological Science course; at least one must include a laboratory (indicated by "L" in parentheses). PHYSICAL SCIENCES Astronomy 1*, 2*(L) or 5(L) Chemistry 51*(L), 65*(L), 70*(L), 101(L), 102(L), 211(L), 212(L), 221(L) Geography 1 Geology 1 Physics 1*(L), 2*(L), 3*(L), 4*(L), 6*(L), 7*(L), 11*(L), 12*, 14*(L) BIOLOGICAL SCIENCES Anthropology 101 Biology 3*(L), 6(L), 7(L), 20(L) Microbiology 1*(L), 20*(L)					
AREA 3 - ART AND HUMANITIES (at least 3 courses, 9 semester units) At least one course from Arts, one from Humanities, and a third course from Arts or Humanities Arts Courses: Art 101, 102 103, 104 Music 101, 142 Physical Education 800 Theater 100, 507 Humanities Courses: American Sign Language 2 Humanities 1, 2*, 60 English 102, 203, 205, 205H, 206, 206H, 207, 208, 212, 212H, 213, 215, 215H, 219, 220, 220H, 234, 240, 270 French 2, 3 History 52** Japanese 2 Philosophy 1 Spanish 2, 3, 4 Theater 100**, 507**						FOREIGN LANGUAGE (UC requirement only) Proficiency equivalent to two years of high school study in the same language. American Sign Language 1, 2** Arabic 1 Chinese 1, 2 French 1, 2**, 3** Japanese 1, 2**, 22 Spanish 1, 2**, 3**, 4**, 21, 22, 35, 36 Completed at high school					
*Indicates that transfer credit may be limited by either UC or CSU or both. Please consult with a counselor for additional information. **Course may be listed in more than one area, but shall not be certified in more than one area.						TOTAL					

CSU GRADUATION REQUIREMENT IN AMERICAN INSTITUTIONS				
6 units, one course from (a) and one course from (b)				
(a) Political Science 1				
(b) History 11, 12, 13				
Note: Courses used to meet this requirement may not be used to satisfy requirements for IGETC				

Certification of these units is not automatic and must be requested. First, see a counselor to have records evaluated for certification. Coursework from other colleges or universities must be on file (official transcript) in the Admission Office.

Counselor (Print Name)	Signature	Date
Graduation Clerk (Print Name)	Signature	Date

PRE-PROFESSIONAL EDUCATIONAL PATHWAYS

Students planning on pursuing a career in chiropractic, medicine or law should see a counselor within the first semester of their studies at LATTC. The academic preparation for each of these disciplines is specific and frequently requires courses above and beyond the IGETC, CSU or private colleges' general education transfer requirements.

The course patterns listed below are suggested for students seeking transfer to a four-year institution and eventual admission to professional school. Completing these courses does not guarantee acceptance into any program. Students should confirm course selection with an LATTC counselor and the school to which they plan to transfer. Students seeking information about programs at the University of California or California State University should check www.assist.org for the most current program requirements. Students seeking information about private colleges and universities should contact the college or university directly or seek assistance from an LATTC counselor.

PRE-CHIROPRACTIC TRANSFER PATH

Chiropractors diagnose and treat spinal and other health disorders to help their patients regain and maintain good health.

Students wishing to pursue a career as a chiropractor must complete a four-year program resulting in a Doctor of Chiropractic (D.C) degree. There are fifteen fully accredited Chiropractic programs in the United States; two are in the Los Angeles Area. Both are private schools. Students should contact the transfer school for specific requirements.

The following LATTC courses are suggested for Pre-Chiropractic students: *(These are NOT articulation agreements)*

Cleveland Chiropractic College – Los Angeles

Students applying to Cleveland Chiropractic College should complete a minimum of 60 semester units with a grade of "C" or better in the following classes, plus a minimum cumulative GPA of 2.5:

1. Biology 20 OR Choose 2 from Biology 6, 7; Microbiology 1
2. Chemistry 101, 102, 211 and, 212
3. English 101 and 103 (preferred) or English 101 and Speech 101
4. Physics 1 and 2 or 6 and 7
5. Psychology 1
6. 15 transferable units of Social Science/Humanities
7. Additional transferable units to total 60 units

Los Angeles College of Chiropractic – Whittier

Students applying to Los Angeles College of Chiropractic should complete a minimum of 85 semester units with a grade of "C" or better in the following classes, plus a minimum cumulative GPA of 2.75:

1. Biology 20 (strongly recommended) or Biology 6 and 7
2. Chemistry 101, 102, 211, 212
3. English 101 and 103

4. Physics 1 and 2 or 6 and 7
5. 15 transferable units of Social Science/Humanities
6. Psychology 1
7. Additional transferable units to total 85.

PRE-LAW TRANSFER PATH

Law schools do not require or prefer any particular major. Law schools are looking for well-rounded applicants who possess highly developed skills in the following areas: written and oral communication, critical thinking, critical reading, critical listening, research and analysis, problem solving, and task organization and management.

The American Bar Association's 1992 Report of the ABA Task Force on Law Schools and the Profession recommends that students gain knowledge in the following areas (corresponding LATTC courses are listed in parentheses):

1. A broad understanding of American history and the factors that have influenced the development of our pluralistic society (History 11 & 12)
2. A fundamental understanding of political thought and theory (Political Science 1)
3. A basic understanding of ethical theory and theories of justice (Philosophy 1)
4. A grounding in economics, and understanding of the interaction between economic theory and public policy (Economics 1 & 2)
5. Basic math skills and an ability to analyze financial data (Accounting 1)
6. A basic understanding of human behavior and social interaction (Psychology 1 & 14, Sociology 1 & 2, Speech Communication 121 & 151)
7. An understanding of diverse cultures within and beyond the United States, of international institutions and issues, and of the increasing interdependence of nations and communities within our world (History 41, 42, 43, 44 & 52, Political Science 7, Speech Communication 122)

The LATTC course listed above address the knowledge skills recommended by the ABA. However, not all the courses listed are required to transfer to a four-year university or for law school admission. Students planning to transfer to a four-year institution should complete the lower division major requirements and the general education pattern for the appropriate transfer institution.

PRE-MEDICAL PREPARATION

The purpose of a pre-medical course of study is two-fold:

1. To determine the compatibility between the student and science, since medicine is the science of the human body
2. To provide the pre-medical student with a background on which to launch future studies in the basic medical science

ADMISSION FACTORS

There are several factors considered when you apply to medical school:

1. Your overall grade point average
2. Your science grade point average.
3. Your score on the Medical College Admission Test (MCAT)
4. Three letters of recommendation.

Before applying to medical school, a student should have completed his or her Bachelor's of Science or Arts at an accredited college or university. Less than 10% of medical school admittees have not completed a bachelor's degree.

PRE-MEDICAL REQUIREMENTS

"PRE-MEDICAL" IS NOT A MAJOR. Pre-medical students should do the following:

1. See a Counselor your first semester to select a major and work out a program.
2. Take English courses early to gain writing skills.
3. Check prerequisites and complete them before attempting to enroll in required courses.

The general pre-medical curriculum is as follows:

- Biology 6 and 7
- Chemistry 101, 102, 211, 212
- English 101 and 103
- Math 260
- Physics 1 and 2 or 6 and 7

The following is a list of some popular medical schools and their recommended premedical course of study. **THESE ARE NOT ARTICULATION AGREEMENTS.** The courses listed are to serve a general guideline. Requirements vary between schools. Students should contact medical schools for exact course requirements.

University of California, Davis

- a. One year of English
- b. One year of Biological Sciences with lab
- c. One year of General Chemistry with lab
- d. One year of Organic Chemistry
- e. One year of Physics
- f. One semester of Integral Calculus

University of California, Irvine

- a. One year General Chemistry
- b. One year of Organic Chemistry
- c. One year of Physics
- d. One year and one-half years of Biology
- e. One semester of college-level Calculus
- f. One semester of Biochemistry

University of California, San Francisco

- a. One year of Biological Sciences with lab (including Vertebrate Zoology)
- b. One year of General Chemistry with lab
- c. One year of Organic Chemistry
- d. One year of Physics with lab

University of California, Los Angeles

- a. One year of college-level English Composition
- b. One year of Biological Sciences with lab
- c. One year of General Chemistry with lab
- d. One year of Organic Chemistry with lab
- e. One year of Physics with lab
- f. One year of college Mathematics to include Introductory Calculus and Statistics

Highly recommended: Spanish, Humanities and Computer Skills

University of Southern California

- a. One year of English
- b. One year of Biological Sciences with lab
- c. One year of General Chemistry with lab
- d. One year of Organic Chemistry with lab
- e. One year of Physics with lab
- f. One semester of Biochemistry
- g. One course in Molecular Biology
- h. 30 Units of Social Sciences, Humanities, and English Composition

Highly recommended: College Math or Calculus; facility in the use of computers

COOPERATIVE WORK EXPERIENCE EDUCATION

PROGRAM OVERVIEW

Cooperative Work Experience Education (CWEE) combines on-the-job experience with regular classroom instruction. It is designed to expand students' skills and knowledge, and to improve self-understanding by integrating classroom study with supervised work experience.

CWEE is based on the principle that well educated individuals develop most effectively through the incorporation of related education and work experience. By monitoring structured work experiences in business, industry, government and human services settings, LATTC provides enrichment to college studies which enhance the student's total development.

In the Cooperative Work Experience Education program, individual students' educational objectives are carefully planned and coordinated between the College and employer to ensure a positive and realistic employment experience.

Cooperative Work Experience Education has the following objectives:

- To provide opportunity for the student to secure employment on a part-time or full-time basis.
- To gain realistic work experience that is meaningfully related to the student's college study program.
- To provide the student the opportunity to acquire knowledge, skills, and attitudes essential for successful employment.

A student enrolled in Cooperative Work Experience Education:

- Has the opportunity to learn or improve employment skills under actual working conditions.
- Gains perspective on career goals through application of classroom theory to "real life experience."
- Builds self-identity and confidence as a worker through individual attention given by instructor/coordinators and employers.
- Has opportunities to test personal abilities in work environments.
- Has a more realistic approach to the Job market.
- May refer to work experience education in future job applications.
- Benefits financially while learning, and can begin a career earlier.

STUDENT QUALIFICATIONS

OCCUPATIONAL WORK EXPERIENCE (PARALLEL PLAN)

Hours by arrangement: 1-4 units

Prerequisite: Approval of Work Experience Coordinator.

This is a program of on-the-job learning experience for students employed in a job related to an occupationally oriented major. The program may be repeated three times for a maximum of 16 units. To receive credit a student must complete a minimum of seven units during the semester, including work experience.

OCCUPATIONAL WORK EXPERIENCE (ALTERNATE PLAN)

Hours by arrangement: 1-8 units

Prerequisite: Approval of Work Experience Coordinator

This is a program of on-the-job learning experiences full-time one semester and work full-time the following semester. Work must relate directly to the student's educational goal. Students must have satisfactorily completed at least seven units of credit and not be enrolled concurrently in more than one other course. The program may be repeated three times for a maximum of 16 units.

CALIFORNIA STATE UNIVERSITY: APPROVED COOPERATIVE EDUCATION SUBJECT AREAS

Los Angeles Community College District policy provides that a maximum of eight (8) semester units in cooperative education courses completed in the subject areas listed below may be applied toward the California State University 56 unit admission requirement.

COOPERATIVE EDUCATION

COURSE DESCRIPTIONS

The following courses provide Cooperative Work Experience Education credit:

911 WORK EXPERIENCE IN MAJOR I (1) RPT3 (CSU)

921 WORK EXPERIENCE IN MAJOR I (2) RPT3 (CSU)

931 WORK EXPERIENCE IN MAJOR I (3) RPT3 (CSU)

941 WORK EXPERIENCE IN MAJOR I (4) RPT3 (CSU)

Prerequisite: Employment in a field related to the students' major as verified by the signature of the cooperative education advisor. Supervised training is conducted in the form of on-the-line job training in an employment area that will enhance the students' educational goals on campus.

Additional courses within the disciplines listed below provide Cooperative Work Experience Education credit:

- Business
- Computer Application and Office Technology
- Fashion Merchandising
- Nursing
- Waste Water Management
- Automotive Technology
- Carpentry
- Cooperative Education
- Culinary Arts
- Child Development
- Electrical Construction and Maintenance
- Fashion Merchandising
- Fashion Design
- Labor Studies
- Machine Tool Technology
- Operating/ Maintenance Engineer
- Plumbing Technology
- Refrigeration and Air Conditioning Mechanic
- Solid Waste Management Technology
- Diesel Technology
- Supply Water Systems Technology
- Welding/Gas and Electric

ADMISSION AND MATRICULATION

ADMISSION AND REGISTRATION

Phone: (213) 763-5300
Location: R-Building
Hours: Monday – Thursday, 8:30 a.m. – 7:00 p.m.
 Friday, 8:30 a.m. – 3:00 p.m.

The following procedure should be followed to enroll in Los Angeles Trade-Technical College: Students must disclose any previous enrollment in institutions of collegiate level. Failure to list any school, college, or university which you previously attended, or any deliberate falsification of information, is basis for dismissal from the college. Obtain an Application Packet and Enrollment Appointment from the Information Center in R-100.

Submit the completed **APPLICATION** with picture ID. Effective July 24, 2006 the college will no longer use social security numbers to identify students. A new student identification number will be assigned to all students because of recently passed state laws. Once a new student I.D. number is assigned, this number shall be used when students apply at another LACCD campus. Non-U.S. Citizens should bring proof of their immigration status so that the College may determine their residency for tuition purposes. You may also submit your application on line by clicking to www.lattc.edu. If you are a returning student or have attended one of the LACCD colleges, you may submit your application on line. The **ORIENTATION** is designed to introduce our many educational programs, services and explain how to complete the enrollment process.

The **ASSESSMENT** will help students determine which level classes are most appropriate for your skill level. This is NOT a pass or fail nor a graded test. It will be used with other factors to help the counselor or faculty mentor assist students with course selection. Please allow approximately 2 hours for this portion of your enrollment. NOTE: If students have an Associate degree or higher, completed a college level English or Math class, or have taken an assessment within the last two years, they may be exempted from this assessment. However, we want students to be aware of the many services and programs available at Los Angeles Trade-Technical College.

After the Orientation and/or the Assessment, students may speak to a counselor. Counselors will recommend appropriate courses based on educational goals; students may then register for classes. See class schedule for exact registration dates.

After registration students can now proceed to the Business Office, in the "K" Building, window 126, to pay all fees. New I.D. Cards with the new student I.D. number will be issued in R-100.

COLLEGE DEADLINE POLICY

The college strictly enforces the published deadlines for admissions application, dropping, adding classes, fee refunds and graduation applications.

RESIDENCY REQUIREMENTS

California Residence Requirement

To attend any of the Los Angeles Community Colleges as a resident of California, a student is required to have been a California resident for more than one year immediately preceding the Residence Determination Date. The "Residence Determination Date" is that day immediately preceding the opening day of instruction of the semester or summer session. Residence is defined as a union of act and intent.

District Residence Requirement

At the time of application each student is required to file a Statement of Residence to ascertain the college district jurisdiction in order to comply with requirements of the law. The information given by each student is subject to certification, and any falsification can result in immediate cancellation of registration and exclusion from the College Residence Appeal.

A student may appeal the residence classification determined by the college. The appeal must be made within 30 calendar days of receipt of notification of the residence classification from the Admissions Office. The appeal must be submitted in writing to the college Admissions Officer who will forward it to the District Residency Appeal Officer.

Residence - More Than 60 Miles From Nearest College

Full time students under 21 years of age and honorably discharged veterans under 25 years of age who live 60 miles from any college are eligible for a maintenance allowance. See Registrar for additional information.

Non-Resident

A non-resident student is one who has not had residence in the State of California for more than one year immediately preceding the Residence Determination Date.

Residence is defined as a union of act and intent. Physical presence alone is not sufficient to establish California residency nor is intent when not coupled with continuous physical presence in the State. Certain non-U.S. citizens are permitted to establish residency and certain others are not. Check with the Admissions Office regarding your particular status.

A student classified as a non-resident will be required to pay nonresident tuition fees as established by the District Board of Trustees. Failure to pay fees on time will result in student being dropped from classes.

IMPORTANT INFORMATION

Effective January, 2002, all students regardless of their immigration status, who meet all the requirements set under the new law AB540, can be exempted from Non-Resident Tuition. Please see Admissions & Records Office, R-102, for details.

Residence Reclassification

Students who have been classified as non-residents must petition to be reclassified as residents if they feel their status has changed. The Residence Reclassification forms are available in the Admissions Office and must be submitted prior to the semester in which reclassification as a resident is to be effective.

ADMISSION ELIGIBILITY

You are eligible to attend LA Trade-Technical College if you meet any of the following criteria:

1. You have graduated from high school or have successfully passed the California High School Exit Examination.
2. You are over 18 years of age and are no longer attending high school and are capable of profiting from the instruction offered.
3. You are under 18 years of age and not a high school student, with special permission as a full-time student, or concurrently enrolled student.

CONCURRENT ENROLLMENT AT LA TRADE-TECHNICAL COLLEGE

As a high school student you may enroll concurrently at L.A. Trade-Technical College. In addition to the application for admission, you must submit a separate concurrent enrollment form, approved by your high school counselor and your parents. All K-12 students require special processing. Call (213)-763-5560 for details. Concurrent students are given the last priority for registration.

ENROLLMENT POLICIES

Adding Classes

Only students who have been admitted to the college and are in approved active status may add classes. Enrolled students who wish to add a class prior to the first day of classes should complete an "ADD/DROP Card" and take the form to the Admissions Office prior to the first day of classes or use the telephone STEP System or the internet system at www.lattc.edu. After the ADD/DROP Card is processed, the student will receive a Station 4 Completion Form, indicating that the student's schedule adjustment has been processed. The student must take the Completion form to the Business Office. Official confirmation of a student adding a class validated by a computer generated REGISTRATION/FEE RECEIPT from the Business Office showing the class changes and fees paid.

Late Add

After classes have started, a student may be permitted to add an OPEN class (es), defined as a class section with five (5) or more open seats on the daily basis. The Late Add period is defined as the first six (6) business days (including Saturday) after a class begins. During this period, students may receive an ADD PERMIT approved and signed by the instructor who teaches the section. The ADD PERMIT is available from the departments, the instructors.

The student must submit the signed ADD PERMIT to the Office of Admissions and Records within the same day that the ADD PERMIT is issued, and return the copy to the instructor the next class meeting date. After the Late Add Period, only the instructor who teaches the section(s) has the right to issue and sign an ADD PERMIT for regular term classes.

Auditing Classes

Students may be permitted to audit a class under the following conditions:

1. Complete an application and be authorized to register in the college.
2. Obtain permission of the instructor of the class at the beginning of the semester.
3. Pay a fee of \$15 per unit. Fees may **not** be refunded. Students enrolled in classes to receive credit for ten or more semester units shall not be charged a fee to audit three or fewer semester units per semester. Students who drop below ten units will be required to pay the 3 units audit fee.

No student auditing a course shall be permitted to change his or her enrollment in that course to receive credit for the course. Student taking course for credit shall not be permitted to drop to audit the same course. Priority in class enrollment shall be given to students desiring to take the course for credit.

Enrollment in Same Course

Concurrent enrollment in more than one section of the same course during a semester is not permitted with the exception of certain Physical Education classes on a limited basis. Concurrent enrollment in courses which are cross-referenced to each other is not permitted (i.e., courses designated "same as" in the District Directory of Educational Programs and Courses). Violation of this regulation will result in exclusion from class and denial of course credit in both courses. Enrolling in classes scheduled or conducted during overlapping times is not permitted. Students will be excluded from both classes and denial of credits and subject to disciplinary action (See Standards of Student Conduct).

Dropping Classes

Students wishing to drop one or more classes must do so through the Admissions Office by filing an ADD/DROP form or DROP CARD or use the telephone STEP system or the internet system (www.lattc.edu). It is the student's responsibility to DROP the class. If the class is not dropped, the student may receive an "F" in that class and may be liable for any fees. Classes dropped before the end of the 4th week or 30% of the class length (whichever is less) will not appear on the student's record. Any drops or exclusions that occur between the end of the 4th week and the end of the 12th week will result in a "W" on the student's record which will be included in the determination of progress probation. Drops are not permitted beyond the end of the 12th week. A grade of "A", "B", "C", "D", "F", "CR", "I" or "NC" will be assigned to students who are enrolled past the end of the 12th week even if they stop attending class, except in cases of extenuating circumstances. After the last day of the twelfth week (or 75% of the time the class is scheduled, whichever is less) students may withdraw from class upon petition demonstrating extenuating circumstances and after consultation with the appropriate faculty.

Verification of Enrollment

Verification of the Student's Enrollment may be obtained upon written request. Verification Request Forms are available in the Admissions Office. District policy prohibits the acceptance of Verification Requests over the phone. **Please allow ten (10) working days** for processing. The first two verifications or transcripts (see Transcripts section on this page) **EVER** requested are free. Each additional request is \$3.00 per copy. Students may request same day processing to expedite their request for an additional fee of \$7.00 per verification. Requests for Verification of Enrollment by Agencies or Individuals other than the student must be accompanied by a signed release permitting the College to release that student's information. A valid photo ID is required when picking up the verification.

INTERNATIONAL STUDENTS ADMISSION

Phone: (213) 763-5345
Fax: (213) 763-5991
Location: Building R-100
Office Hours: Monday through Friday, please call for an appointment
Website: <http://www.lattc.edu/dept/TADR/IntStu/ishome.htm>
Email: intstud@lattc.edu

F-1 International Students Admission

Los Angeles Trade-Technical College (LATTC) welcomes applications from international students. We also accept transfer applications for F-1 Visa students currently studying in the U.S. as well as Change of Status applications for visitors who currently have other visas. Applications may be obtained by contacting the office or on-line.

Application Deadlines:

- Fall Semester: July 1
- Spring Semester: December 1

F-1 students transferring from schools within the United States (US) have a more flexible deadline. Call our office for more information.

The applicant must provide:

1. The supplemental International Students Application
2. Official TOEFL scores sent directly from Educational Testing Services – this may be waived if you are from a country that uses English as its primary language of instruction or if you are transferring from a school within the United States. We also accept the International English Language Test Skills (IELTS) report and the Step Eiken in lieu of the TOEFL. Please contact us for all test cut scores.
3. Two recent passport sized photographs of applicant
4. Official transcripts and/or diplomas from secondary school or colleges attended – Student must be a high school/secondary school graduate. If these documents are not in English, an official translation must also be submitted.
5. The LATTC Affidavit of Support with an attached official bank statement or letter with a minimum of \$16,000 USD in available funds dated within the last 6 months
6. Non-refundable \$35 application fee – check, cash, or money order (do not send cash in the mail)
7. Copy of valid passport identification page
8. Transfer students must also submit the following documents: the LATTC Transfer Approval Form, a copy of your current I-20, a copy of your visa, and a copy of the front and back of your I-94

Please allow 2 – 4 days for application processing time once ALL documents are received by the college. Eligible students will be issued an I-20A form by LATTC. This document can be used by the student to obtain an F-1 Visa from a US Embassy in his/her home country. Students who are already in the country may use this new I-20 to change their visa status or to complete their transfer process from another educational institution.

International student fees are approximately \$221 per unit, which is subject to change by the California legislature. Health care in the United States can be costly without proper insurance coverage. Starting the Fall 2007 semester, LATTC International Students will be fully covered by Blue Cross. The cost

for a 6-month period of coverage is \$420, which is subject to change. The \$420 will be included as part of your LATTC fees every Fall and Spring Semester (no waivers). Please visit our office for a copy of your benefits.

Per U.S. Citizenship and Immigration Services (USCIS) regulations, all F-1 International Students must maintain a full-time course load during the Fall and Spring semesters – certain exceptions apply, please see your Designated School Official (DSO) for more information. A full-time course load is defined as a minimum of 12 units. Dropping below 12 units without PRIOR written permission from the DSO places your student status at risk. F-1 students are not required to attend the Winter and Summer Sessions but may do so if they wish.

MATRICULATION SERVICES

Phone: (213) 763-5348
Location: K-008
Hours: Monday – Thursday, 8:30 a.m. to 7:00 p.m.
Friday 8:30 a.m. to 1:00 p.m.

Matriculation is a process that brings Trade-Technical College and students (who enroll in credit courses) into an agreement to assist students in attaining their educational goal through the college's programs, policies and requirements. It involves a partnership between the student and the college which begins when students apply for admission and ends after completing your studies.

ASSESSMENT

LATTC offers a self-paced computerized assessment placement test. LATTC also offers a timed paper and pencil assessment placement test (Companion). Students receive an assessment summary that may be used to select their courses and to plan their educational career goals. Course recommendations are advisory and should be discussed with a counselor.

ORIENTATION

Online Orientation – provides students with a variety of programs and services that LATTC has to offer. The online video orientation is available online at either the college's homepage or the Matriculation website. In-Person Orientation – For those students who would like to speak directly with college representatives and receive information regarding the programs and services; LATTC offers an in-person orientation prior to each semester.

FOLLOW-UP (EARLY ALERT)

Early Alert provides mid-semester evaluation and feedback of a students' academic progress according to their classroom instructors. Referrals to support services are made when needed or requested and College Success workshops are offered throughout the semester.

FEES AND COSTS

ASSOCIATED STUDENT ORGANIZATION (ASO) FEE

ASO programs are supported by a \$7.00 membership fee, available at the Business Office, for day and evening students. These fees are necessary to utilize A.S.O. services. Any student, upon enrolling, is eligible to become a paid member of the Associated Student Organization. Associated Student Organization members are entitled to all rights and privileges, including accident insurance, loan application, dances, athletic contests, and all activities of the Associated Students. Also, all students must also pay one dollar Student Representation Fee that supports student issues, policy and procedures, and advocacy activities that benefit students.

ENROLLMENT FEE

The State Education Code requires Community Colleges to charge enrollment fees* of each student enrolling in college. The fee prescribed by these sections shall be twenty dollars (\$20) per unit per semester with no maximum amount per semester. For example, if you enroll for ten units, the fee will be \$200. If you enroll for fifteen units, the fee will be \$300. See the Financial Aid Office prior to payment for enrollment fee waiver assistance. Non-resident students paying non-resident fees are required to pay the twenty dollar (\$20) per unit enrollment fee. All students who pay fees are provided with a Registration Fee Receipt at the time of payment. Duplicate receipts cost \$1.00. Los Angeles Trade-Technical College does not automatically drop students from a class for nonpayment of enrollment fees.

ENROLLMENT FEE REFUND POLICY

For full term courses: a student may receive a full refund for classes dropped (and refunds requested from the Business Office) through the end of the second week of instruction. There will be no refunds for classes dropped after that, unless a class is canceled or rescheduled by the college administration. After the second week of classes, the student may drop a course and use the fee previously paid that semester to add another class. Therefore, we advise the student to drop and add at the same time.

For short term, Summer session, and Winter Intersession courses: The student may receive a full refund for classes dropped (and refunds requested in the Business Office) through the end of a period of time equal to 10% of total class time usually during the first week of classes. There will be no refunds after that, unless a class is canceled or rescheduled by the administration. Students are required to request refunds at the Business Office at the time they drop their classes even if dropping by telephone. If college expenses have been paid by federal financial aid funds, any refund due will revert to the financial aid program rather than to the student. Expenses paid by financial aid may be subject to a special pro-rata refund calculation.

Contact the Financial Aid Administrator or the College Financial Administrator for specific information regarding refund calculations for financial aid recipients.

HEALTH SERVICES FEE

The Board of Trustees has required that each college collect a mandatory eleven-dollar (\$11) health services fee during the Fall and Spring semesters and an eight-dollar (\$8) fee during Summer session and Winter Intersession. This fee must be paid at the time of registration. Los Angeles Community College District Policy exempts the following students from paying the student health fee: (a) students who depend exclusively on prayer for healing in accordance with the teaching of a bonafide religious sect, (b) students who are attending classes under an approved apprenticeship training program, (c) non-credit education students, (d) students enrolled in District colleges exclusively at sites where student health services are not provided, (e) students who are enrolled District colleges exclusively through Instructional Television or distance education classes, (f) student who are enrolled in District colleges exclusively through contract education. Students exempted under the provisions of (b), and (c) above are eligible to receive the services of the college health program; all other exempted students are not eligible to receive the services of the college health program. Students who are exempted may obtain a Health Services Exemption Form from the Admission Office (R-100). Completed forms must be returned to the Admissions Office for approval. See the Financial Aid Office (A-130) for other possible exemptions.

INSTRUCTIONAL MATERIALS

Students may be required to provide and/or pay for instructional and other materials for credit or noncredit courses. Such materials shall be of continuing value to a student outside of the classroom setting and shall not be solely or exclusively available from the District. If class materials are provided, the student may be assessed those costs for materials. Payment and verification of material fees is to be completed at the college Bookstore or Business Office K-126.

NON-RESIDENT TUITION FEE

The 2009-2010 tuition for non-resident students is \$188 per unit plus the \$20 per unit enrollment fee. Fees must be paid at the time of registration. The 2009-2010 tuition for foreign students is \$188 per unit plus the \$20 per unit enrollment fee and the Board of Trustees adopted \$10 per unit fee pursuant to Education Code Section 76140. These fees are subject to change each academic year. International students must first pay a non-refundable \$35 application fee. The Board established a twenty-five dollar \$25.00* per semester processing fee for students classified as nonresidents who are both citizens and residents of a foreign country. These fees are subject to change each academic year.

**Subject to change by the California Legislature*

Notes:

1. Fees paid by federal financial aid funds will be subject to a special refund calculation.
2. Non-resident students are also required to pay the community college enrollment fee.

A non-resident student who formally drops or otherwise separates from part or all of his/her enrollment may request a refund of previously paid non-resident tuition in accordance with the schedule below. Such request must be made in writing at the Business Office at the time the classes are dropped. The date used for non-resident refund purposes is the date on which such request is filed and time stamped, regardless of when separation may have occurred. All non-resident refunds will be made by mail.

Non-resident refunds will be computed as follows:

CLASS TYPE	DATE REQUEST FILED	REFUND
Regular Length (Fall and Spring semesters)	Through second week of instruction	Full Tuition
	After second week of instruction	No Refund
Short Term (Less than regular length, Summer Session, and Winter Intersession)	Through 10% of class length	Full Tuition
	After 10% of class length	No Refund

STUDENT REPRESENTATION FEE

The student representation fee is a mandatory \$1.00 (one dollar) per semester fee to provide support for students/ representatives who support student viewpoints before various governmental offices and agencies. Students may for religious, political, financial or other reasons, refuse to pay the fee in writing on a form provided for this purpose.

PARKING FEE

A limited number of student Parking Permits are available for purchase at the Business Office for \$20.00 per permit per semester for Fall and Spring; \$10 per permit for the Winter and Summer. Parking in areas marked "parking by permit only" is restricted to vehicles displaying a valid permit. Vehicles parking on college property without a valid permit will be subject to citation.



FINANCIAL AID

FINANCIAL AID

Phone: (213) 763-7082
Location: Trailer TN-100 and TP-100
Hours: Monday - Friday: 8:00 - 2:00 p.m.
 Monday - Thursday: 4:30 - 7:30 p.m.

Financial Aid Assisted Lab

Location: K-Building Basement Room 004
Hours: Monday - Friday 10:00 - 2:00 p.m.
 Monday - Thursday 4:30 - 6:00 p.m.

GOAL

The goal of the Financial Aid Program is to provide access to various types of post-secondary education for those who otherwise would be unable to start or continue their schooling and/or training.

FINANCIAL AID - WHAT IS IT?

Financial aid is funding provided by the federal and state governments, and private sources in the form of grants, scholarships, loans and employment. These funds are available to make it possible for students to continue their education beyond high school even if they and/or their family cannot meet the full costs of the post secondary school they choose to attend. The basis for such programs is the belief that students and their families have the primary responsibility to meet educational costs. Financial aid is meant to supplement your existing income and/ or financial resources and should not be depended upon as your sole mean of income to support all educational and other non-educational expenses.

WHO CAN APPLY?

To be considered for financial aid, a student must meet the following minimum requirements:

- Be a U.S. citizen or an eligible non-citizen. An eligible non-citizen is a U.S. permanent resident as determined by the Immigration and Naturalization Service verifying that their stay in the U.S. is for other than a temporary purpose.
- Show financial need.
- Enroll as a regular student in an eligible program.
- Make satisfactory progress in a course of study leading to an AA or AS degree, certificate, or transfer to a baccalaureate degree program.
- Must not be in default on a Federal Perkins Loan (formerly National Direct Student Loan), Stafford Loan (formerly Guaranteed Student Loan (GSL), Supplemental Loans for Students (SLS), or Direct Loan at any school the student attended.
- Must not owe a refund on a Federal Pell Grant, Federal Supplemental Educational Opportunity Grant (FSEOG) or Leveraging Educational Assistance Partnership (LEAP) Grant.

- Register with the Selective Service if required to do so.
- Have a valid Social Security Number (SSN).
- Have a high school diploma or its equivalency, such as GED, or pass an Ability to Benefit Test.

Students who are not high school graduates must provide documentation of ability to benefit by passing a federally approved, independently administered test or completed six degree applicable units approved by the Financial Aid Office.

WHEN TO APPLY

- January 1 of each calendar year is the beginning of the application period for Federal and State financial aid.

PRIORITY and DEADLINE DATES FOR 2009-2010:

- March 2, 2009 - CAL GRANT DEADLINE for both high school seniors and community college students
- September 2, 2009- Second deadline for community college students to apply for CAL GRANT B
- June 30, 2010 is the deadline for filing a Free Application for Federal Student Aid (FAFSA) for 2008-2009.
- May 1, 2009 - is the Priority date for Fall & Spring

Students should continue filing their Free Application for Federal Student Aid (FAFSA) even if they miss the PRIORITY DATE because PELL GRANTS, ENROLLMENT FEE WAIVERS, JOBS and LOANS will continue to be awarded to qualified applicants throughout the academic year if funds are available.

FINANCIAL AID PROGRAMS

The Financial Assistance Programs available at Trade-Tech are:

- FEDERAL PELL GRANT
- FEDERAL SUPPLEMENTAL OPPORTUNITY GRANT (FSEOG)
- FEDERAL WORK STUDY (FWS)
- FEDERAL PERKINS LOAN
- FEDERAL DIRECT LOAN
- ACADEMIC COMPETITIVENESS GRANT (ACG)
- CALIFORNIA STATE GRANTS (CAL GRANTS)
- SCHOLARSHIPS
- BOARD OF GOVERNORS FEE WAIVER

Students can apply for one or more of these programs by filing a Free Application for Federal Student Aid (FAFSA). Campus scholarships and the Board of Governors Fee Waiver require separate applications.

ENROLLMENT FEE ASSISTANCE

For immediate enrollment fee assistance, students who are unable to pay the enrollment fee should complete the Board of Governors' Enrollment Fee Waiver application and submit it to the college Financial Aid Office for processing prior to payment of their enrollment fees. Students who had a fee waiver last year must submit a new application for the new year which includes Summer 2009, Fall 2009, Winter Intersession 2010, and Spring 2010. Applications are available in the class schedule, the Information Center, and the Financial Aid Office.

There are three ways to qualify:

***Method A (BOG A)** – For families or students who receive TANF/CALWORKS, General Relief (GR), Supplemental Security Income (SSI/SSP).

Method B (BOG B) – For families or students whose family income and size fall with the following limits:

BOARD OF GOVERNORS FEE WAIVER PROGRAM (BOGFW-B)

2009-2010 INCOME STANDARDS

FAMILY SIZE	2008 INCOME
1	\$15,600
2	\$21,000
3	\$26,400
4	\$31,800
5	\$37,200
6	\$42,600
7	\$48,000
8	\$53,400

Each additional family member add \$5,400

Special Classification Enrollment Fee Waivers:
You are also eligible for a BOG if:

- A dependent of a deceased or disabled veteran of the U.S. Military
- A recipient of a Congressional Medal of Honor or a child of a recipient
- A dependent of a victim of the September 11, 2001 terrorist attack
- A dependent of a deceased law enforcement/ fire suppression person killed in the line of duty.

*Proof of these benefits is required.

Method C (BOG C) – Students who do not meet the above criteria, but have financial need as established by the College Financial Aid Office, may also be eligible for an Enrollment Fee Waiver. To qualify, students must complete a Free Application for Federal Student Aid (FAFSA) and provide proof of prior year income. Processing of this type of fee waiver takes approximately five working days.

Note: Effective Fall 2006, the health fees are no longer part of the fee waiver. All BOG fee waiver recipients are required to pay the student health fee. Financial Aid recipients can have health fee deducted from their financial aid check.

There are no fee waivers for audited classes. Other financial aid may be available to students who meet the qualification requirements. Students with questions concerning financial aid eligibility should contact the College Financial Aid Office, at TN-100 and TP-100.

SCHOLARSHIPS

Because of the nature of the College and the close cooperation with business, industry and alumni, there is an on-going scholarship program available to students of the College. In addition to the availability of college-wide general scholarships, various Departmental scholarship opportunities are offered to students majoring in those areas. Specific information on the available campus scholarships is contained in the College's Student Guide to Loans and Scholarships. This brochure is available in Departmental Offices, the College Information Center (located in the R building, Room 100) or the Financial Aid Office. Located at Trailer TN-100 and TP-100.

SATISFACTORY ACADEMIC PROGRESS FOR FINANCIAL AID

To be eligible for federal and state financial aid, students are required by the U.S. Department of Education and the State of California to maintain satisfactory progress toward completing their degrees or certificates. In compliance with prescribed regulations, the Los Angeles Community College District (LACCD) has established guidelines designed to promote timely advancement toward specific degree and certificate objectives. Effective July 1, 2009, to satisfy academic progress requirements, financial aid students must meet the following:

- Maintain a cumulative Grade Point Average (GPA) of 2.0.
- Have less than 90 units attempted at the beginning of the academic year.
- Non-grades (W, INC, NCR) must be 33% or less of cumulative units attempted.

Disqualification – Students will be disqualified and will not receive financial aid if they have one or more of the following deficiencies at the end of the spring semester:

- Total units attempted (excluding ESL and 30 units of Basic Skill/ Remedial classes) are equal to or greater than ninety (90);
- Associate or higher degree has been earned;
- Cumulative GPA is less than 2.0;
- Cumulative non-grades are more than 33%

Warning letter – Students will receive a warning letter at the end of the fall semester if they have one or more of the following academic deficiencies:

- Cumulative GPA is less than 2.0;
- Cumulative non-grades are greater than 33%
- Number of units attempted reaches forty-five (45).

Appeal – Students who are disqualified from receiving financial aid may submit a written appeal to the financial aid office. The appeal must include an education plan signed by a counselor and an explanation of why the satisfactory academic progress requirements were not met. The appeal form must be received by the Financial Aid Office on or before the last day of the semester that the students are appealing for.

If you have any questions, call or visit your college Financial Aid Office. Staff members are available to answer your questions and to help you complete any of the forms. Keep in mind that it takes two months, sometimes longer, between the time you apply for aid and the time your award is completely processed. For additional information related to the programs offered and the application process, contact the campus Financial Aid Office at (213) 763-7082 or stop by the office during our office hours to pick-up a copy of the "Financial Aid Guide"

IMPORTANT NOTICE

Effective Fall 2000, students who drop below 6 units or who withdraw from all classes before 60% of the term of enrollment has passed will be required to pay back a percentage of the Federal financial aid grant funds they have received. Contact the Financial Aid Office before withdrawing from all or part of your classes! (213) 763-7082, Trailer TN-100 and TP-100.

For detailed explanations related to filing, awarding, and receipt of funds please call the above telephone number and arrange an appointment with a Financial Aid Technician located at Trailer TN-100 and TP-100.



STUDENT SUPPORT SERVICES

CAREER CENTER

Phone: (213) 763-7104
Location: C-107A
Hours: Monday – Friday, 8:30 a.m. to 4:00 p.m.

The Career Center's mission is to promote effective career planning for students. Experienced staff will assist with career options and provide the testing and interpretation of career assessments, career guidance, and develop the student's awareness of the educational opportunities available. The following career inventories are available: The Myers/Briggs Personality Assessment, the COPS-COPESCAPS career inventory, the EUREKA Career Information System, a library with Career Books, Videotapes and Pamphlets are available to assist with career and job opportunities.

CHILD DEVELOPMENT CENTER

Phone: (213) 763-3690
Location: Corner of Olive and 21st Street
Hours: See below

The Campus Child Development Center is designed to provide a supportive educational environment for children while parents attend classes, job training, and/or are working. The center believes that a warm and nurturing atmosphere is the best for both children and adults to learn and grow. Therefore, our focus is to provide developmentally appropriate activities for children and to provide opportunities for parents to enhance their parental skills. The Center is staffed by teachers trained in the field of early childhood education. Student assistants and college lab students work with the staff to provide an environment that is developmentally appropriate for young children. Activities are planned to meet the child's emotional, social, physical and intellectual needs. Programs are as follows:

Day Program:

Hours: Half Day Care - 6:30 a.m. to 12:00 p.m., Monday - Friday
 Full Day Care - 6:30 a.m. to 4:00 p.m., Monday - Friday

Ages: Infants through Preschool Children, 12 months to 5 years of age (before entrance to kindergarten)

Meals served: Breakfast, Lunch and Snack

Evening Program:

Hours: 4:30 p.m. to 9:30 p.m., Monday - Thursday

Ages served: School Age Children 5 to 12 years of age

Meals served: Dinner and Snack

For an application contact the Center located on the corner of Olive and 21st Street. Each application is to be completed and returned to the Child Development Center with income verification in order to establish enrollment priority for your child's admission. Child care is free for income eligible parents.

PLEASE NOTE: The Child Development Center will soon move to a new location at 21st and Grand. Please see the LATTC website for updates.

COUNSELING SERVICES

Phone: (213) 763-7354
Location: H-130
Hours: Monday - Thursday: 8:00 a.m. to 6:30 p.m.
 Friday: 8:00 a.m. to 3:00 p.m.

The Counseling Department provides quality services to assist students in successfully completing course work leading toward their educational goal. Counselors help students make informed decisions in selecting a career in a vocational, academic, or transfer program. Students can consult with a counselor to discuss any of the following:

ACADEMIC/VOCATIONAL PLANNING & ADVISEMENT, in which the student is assisted in assessing, planning and implementing his or her immediate and long-range academic goals. Counseling in Spanish is available upon request.

- Student Educational Plan
- Orientations
- Early Alert Workshops
- Financial Aid Advisement
- Transcript Evaluation
- Graduation Requirements
- General Education Certification (UC/CSU)
- Transfer Requirements to Four-Year Colleges and Universities (see "Transfer Center" for more information)
- Interpreting Assessment Results
- Personal Concerns
- Substance Abuse Counseling Referrals

DISABLED STUDENTS PROGRAMS AND SERVICES (DSP&S)

Phone: (213) 763-3773
TDD: (213) 763-5375
Location: E-110
Hours: Monday – Thursday, 8:30 a.m. – 4:30 p.m.
 Friday, 8:30 a.m. – 1:00 p.m.

The services provided by the DSP&S program are designed to minimize the effect a disability may have on a student's academic, social and cultural performance while attending Los Angeles Trade Technical College. A primary goal of the statewide Disabled Students' Program and Services is to assure an equal educational opportunity for students with disabilities. DSP&S is an integral part of the college and provides the following support services to students with long-term and short-term disabilities:

- Specialized counseling and advisement for students with disabilities.
- Priority Registration - Assistance provided in scheduling classes and completing the registration process.
- Assessment for Learning Disability eligibility to meet California Community College criteria.
- Parking - issued to students with medical documentation of a physical disability or health impairment. A disabled placard is usually required.
- Special accommodations: Sign Language Interpreters, tutors, test proctoring, readers, and note takers available upon request.
- Materials available in alternate media format upon request.
- Liaison with the college's instructional staff.
- High Tech Computer Center lab that offers computer-assisted instruction in a format accessible to students with disabilities. The tables and computer keyboards can be adapted, and text may be enlarged and /or read out loud. Voice activated systems are available for students who may not be able to use a keyboard. The computers may be used for coursework or skill-building activities. Internet access is also available.
- Liaison with the State Department of Rehabilitation and other agencies providing services for the disabled.

To request services please call 213-763-3773.

EXTENDED OPPORTUNITY PROGRAM AND SERVICES (EOPS) COOPERATIVE AGENCIES RESOURCES FOR EDUCATION (CARE)

Phone: (213) 763-7097/7117
Location: Trailer TR
Hours: Monday - Friday: 8:00 a.m. - 4:00 p.m.
Counseling: Monday - Thursday: 8:30 a.m. - 7:00 p.m. & Friday, 8:30 a.m. - 4:00 p.m.

Extended Opportunity Program and Services (EOPS) is designed to supplement existing college programs and to provide assistance to aid financially and educationally disadvantaged full-time students.

To be eligible, potential EOPS students need to apply for financial aid, have a BOGG A or B (fee waiver), enroll in at least 12 units, have less than 70 college units total, not more than 6 consecutive semesters in the EOPS program and be a California resident for 1 year and 1 day. The Extended Opportunity Program and Services includes the following:

- Book Grant (amount varies)
- Counseling (academic, career, personal)
- Priority Registration
- Tutoring
- Film Series (Health and Cultural)
- Field Trips to Universities
- Personal Development 2: Volunteer Program
- Personal Development 2: Interpersonal Relationships
- Personal Development 4: Career Planning
- Additional special programs

The EOPS program is managed and operated by professional staff with specialized skills in counseling and instruction. EOPS provides excellent training and placement opportunities for students through their Volunteer Program. In addition, EOPS provides personal development, cultural and health awareness activities.

CARE is a special program for a unique group of EOPS students. Administered through the EOPS office, the CARE program provides additional services to students who are single parents, head-of-household, receive public assistance (AFDC) and have at least one child age 14 or younger.

Services offered:

- Assistance with childcare expenses
- Counseling
- Educational and developmental workshops
- Access to community resources
- Meal tickets and Transportation assistance

GAIN/CALWORKS PROGRAM

Phone: (213) 763-7109
Location: Trailer TE
Hours: Monday – Friday, 8:00 a.m. to 4:00 p.m. and posted evening hours.

GAIN/CalWORKs is a job training program that provides extensive services for the participants receiving Temporary Aid for Needed Families (TANF). Educational services include instructional programs in Adult Basic Education, GED Preparation, Tutoring, English as a Second Language, Vocational ESL, AA/AS Degree Program, Short-term Vocational Training and Personal Development.

The GAIN/CalWORKs staff provides extensive services for the participants receiving Temporary Aid for Needed Families (TANF). Our highly trained staff provide academic, career and personal counseling and case management. Job development including career/lifeskills workshops, work study, work experience, community service and post employment services are also available. Childcare is provided through our campus Child Development Center.

The collaborative services with the County Department of Public Services/ GAIN (DPSS) include: contracts, childcare, transportation, textbooks, and supplies, progress reports, training and employment and outside agency verifications. Collaborative partnerships with the campus Student Employment Center, Employment Development Division (EDD) and County DPSS/GAIN involve: Job Fairs, Job Assistance, Employment Skills and Career Workshops. We work closely with One Stops, Work Source Centers, Workforce Investment Boards and, other community based agencies including our CalWORKs Advisory Board.

The ultimate program goal is to provide quality training and services to all eligible students in their transition from welfare-to-work.

INFORMATION CENTER

Phone: (213) 763-5337
Location: R-100
Hours: Monday – Thursday, 8:30 a.m. – 7:00 p.m.
 Friday, 8:30 a.m. – 3:00 p.m.

The College Information Center is the place to visit! The Center provides information about the campus, various programs, and provides assistance with all student related inquiries. The center conducts group campus tours and issues student identification card. Bilingual assistance is available.

OMBUDSPERSON

Phone: (213) 763-7066

The College Ombudsperson, Dr. Letia Royal-Burnett, is available to assist students to informally seek resolution to concerns and problems they encounter. Call (213) 763-7066 for additional information.

PUENTE PROJECT

Phone: (213) 763-7157
Location: E-107
Hours: Tuesday, Thursday, 8:30 a.m. – 4:30 p.m.

The Puente Project is an academic preparation program whose mission is to increase the number of educationally disadvantaged students who:

- Enroll in four-year colleges and universities
- Earn college degrees
- Return to the community as mentors and leaders for future generations.

The Puente Project will prepare students to successfully transfer to four-year colleges and universities and return as role models in the community.

Puente uses a combination of teaching, counseling and mentoring to achieve its educational objectives. These three components combine to provide a focused and engaging learning community that allows students to achieve greater gain than would be possible using any single component alone-the whole is greater than the sum of its parts. For more information about the program, contact Ashraf Hosseini at (213)763-7157.

STUDENT EMPLOYMENT CENTER

Phone: (213) 763-7124
Location: C-107A
Hours: Monday - Thursday, 8:00 a.m.-1:00 p.m.
 and 3:00 p.m.- 6:00 p.m.
 Friday, 8:00 a.m. – 1:00 p.m.

The Student Employment Center assists students in finding full-time, part-time or temporary jobs. It also provides information on Internships, working abroad and summer employment, as well as employment information for alumni. The Center maintains a file of current job bulletins from city, state, county and federal government agencies, as well as school districts and private industry. Individual employment advising is available by appointment, as well as assistance with resumes and cover letters. Computers and printers are available for students to use for job search and completing their resume and cover letter.

STUDENT HEALTH CENTER

Phone: (213) 763-3764
Location: E-102
Hours: Fall and Spring
 Monday–Wednesday: 10:00 a.m. – 6 p.m.,
 Tuesday – Thursday: 8:00 a.m. – 4:00 p.m.
 Friday: 8:00 a.m. – 12:00 p.m.
Hours: Winter and Summer
 Monday: 10 a.m. – 6 p.m. ,
 Tuesday –Thursday: 8 a.m.-4 p.m.
 Friday: Closed

The LATTC Student Health Center in partnership with Mosaic Health Services provides many services for enrolled students. Your Health Fee provides the majority of services free of charge.

- Non-emergency care, including health screenings, general physical exams and limited treatment of illnesses
- Health and nutrition Information; health education literature
- Free immunizations
- Laboratory tests
- TB skin tests
- Mental health and substance abuse counseling
- Women's health services

UNIVERSITY TRANSFER CENTER

Phone: (213) 763-7154
Location: H-134 (inside to the cafeteria)
Hours: Monday: 9:00 a.m. – 6:00 p.m.
 Tuesday: 9:00 a.m. – 3:30 p.m.
 Wednesday: 9:00 a.m. – 3:30 p.m.
 Thursday: 9:00 a.m. – 6:00 p.m.
 Friday: 9:00 a.m. – 1:00 p.m.

The University Transfer Center's primary purpose is to assist students interested in transferring to a four-year college or university. The Center serves as a valuable resource to students who have questions regarding course preparation, admission requirements, college and university searches, articulation agreements, financial aid, housing, and other transfer issues. Representatives from the University of California, the California State University, as well as private institutions such as USC, visit the Center to provide up-to-date information to students via workshops or individual appointments. Catalogs, brochures and applications are available for the UC, CSU, and private institutions, including a wealth of on-line resources. Visit our website: <http://college.lattc.edu/transfer/>

VETERANS SERVICES

OFFICE OF VETERANS AFFAIRS

Phone: (213) 763-5305
Location: R-102
Hours: Monday – Thursday: 8:30 a.m. – 7:00 p.m.
 Friday: 8:30 a.m. – 3:00 p.m.

Los Angeles Trade-Technical College courses are approved for the training of eligible Veterans, Reservist, National Guard, and eligible dependents, under Federal and State Assistance programs. In order to start training under any of these programs, eligible students should visit the Office of Veterans Affairs located in the Admissions Office.

The following regulations apply to all eligible students attending a Los Angeles Community College and receiving benefits under Chapter 30 of the United States Code.

CREDIT FOR PRIOR MILITARY SERVICE TRAINING

Veterans and other eligible persons who are receiving benefits must provide the College with documentation of all previous educational and training experience, including Military Service Training Schools and/or Military Occupational Specialties. This experience will be evaluated and appropriate credit granted.

ATTENDANCE AND WITHDRAWAL

Students are required to attend all meetings of every class in which they are registered. Students who are excessively absent may be dropped by the instructor when the hours of absence equal the number of hours the class meets per week, regardless of the reasons for the absences.

The last day of a student's attendance in class must be reported to the Veterans Administration (VA) to avoid overpayments. It is the responsibility of the student to immediately inform the Office of Veterans Affairs of any reduction in unit load. It is the responsibility of the instructor to notify the Admissions Office of the last day of attendance of students. The Veterans Administration will then be notified in a timely manner of the students who withdraw from class.

PROGRAM PLANNING FOR VETERANS

To be eligible for VA Education Benefits the student must select a major and choose courses from those listed under the major in the catalog. The student is advised to seek counseling from Counseling Services. The Veterans Administration will not pay benefits for courses that do not fit in a student's selected major. If a student has prior training and education from another institution, it is the student's responsibility to have the transcripts forwarded to the Admissions Office.

ACADEMIC REQUIREMENTS

All students are subject to the academic standards for probation and dismissal as listed in this catalog. If a Veteran or other eligible person fails to obtain a cumulative grade point average of 2.0 or better after 3 consecutive semesters, the student's educational benefits will be discontinued.

60 UNIT RULE AND UNIT WORKLOAD

Once the student has received units sufficient to equal or exceed the normal program printed in the catalog, the Office of Veteran's Affairs must certify the additional units needed for the student to complete the Associate degree in any major. The student is eligible for further training at the college only by taking courses which are required for upper division status at a transfer institution, or by changing the objective. These courses must be approved by the Veterans Administration. The 60 Unit Rule requires that an eligible student see a counselor before any more courses can be certified by the Office of Veteran's Affairs for payment of benefits.

The Veterans Administration uses the following definition for eligibility:

- full-time benefits: 12 or more units
- 3/4-time benefits: 9 through 11 units
- 1/2-time benefits: 6 through 8 units
- less than 1/2 time: 3 through 5 units
(Reservist and National Guard)

ACADEMIC SUPPORT SERVICES

HONORS PROGRAM

The Los Angeles Trade Technical College (LATTC) Honors Program is designed to encourage the development of talent and ability in highly motivated students as they begin their academic studies and prepare to transfer to a four-year college or university. The program provides:

- Interaction with other highly motivated honors students
- A Certificate of Completion upon program completion
- Increased scholarship opportunities
- Enrichment seminars and activities
- Priority consideration when transferring

LEARNING SKILLS CENTER

Phone: (213) 763-3738

Location: C-106

The Learning Skills Center is here to provide academic instruction and support services in a caring environment to help students become successful in their classes and stay in school. The Learning Skills Center focuses on responding to the individual needs of students and provides courses, tutoring, computer access, and instructional resources to all students to help ensure success in their academic, career, and personal goals. If there is a need for classes or services that are not currently offered, the faculty and staff will make every effort to design a learning program to address the demand. A Los Angeles Trade-Technical College student ID card is required for all Learning Skills Center services.

Learning Skills Computer Lab

The Learning Skills Computer Lab is available to all LATTC students taking Learning Skills courses in basic reading, writing, math, spelling, vocabulary, computer literacy, and GED preparation or using the lab for other instructional purposes. Knowledgeable and friendly faculty, staff, and tutors are available to assist students with their coursework and various types of instructional software. The Learning Skills Lab hours are Monday through Thursday from 8:00 a.m. to 8:00 p.m., Friday 8:00 a.m. to 2:00 p.m. and Saturday 9:00 a.m. to 1:00 p.m. in room C-102. Winter and summer hours may vary. For more information, please call (213) 763-3738 or visit lattc.edu/dept/tlsc/lscsl.html.

Tutoring Center

Free tutoring services are available to all LATTC students. Tutoring is conducted in one-on-one and small group formats. Tutors are scheduled at a variety of convenient times throughout the week in the Tutoring Center. For some of the traditionally difficult courses, Supplemental Instruction (SI) is also offered. SI is an academic assistance program that offers peer-led study groups that are facilitated by trained SI leaders who have already completed the course with a grade of A. The Tutoring Center hours are Monday through Thursday from 8:00 a.m. to 6:00 p.m. and Friday 8:00 a.m. to 2:00 p.m. in room C-102 (also known as the "Blueroom"). Winter and summer hours may vary. For more information, please call (213) 763-3738 or visit lattc.edu/dept/tlsc/tc.html.

Reading Center

The lab has reading, writing, spelling, vocabulary, and study skills materials for use. All materials may be used in the laboratory during open hours. The Reading Center hours are Monday through Thursday from 8:00 a.m. to 6:00 p.m. and Friday 8:00 a.m. to 2:00 p.m. in C-106. Winter and summer hours may vary. For more information, please call (213) 763-3753 or visit lattc.edu/dept/tlsc/irl.html.

The Open Computer Lab

The Open Computer Lab ("Open Lab") is available to all LATTC students and faculty free of charge. Students must be enrolled at LATTC and have a current student ID card. Students may use the Open Lab for general computer use and Internet and online class access. For basic computer literacy instruction or comprehensive technical assistance for online classes, students may sign up for a class or for tutoring. The Open Lab hours are Monday through Thursday from 8:00 a.m. to 8:00 p.m., Friday 8:00 a.m. to 2:00 p.m. and Saturday 9:00 a.m. to 1:00 p.m. in room C-109. Winter and summer hours may vary. For more information, please call (213) 763-3738 or visit lattc.edu/dept/tlsc/cl.html.

LIBRARY

Circulation Desk: (213) 763-3950
Reference Desk: (213) 763-3962
Location: LRC, First & Second Floors
Hours: Monday – Thursday, 8:00 a.m. – 7:00 p.m.,
 Friday, 8:00 a.m. – 1:00 p.m.,
 Closed Saturdays, Sundays and school holidays.
 Summer and winter intersession Library hours may vary. For more information, please call (213) 763-3950.

The Library department is located on the first and second floors of the Learning Resources Center. The Library offers a diverse collection of curriculum-centered, academic and vocational education materials. Research resources include Library subscription databases, books, a selection of Faculty Reserve course textbooks, print periodicals, and internet access. The book collection, research databases and online periodicals are accessible 24/7 via the online public access catalog and the Library research databases remote access, password-protected website: <http://library.lattc.edu>. The Library offers free, time-limited internet access to currently enrolled LATTC students and individual study areas and small group rooms are available. Students need a valid, current student identification card to qualify for Library borrowing privileges. Loan periods are four weeks for circulating books and two hours or one week for selected Library Reserve materials.

Faculty Librarians offer individualized research assistance at the second floor Library Reference desk and educate students in developing research skills to enable them to succeed in their course work and research interests. Library Faculty also offer Library resources instruction in Library workshops, Faculty-scheduled Library orientations, and one-unit Library Science 101 Library Research Methods classes. Library Reference (213) 763-3962.

COMMUNITY PROGRAMS AND ALTERNATIVE EDUCATION

LATTC ON-LINE PROGRAM

For a current listing of LATTC On-Line Program courses go to <http://moodle.lattc.edu>

What do you need to take an on-line class?

- Computer access where you can regularly connect to Internet, plus
- Sufficient computer skills to send/receive email and to navigate the World Wide Web, and
- A valid and currently-used email address in the Student Information System (SIS) plus ability to log into the SIS.

How to register for on-line classes:

- If you are an existing LATTC student, just enroll in the online class as you would any other class, or
- If you are a new LATTC student, enroll in the college first. Please go to <http://www.lacolleges.net/admissions/> to enroll online. Once you are enrolled in the college, you can proceed to register for your online class. You should print the confirmation of online enrollment page at the end of the process. The online applications takes two days to process.

What to do after you register for an on-line class:

- Go to the LATTC Online Program Moodle home page at <http://moodle.lattc.edu>
- Download the Online Student Guide and read it carefully. A new Guide is created for each term, so get the correct Guide.
- Be sure to check if your class requires a campus edition of a textbook to coordinate with your online class. If you purchase the textbook at another campus, the key may not work for your LATTC class.
- Check the Help For New Online Student link to get information on preparing your computer to take online classes. You'll need to be able to enable pop-ups and cookies on your computer.

Students who will be using the Moodle course management system will be able to log into one week prior to the start of the class. Login is identical to that for the Student Information System. Login id = Student ID number and password was originally set to mmdd of date of birth. If a student changes the PIN for the SIS, then it changes the password for Moodle since they use the same authorization process.

Students who will be using a course management system other than Moodle for their online class will need to either attend the scheduled class orientation or follow all directions on the class home page to set up the software.

Are there any special meetings, either on campus or online? Do I have to log in at a specific time?

Each teacher has the right to request either on-campus or online meetings if they feel it is best to do so. Some of the reasons they may choose to require these meetings is to ensure the student is who s/he claims to be and is the person actually doing the work. This is a new Federal mandate. Or, teachers may require an on-campus meeting to provide materials or an orientation to help students get off to a great start.

Most online classes are done asynchronously. This means a student logs in at regular intervals of his/her choosing during the week. Some classes do schedule chats where students gather online at the same time. Some instructors have online office hours at set times for students to log on and get help. Students should log into their class every couple of days and more often for short term classes.

Class have already started. How do I get into an online class?

Send the instructor an email request to add the class. This email needs to come from the same ID listed in the SIS. Include your name, student ID number and the class name and section number in your email.

How do I contact my instructor?

The Online Student Guide has a list of instructor phone numbers and email addresses. If you are not successfully contacting your instructor that way, call the department office or the LATTC Online Program office.

What if I need additional information?

You can contact the Online Program Director, Linda Delzeit-McIntyre at 213-763-3733, or email her at delzeit@lattc.edu. If you need to fax forms, the fax number is (213) 406-1237.

INSTRUCTIONAL TELEVISION (ITV)

Each semester, the District-wide Instructional Television program presents, via television, transferable undergraduate college credit courses. Instructional Television courses are convenient, flexible and especially suitable for college students needing to supplement their oncampus program or to add classes for those times when campus attendance is not possible.

Students enroll by mail, telephone or the Internet, view telecourse lessons at home or at a Learning Center at one of the Colleges, complete reading and study assignments, attend seminars held approximately once a month on weekends at a Los Angeles Community College near their home, and complete a midterm and final exam. Interested students are invited to attend the ITV class orientations held at the beginning of each semester or to visit the Instructional Television program on the campus of Los Angeles Mission College, 13356 Eldridge Avenue, Sylmar, CA 91342. Call 800-917-9277 or (818) 833-3594 for information.

EARLY COLLEGE/CONCURRENT ENROLLMENT

Phone: (213) 763-5560

Location: C-108

The Early College Program at Los Angeles Trade Tech College (LATTC) provides students the opportunity to concurrently enroll in college courses while still in high school. The purpose of the program is to provide advanced scholastic and educational enrichment opportunities for eligible students. Students who desire to participate in concurrent enrollment must be recommended by their principal or counselor and have parental permission. Early College students can take degree-applicable, noncredit, vocational and transferable courses. Students are required to complete a Special K-12 Admission Application for each semester. Special admissions criteria apply for K-8 students. For additional information contact the Early College Program at 213-763-5560 or by email at bridge@lattc.edu.

21ST CENTURY GRANT

Phone: (213) 763-5509
Location: K-008

The 21st Century Program, funded by the No Child Left Behind act, offers an enriching experience that is specifically designed to boost middle school students' performance in mathematics, English, reading and science. This after-school program is designed to enhance students' knowledge and prepare them for future college or university coursework. Students are given the opportunity to take college-level courses that may be credited towards high school class requirements or an associate's or bachelor's degree. For more information call (213) 763-5509 or visit the 21st Century office located in the K-basement Monday-Thursday, 8:00 a.m. - 5 p.m. and Friday, 8 a.m. - 1 p.m.

FOSTER & KINSHIP CARE EDUCATION PROGRAM

Director: Dr. Dione Washington
Phone: (213) 763-3665
Location: D-324

The Los Angeles Trade-Technical College Foster and Kinship Care Education Program is highly dedicated to meeting the educational needs of foster/kinship youth, foster parents, adoptive parents, relative care providers, non-relative extended-family care providers and legal guardians.

Our primary goal is to produce the 4 E's: Enlightened, Effective, Efficient, and Encouraged care providers and foster youth.

We are currently offering motivating and resourceful events, seminars and workshops. Available workshops include: Foster & Kinship Care Education (FKCE); Independent Living Program – "Project YESS Program"; Working With Special Needs Children (D-Rate Certification & Renewal); Working With The Medically Fragile Child (F-Rate Renewal); and Partnering for Permanence and Safety, Model Approaches to Partnerships in Parenting (PS-MAPP/Foster Parent Certification).



STUDENT ACTIVITIES

Phone: (213) 763-7209
Location: C-105

The Student Activities Office provides opportunities for students and staff for educational, social and community service activities in and outside the classroom. Services such as Dean's Honor Awards Ceremony, club activities, discounts to social events, publicity through the student bulletin and bulletin boards are offered. Other activities handled by this office include: weekly A.S.O. student government board meetings, ethnic and multicultural programs, club fairs, blood drives and scholarships, etc. Participation in civic and legislature processes.

ASSOCIATED STUDENT ORGANIZATION (ASO)

Membership

A.S.O. programs are supported by a \$7.00 membership fee, available at the Business Office for day and evening students. These fees are necessary to utilize A.S.O. services. Any student, upon enrolling, is eligible to become a paid member of the Associated Student Organization. Members are entitled to all rights and privileges, including book loan applications, educational, social and community services programs and all associated activities.

Organization

The governing body of the Associated Students, the Student Council, is composed of the Executive Board which consists of the President, Vice President, Parliamentarian, Treasurer, Historian and the a Recording Secretary. The Senators serve as the representative liaisons for every department on campus. The Commissioners are also voting board members who serve in specialized positions. At Los Angeles Trade Technical College, student government strives to reach all students and attempts to meet the many diverse needs represented in our student body.

The purpose of student government is best expressed in the preamble to the constitution: "We the students of Los Angeles Trade-Technical College, in order to guide and encourage cultural, social, athletic, and scholastic activities, to promote the welfare of the students, and to provide a representative student government, do hereby establish this constitution, and assume the powers of self-government delegated to us by the President of the College."

All students are encouraged to become involved in the governance of their affairs by becoming department reps and in running for an elected office. Governance flow is from individual students to department representatives to the student council and in reverse. Elections are held every spring for the Executive Board positions. Officers are elected for a one year term.

Trade-Tech College is a member of the California Community College Student Affairs Association (CCCSAA) and the California Student Association of Community Colleges (CAL-SACC). The two organizations meet separately each semester to discuss topics in Student Government and activities of importance to the member schools. The groups were organized to help promote better relations among the community colleges of the state and to help solve problems relative to each. Trade-Tech regularly sends delegates to these statewide and regional meetings.

Qualifications for ASO Officers (Administrative Regulation E-22)

Los Angeles Community College District Administrative Regulation E-22 pertains to elected Associated Student Organization (ASO) officers, officers appointed to elected positions and heads of ASO Standing Committees. Administrative Regulation E-22 does not apply to clubs, club representatives, ASO special committees and all-college committees".

Regulation E-22 is as follows: "A student cannot be a candidate for ASO office if he or she has served more than four semesters in a student government elected and/or appointed office, or in any office or position where he or she voted on the expenditure of ASO funds in any college. An officer may serve a fifth semester if he or she is eligible at the time of assuming office (e.g., has served three semesters and is a candidate for an office with a one-year term). Ten weeks or more of student service in office or service anytime after the tenth week, will be counted as a full semester. All students running for office must be paid members in good standing in the Associated Students Organization at the college where the election is being held.

A student officer or a candidate for office must be actively and continuously enrolled, attending and successfully completing classes in a minimum of 6 units (Day Students), or six units taken solely in the evening and/or on Saturday (Evening Students), with a cumulative and current GPA of 2.0 at the College during the semester in which the student government office is applied for or held. All units must be taken at the college where the office is sought or held. Student officers reducing units below the required number will be required to forfeit their student offices. Unit checks will be made to assure that students maintain eligibility at least every five (5) weeks.

A candidate for student office must have a cumulative grade- point average of 2.0 or better for all college work completed within the past two years and the number of "W" units must not exceed the number of units completed during that two-year period. NOTE: Individual colleges, in their ASO constitutions may set forth standards for office which are higher than those listed above."

Student Trustee Election Procedure

The Los Angeles Community College District conducts an election annually whereby each student in the District has an opportunity to be involved in the process of selecting a student representative to the Los Angeles Community College district Board of Trustees.

The process contained in Regulation E-78 provides for a thorough evaluation of the candidates' qualifications and insures an equal opportunity for any individual from any District college campus to seek the position of student representative to the Los Angeles Community College District Board of Trustees. In accordance with existing law, candidates for Student Trustee must:

- Be residents of the District.
- Be currently enrolled at a District college.
- Be enrolled in at least 6 units.
- Plan to continue as a District resident and enrolled as a District student through the one-year term of office.
- Have completed a minimum of 12 units.

For further information, contact the ASO.

CAMPUS CLUBS AND ORGANIZATIONS

Inter-Club Council

The Inter-Club Council is composed of the A.S.O. Vice- President, who serves as chairman, and the Vice-Presidents of all campus clubs. It is the purpose of the Inter-Club Council to serve as a coordinating and planning body for club activities, for an improved program of student activities and, as a liaison between the college clubs. LATTC has had a number of consistent clubs, including:

- Black Student Union
- Cosmetology Club
- Computer Club
- Culinary Arts
- Gay Straight Alliance
- R.I.S.E.
- Club Couture (fashion design)
- Muslim Student Association
- Parent's Club
- Science Club
- Students in Free Enterprise (SIFE)

STUDENTS ARE ENCOURAGED TO ORGANIZE NEW SPECIAL INTEREST CLUBS ON CAMPUS. Before a group is recognized officially, a constitution must be submitted and approved by the A.S.O. Advisor and Executive Board. Every club is required to have a Faculty Advisor. An approved Administrator can also serve as a clubs Advisor.

COLLEGE COLORS AND MASCOT

The college colors are purple and gold. The college mascot is the Beaver, and Trade-Tech students are known as Beavers.

STUDENT INTERCOLLEGIATE ATHLETICS

Phone: (213) 763-3726

Location: J-200

Trade-Tech College is a member of the South Coast Conference of which there are 10 colleges. The other colleges are: East Los Angeles College, Los Angeles City College, El Camino College, Cerritos College, Long Beach City College, Mt. SAC College, Pasadena City College, Los Angeles Southwest College, and Compton College. In the Fall, sports offered are Men's and Women's Cross Country Men's and Women's Water Polo, Men's and Women's Basketball. In the Spring, sports offered are Men's and Women's Track and Field and Men's and Women's swimming.

To be eligible for intercollegiate athletic program participation, students must be enrolled and attending 12 or more units. Between seasons of competition in a sport, students must complete 24 units and maintain a 2.0 G.P.A.



CAMPUS OFFICES AND SERVICES

BUSINESS OFFICE

Phone: (213) 763-7225
Location: K-126
Hours: Monday thru Thursday: 8:30 a.m. to 7:00 p.m.
 Friday: 8:30 a.m. to 3:00 p.m.

Student accounts are managed through the College Business Office. Student fees including enrollment fees, nonresident tuition, health fees, parking, Associated Student Organization, child care, transcripts and Community Service fees are payable at the Business Office. Upon payment of fees, the Business Office then issues student's official confirmation of course enrollment. In addition, the Business Office accepts, disburses and accounts for some student financial aid, loan and scholarship checks, and issues all student refunds. Metropolitan Transit Authority bus passes and tokens are also available for sale at the Business Office.

BOOKSTORE

Phone: (213) 763-7210
Location: K-102
Hours: Monday thru Thursday: 7:15 a.m. to 6:15 p.m.
 Friday: 7:15 a.m. to 3:00 p.m.

See Bookstore website: <http://www.lattc.bkstr.com>

Bookstore Return / Refund Policy

A. Textbooks

Textbooks must be returned within the first 15 school days of the Fall and Spring semester, and within the first 5 days of Summer, and Winter Sessions, and short-term courses. Textbooks purchased after the 15th school day must be returned within 24 hours.

All textbooks being returned must be accompanied by an ORIGINAL DATED CASH REGISTER SALES RECEIPT issued by the bookstore. NO EXCEPTIONS!

Refunds and/or exchanges will not be allowed on textbooks purchased during the last 4 (four) weeks of the semester. No refunds will be allowed after the 1st week of the Summer Session.

Textbooks must be returned in the same condition as when purchased, with final determination of condition made by the Bookstore Staff. New textbooks must be in new condition (no writing or marks of any kind). Textbooks failing to meet the policy will be considered Used and be governed by the Used textbook policy. Catalogs, Class Schedules, Paperbacks, Study Guides, Dictionaries, Clothing, Workbooks, Computer Discs, and specially assembled kits are not refundable.

B. Supplies and Tools

Materials required by a specific class may be returned during the first 15 days of the Fall and Spring semesters and within the first 5 days of the Summer Session. Items must be accompanied by a dated cash register receipt and must be in NEW condition. After the 15th day all returns must be made within 24 hours. NO REFUNDS will be given

for any clothing, athletic supporters, sweat socks, safety goggles, and other "personal items" governed by California Health Laws.

C. Policy For Personal Checks

A current LATTC Registration Receipt or A.S.O. card must be presented when making purchases by personal check PLUS a valid California Driver's License or California Identification Card. Checks must be imprinted with the student's name and current address, and drawn on a local bank. Checks will be accepted only for the amount of purchase.

D. Book Buy-Back Period

Book Buy-Back periods occur during the final exam week of each Fall and Spring semester. Summer buyback dates are not predictable. Buyback dates are posted with signs and on the receipt.

COLLEGE CROSSROADS CAFETERIA

Phone: (213) 763-7331
Location: H Building

The Trade-Tech Crossroads Cafeteria offers a wide variety of exceptional menu choices for your dining pleasure. Students enrolled in the Culinary Arts and Professional Baking programs prepare fresh food daily that is served in the on-campus bakery, cafeteria, and Garden Room. Selections include hot entrees, hot off the griddle breakfasts, grab and go sandwiches and salads, as well as a variety of fresh baked goods. Join us in the Garden Room on Wednesdays for our international buffet, an all you can eat themed menu based on food from all over the world!! The College Cafeteria can also provide on-site catering for your special events. Please contact 213-763-7331 for more details.

SHERIFF'S DEPARTMENT

Phone: (213) 763-3600
Location: D-150

The college contracts with the Los Angeles County Sheriff's Department for all of its law enforcement services. These officers undergo specialized training through the Los Angeles County Sheriff's Academy designed to meet the needs and problems of a contemporary college.

The college prides itself on its safety record maintained on campus. However, effective law enforcement and protection require citizen cooperation and assistance. To that end, please follow a few basic safety tips: if you must remain in campus buildings after closing time, make an effort to do so in the company of at least one other co-worker, or student. The campus is well lighted but it is wise, again, to employ the "buddy system" when walking to your car or traveling to other locations. Refrain from using shortcuts, staying on the well-traveled thoroughfares.

Personal property, purses, briefcases, etc., should never be left unattended. Take such items with you if you are leaving the office, classroom, or library study area. Keep your auto locked, never leave the keys in the ignition, and

avoid leaving property where it is visible on the seats. Give your car the quick "once over with a critical eye" before entering, for possible break-in or persons in the rear seat or floor area.

The rapid and successful detection of crime and apprehension of criminals depends heavily on speedy reporting and dissemination of facts to the College Sheriff's Department. For information, inquire at the "D" building, Room 150 or call (213) 763-3600.

The lost and found is located in the College Sheriff's Department, Rm. D-150. A valid California Driver's License, California Identification Card or LATTC Student Identification Card is required for claimed property.

STUDENT PARKING

See Also: *Parking Fees and Permit Sales*

GENERAL INFORMATION

Please note: At the time of this publication, every effort was made to indicate available parking at the college. On-going construction, which began June 2006, will create a need to alter parking availability. Information on parking changes will always be available through the College Sheriff's Office, D150, (213) 763-3600, 24 hours per day, 7 days a week.

Parking permits must be displayed at all times when a vehicle is parked on campus, including week-ends. Individuals who are unsure as to where they may park, or where a permit is recognized as valid, are encouraged to contact the College Sheriff or Main Gate parking attendant for clarification prior to parking their vehicle in a College parking lot.

Lot identification signs showing which lots are for use by students, visitors, and/or employees are posted at the entrance to College parking lots. Unless specifically re-directed by College Sheriff personnel. Students may not park in any space designated for specific use. Parking in a space designated for specific use can result in a citation for failure to display a valid permit.

Vehicles displaying an invalid parking permit are subject to citation. Invalid permits include, but are not limited to: permits that have been altered, reported lost or stolen, or issued to an individual other than the permit holder (in which case are subject to confiscation), and also permits in which the authorization period has expired, or are not clearly and completely visible. Individuals using or obtaining a permit illegally are subject to administrative disciplinary action.

Student and visitor parking is allowed in designated lots as follows:

- **Student/Visitor Parking with Valid Permit Only:** Roof Lot, Orthopedic Hospital, and Olive St. Parking facility.
- **Disabled Parking:** Students/Visitors, Roof Lot and Olive St. Parking facility or as directed by parking attendant. A valid LATTC parking permit and a DMV placard must be displayed on any vehicle parked in a designated handicapped stall. Students with a verified disability should go to the Disabled Students Program and Services Office, E-110, to arrange for an accommodation.
- **Motorcycle and Moped Parking:** No permit required; parking is, however, restricted to the designated motorcycle/moped parking area located on the east side of Building D only (enter from Grand Ave.).

- **Bicycle Parking:** No permit required; bike racks are located throughout the campus.
- **Guest Parking:** Guests coming to the campus may obtain a guest permit at the Main Gate (entrance to the Roof Lot) or from the College Sheriff Office, D-150. Guest permits are issued on a limited day basis only.

Saturday/Sunday Parking Permit Adjustment

Unless directed otherwise by College Sheriff personnel due to a special event or other College activity, lot designations are enforced on weekends as printed on the parking permit.

PARKING RULES AND REGULATIONS

Parking rules and regulations are enforced 24 hours a day, including Saturdays, Sundays, and holidays. A valid parking permit must be displayed at all times the vehicle is parked on campus. The permits are made of removable mylar and should be affixed to the inside rear window, (lower right side, facing outward.) Failure to display a valid parking permit will result in issuance of a citation.

Student parking permit regulations are enforced from the first day of classes each semester through the last day of final examinations. Student vehicles parked in places not authorized for student parking are subject to citation or tow away at owner's expense. Permits are not valid at parking meters.

All traffic and road signs must be obeyed. Speed limit on campus is eight (8) miles per hour. All vehicles shall be parked clearly within the designated lines. Vehicle parking regulations applicable to motorcycles and mopeds will be enforced at all times.

Regulations governing handicapped parking, red curbs, no parking zones, fire lanes, loading docks, special permit areas, and areas having time limitations are enforced at all times. Illegally parked vehicles may be towed away at owner's expense.

- Trade-Tech recognizes other student parking permits in the Los Angeles Community College District.
- Construction zones and special college events may cause access to parking areas and roadways to change. Please follow directions on signs carefully.
- No vehicle, motorcycle, or moped may be parked overnight on campus.

ENFORCEMENT OF TRAFFIC AND PARKING REGULATIONS

All persons driving a motor vehicle on campus are required to comply with the traffic laws of the State of California and the rules and regulations pursuant to Section 21113A of the California Vehicle Code. Violations of the regulations set forth above will result in a citation being issued. The College reserves the right to remove vehicles from parking lots as follows: abandoned vehicles; vehicles parked in such a manner as to constitute a serious hazard; vehicles which impede the operation of emergency equipment; vehicles which park illegally on a recurring basis. The registered owner is responsible for any removal costs which may occur.

Liability

Los Angeles Trade-Technical College, the Board of Trustees, and the Los Angeles Community College District shall not be responsible for damage to any motor vehicle, theft of its contents, or injury to persons operating a vehicle parked on or off the campus unless liable under Government Codes including, but not limited to Government Code 810 to 9666.6 inclusive (Reference: LACCD Board Rules 7401 and 7402) Direct inquiries to College Sheriff, D-150, (213) 763-3600.

CITATIONS AND BAIL

Citations will be issued to all vehicles on college property in violation of parking rules and regulations and must be paid within 21 days of the date issued. Parking Citation Appeals: Individuals who believe a parking citation was issued to them in error must appeal it immediately by completing an Administrative Review form (available at the College Sheriff Office, D-150, or the LATTC Sheriff Department website under Parking Citations and Appeals). Appeals must be mailed to: Los Angeles Trade Technical College, c/o Parking Citation Service Center, P.O. Box 11923, Santa Ana, CA 92711. Failure to immediately pay or appeal a citation may result in substantial penalties and a Department of Motor Vehicle (DMV) hold on vehicle registration.

PARKING INFORMATION AND ASSISTANCE

Inquiries regarding the College's parking program should be directed to the offices listed below during normal business hours. College Sheriff personnel are, however, on duty 24 hours a day, seven days a week to assist with permit use and enforcement issues.

- Parking Rules, Regulations, Permit Use, and Enforcement: College Sheriff, D-150 (213) 763-3600.
- Permit Sales, Refunds, and Exchanges: Business Office, K-126, (213) 763-7225.
- Policy: Administrative Projects, A-108, (213) 763-7040.

NOTE: The parking information shown above is subject to change without notice.

PARKING FEES AND PERMIT SALES

Parking Fees

A limited number of student parking permits are available for purchase at the Business Office for \$20.00 per permit per semester. The purchase of a parking permit does not guarantee a parking space; it is only a license to park one vehicle in designated parking lots as posted at the entrance of each parking lot. Parking permit sales begin at the time of registration for the effective semester on a first-come, first serve basis while supplies last. Student parking permits are purchased at the Business Office, K-126, as part of the registration process. All enrollment fees must be paid in full before the permit can be issued.

Refunds

Student parking fees are refundable each semester through the enrollment refund period. (Please see the current semester's schedule of classes for the exact deadline date.) The parking permit must be returned at the time the refund is requested.

Lost or Stolen Permits

There is no replacement for lost or stolen permits. A student may, however, purchase another parking permit should one be available. Lost or stolen permits should be reported to the College Sheriff, D-150, immediately. Additional sales for replacement permits are made on or after the third Thursday of each semester.

TRANSPORTATION

The college is located near the intersection of the Harbor and Santa Monica freeways, and is directly across the street from the Metro Blue Line's Grand Avenue station. In addition to the light rail system, there are more than 40 bus lines stopping at or within two blocks of the College. For more information, please consult the College website at www.LATTC.edu.

LATTC

LOS ANGELES TRADE-TECHNICAL COLLEGE



Programs and Courses

Art Trades	54
Automotive Technology	59
Business	66
Child Development	86
Community and Economic Development	90
Construction, Design, and Manufacturing	100
Cosmetology	140
Culinary Arts	143
Electronics and Computer Technology	149
Fashion	153
Labor Studies	163
Learning Skills & ESL	169
Library Science / Personal Development	173
Liberal Arts / Humanities	174
Mathematics	185
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ART TRADES

SIGN GRAPHICS

PROGRAM OVERVIEW

Sign makers design and produce signs to advertise and identify business, industry, public services, entertainment, and other areas too numerous to count. Students learn how to design and execute a wide variety of signs including temporary signs like posters and paper banners plus permanent signs on wood, metal, canvas, vehicles, walls and glass. Students learn the fundamentals of lettering, design, composition, color while practicing hand and eye coordination. Students also learn to both draw and brush a diverse set of alphabets and a variety of both interior and exterior signs. In addition students study how to design and execute signs on sign specific software including patterns, vinyl lettering, vinyl application plus how to use plotters, scanners, and clip art images.

Many sign makers are self-employed, work freelance or are employed in a commercial sign shop. Employment opportunities are competitive and only those with good hand skills and knowledge have the best chance for employment. Specialty skill instruction like dimensional letters, sandblasted signs, gold leaf and high-end layout and design are offered to advanced students. These students participate in a business module for pricing and eventual self-employment.

Upon completion of the program students will be proficient in basic hand lettering, sign design and layout, the production of temporary signs, exterior permanent signs, window signs and specialty signs, computer operation including printing, cutting and applying vinyl lettering and general production skills needed to complete a successful sign. Students will also understand basic pricing and sales techniques, record keeping or small business operation, and obtaining licenses.

Silkscreen

Silkscreening is a printing method for multiple or large number jobs. The student will learn how to make a screen, cut a variety of stencils, prepare the screen and print an image. Proper ink usage and clean-up will be taught. Students will print on a variety of substrates including multicolor prints on T-shirts.

Mural class

Techniques for producing large format murals are taught using a variety of methods including the grid method. Students will learn layout and design, pattern making and transferring artwork to the wall. Surface preparation, paints, tools and brushes will also be covered.

SIGN GRAPHICS

■ Associate in Arts Degree

The Associate in Arts degree in Sign Graphics is awarded for completing 44-48 units of course work within the major with a "C" or better grade, along with 18 units of general education courses meeting the "Grad Plan B" requirements.

REQUIRED COURSES

FIRST SEMESTER		UNITS
SGNGRPH 101	Introduction to Lettering	10
– and –	Core Electives	2
SECOND SEMESTER		UNITS
SGNGRPH 102	Exterior Display Signs	10
– and –	Core Electives	2
THIRD SEMESTER		UNITS
SGNGRPH 103	Window Signs	10
FOURTH SEMESTER		UNITS
SGNGRPH 104	Advanced Computer and Design	10
TOTAL UNITS		44

CORE ELECTIVES

		UNITS
VIS COM 110	Occupational Information	2
VIS COM 113	Color Theory	2
VIS COM 117	Scale Drawing Techniques	2
SGNGRPH 201	Fundamentals of Mural Painting	2
SGNGRPH 203	Silk Screen Processing I	2
SGNGRPH 204	Silk Screen Processing II	2

SIGN GRAPHICS

■ Certificate of Completion

A Certificate of Completion is awarded for successful completion of 44 units of the required courses listed above with a grade of "C" or better in each course. Upon completion of the program students will have the basic skills to enter the job market.

SIGN GRAPHICS

■ COURSE DESCRIPTIONS

101 INTRODUCTION TO LETTERING (10)

Lecture: 5 hours; Lab: 15 hours

Instruction covers identification of materials, tools, and brushes. Training is offered in drawing and brush lettering of Gothic, Roman, Script, and Casual letter styles. This course also includes training in techniques of layout, letter spacing arrangement, color mixing in reference to the sale and production of temporary signs. Students prepare showcards, paper signs, and other temporary display saleable items.

102 EXTERIOR DISPLAY SIGNS (10)

Prerequisites: Successful completion of Sign Graphics 101 with a grade of "C" or better.

Lecture: 5 hours; *Lab:* 15 hours

This course covers the tools and materials used to produce outdoor signs. In addition, students design, paint and letter signs inside and outside of the classroom. Students will work on a variety of materials including canvas, plywood, aluminum and plastic substrates. Also introduction to computer generated lettering and application techniques for vinyl letters. Instruction will emphasize sign layout and design. Students will produce a 4X8 plywood sign and an exterior wall sign.

103 WINDOW SIGNS (10)

Prerequisite: Successful completion of Sign Graphics 102 with a grade of "C" or better.

Lecture: 5 hours; *Lab:* 15 hours

Instruction covers the use of specialized tools and materials used to produce window signs. Training includes painting on exterior and reverse windows, stippling techniques and applications of vinyl letters on glass, both exterior and reverse. In addition students will paint a temporary splash window and apply 23K gold leaf (water gilding). Intermediate computer design including the use of plotters and application techniques.

104 ADVANCED COMPUTER AND DESIGN (10)

Prerequisites: Successful completion of Sign Graphics 103 with a grade of "C" or better.

Lecture: 5 hours; *Lab:* 15 hours

Students will learn advanced design techniques, backgrounds and color theory. Practical experience will be gained on advanced computer study, applications and a variety of computer sign software. In addition information will be given on small business practices including management and pricing. Students will produce a sandblasted sign, a custom contour-cut sign and an antique sign.

201 FUNDAMENTALS OF MURAL PAINTING (2)

Lecture: 6 hours

This course will teach basic mural painting techniques including; design, layout, and execution. Students will be introduced to the proper tools and paints for exterior, long term murals.

203 SILK SCREEN PROCESSING I (2)

Lab: 6 hours

This course will provide an introduction to the screen printing trade. Students will learn how to make silk screens and will learn about copy preparation, mesh selection, frames, stencil systems, printing techniques, ink & substrate compatibility, reclamation of screens. Students will print on a variety of surfaces.

204 SILK SCREEN II (2)

Prerequisites: Successful completion of Sign Graphics 203 with a grade of "C" or better.

Lab: 6 hours

Students will be introduced to the use of solvent based inks; including; color mixing, application, and clean-up. This course also offers practice on a variety of substrates and uses including four-color process printing.

VISUAL COMMUNICATIONS

PROGRAM OVERVIEW

The Visual Communications program at LATTC is the starting point for exciting careers in animation, art direction, digital imaging, graphic design, illustration, multi-media, web design and other related fields. The fast paced two-year program begins with fundamentals: color, design, drawing, prepress and typography. Advanced levels create finished portfolios on a Macintosh computer, utilizing industry standard digital software. Student portfolios demonstrate creativity and discipline, displaying dynamic art sensibilities and creating visual solutions for problems of marketing and publishing. The Visual Communications program focuses on four core areas:

Graphic Design: Beginning levels will study the areas of layout and design, typography, and advertising concepts. Advanced levels will develop logos and corporate identity programs, design brochures with extended text, and create original magazine advertising, which is directed to specific audience demographics. Problem solving, brainstorming and computer training will receive equal emphasis. Graduating portfolios incorporate a wide variety of projects showcasing the student's ability to conceptualize, design and use typography as a communication tool.

Drawing: Beginning levels will study free hand observational drawing, perspective and the principles of light and shade. Black and white mediums will be explored in pencil, markers and ink. Advanced levels create comprehensive layouts in color marker and pencil as preliminary development. Finished designs and illustrations for advertising and on-line usage are then created traditionally or digitally and serve as portfolio samples.

Art Production: Thorough study of the preparation of art, graphics, photography, and typography for reproduction in print. Beginning levels concentrate on understanding the mechanics of color separations and print specifications. This knowledge is then applied as students create digital files that utilize specific print requirements. Advanced levels prepare complex graphic computer files for output at commercial printers.



Computer Graphics: The creation of art and design on the computer requires mechanical know-how and considerable familiarization with the workings of several graphic software applications. The Viscom program offers instruction in Adobe Creative Suites, Dreamweaver, Flash, Fireworks, HTML and QuarkXPress. Graduating portfolios demonstrate familiarization with each of these software applications and an ability to manipulate each for specific uses and creative affects.

Today's commercial marketplace for artists has never been more available. Flash motion graphics and web design have initiated new and creative directions. Traditional artists and conventional designers continue as before but have incorporated digital software within their accomplished collection of talents. This blending of tradition and technology is the primary emphasis within the Visual Communications program.

Upon successful completion of the program, students can pursue many different creative careers. While it is advisable for students to continue higher education, many graduates have entered the workplace upon completion of the Viscom program alone realizing creative and financial success. Graduating students will have acquired visual sensitivities with respect to type, images and graphics; they will be trained in the visual software used by industry, and will understand marketing as it applies to commercial art and understand how to tailor their work appropriately to specific audiences. Graduates must present their portfolio to a panel of industry professionals as a condition of course completion. With this review, students are measured in the scope and quality of their work, problem solving ability, presentation skills and ability to interact as they explain their ideas and work.

VISUAL COMMUNICATIONS

■ Associate in Arts Degree

Requirements for the Associate in Arts degree in Visual Communications may be met by completing the required courses within the program that total 48 units, and by completing an additional 18 units of academic courses to meet the graduation Plan B requirement.

REQUIRED COURSES

FIRST SEMESTER		UNITS
VIS COM 100	Graphic Design I	2
VIS COM 103	Basic Computer Systems	2
VIS COM 105	Digital Prepress I	2
VIS COM 106	Drawing I	2
VIS COM 108	2D Design Fundamentals	2
VIS COM 118	Adobe Illustrator	2
SECOND SEMESTER		UNITS
VIS COM 112	Digital Prepress II	2
VIS COM 114	Digital Typesetting	2
VIS COM 115	Graphic Design II	2
VIS COM 116	Advertising Concepts	2
VIS COM 119	Digital Page Layout	2
VIS COM 129	Digital Photo Manipulation	2

THIRD SEMESTER		UNITS
VIS COM 120	Drawing II	2
VIS COM 124	Computer Illustration I	2
VIS COM 126	Portfolio Development I	2
VIS COM 127	Digital Prepress III	2
VIS COM 128	Designing Logos and Trademarks	2
VIS COM 135	Web Page Graphics on the Macintosh	2

FOURTH SEMESTER		UNITS
VIS COM 130	Drawing III	2
VIS COM 131	Computer Illustration II	2
VIS COM 132	Portfolio Development II	2
VIS COM 133	Digital Portfolio Preparation	2
VIS COM 134	Graphic Design Business Practices	2
TOTAL UNITS		46

RECOMMENDED ELECTIVES

		UNITS
VIS COM 204	Flash Motion Graphics	2
VIS COM 229	Photoshop II	2
VIS COM 113	Color I	2
VIS COM 203	Digital Type Manipulation	2

VISUAL COMMUNICATIONS

■ Certificate of Completion

A Certificate of Completion is awarded for successful completion of all 46 units of the required courses listed above with a grade of "C" or better in each course.

VISUAL COMMUNICATIONS

■ COURSE DESCRIPTIONS

100 GRAPHIC DESIGN I (2) CSU

Lecture: 0.5 hour; Lab: 4.25 hours

An introduction to the profession of Graphic Design. Projects will stress design basics, typography, the computer as a design tool, the basics of visual problem solving, and art production and advertising.

103 BASIC COMPUTER SYSTEMS (2) CSU

Lecture: 0.5 hour; Lab: 4.25 hours

Introduction to using the Macintosh computer for graphic design. Students will learn basic computer functionality, with an emphasis on an understanding of the operations systems, configuration for use with graphic applications, file management and working in a network environment.

105 DIGITAL PREPRESS I (2) CSU

Lecture: 0.5 hour; Lab: 4.25 hours

Beginning level course in the preparation of art for the reproduction process, and its application to the industries of Advertising and Graphic Design. Students will study the history of graphic design, typesetting, paste-up to digital prepress (in black and white and two color reproduction) as an emphasized focus within the course.

106 DRAWING I (2) CSU

Lecture: 0.5 hour; Lab: 4.25 hours

Introduction to concepts of basic observational drawing, perspective and the principles of light and shade. Black and white and color mediums will be utilized.

108 2D DESIGN FUNDAMENTALS (2) CSU

Lecture: 2 hours

A course in the principles and elements of 2D design. Principles of unity, variety, emphasis, balance and proportion guide every mark a designer creates. Elements of line, shape, form, value, color, and texture provide for a control that all visual artists seek as they manipulate their work.

112 DIGITAL PREPRESS II (2) CSU

Recommended Preparation: VIS COM 105 with a grade of "C" or better. Lecture: 0.5 hour; Lab: 4.25 hours

Intermediate level course where students design and produce projects that utilize the Macintosh computer. Line art projects in single color and two colors are created in Adobe Illustrator. Technical processes for reproduction will be covered with instruction in the use of QuarkXPress.

114 DIGITAL TYPESETTING (2) CSU

Lecture: 0.5 hour; Lab: 4.25 hours

Introduction of the principles of computer typesetting as a career. The course will cover the standards and guidelines used to set type for ads, brochures, and stationary. Proofreading and setting copy in multiple computer programs will be stressed.

115 GRAPHIC DESIGN II (2) CSU

Recommended Preparation: VIS COM 100 with a grade of "C" or better. Lecture: 0.5 hour; Lab: 4.25 hours

Intermediate level course that will stress Graphic Design as a profession. Problems will emphasize the development of creativity, typography as communication, art production and the computer, and methods for developing brochures, ads and web pages.

116 ADVERTISING CONCEPTS (2) CSU

Lecture: 0.5 hour; Lab: 4.25 hours

Introduction to the development of advertising concepts for magazines, television, and the internet. Use research, brainstorming and standard advertising methodology to plan, design and produce an advertising campaign.

117 SCALE DRAWING TECHNIQUES (2) CSU

Lecture: 2 hours

This course covers the basic elements of measurement; the inch, foot, and yard. The major aspects of converting the foot to the inch with a proportionate scale will be covered, working from existing installations and fixtures toward completed scale drawings of elevations and floor plans. In addition, the students will learn to place objects in perspective, using a perspective grid of mechanical projection.

118 ADOBE ILLUSTRATOR (2) CSU

Recommended Preparation: VIS COM 103 with a grade of "C" or better. Lecture: 1 hour; Lab: 3 hours

Basic training in computer illustration using the Adobe software application "Illustrator". Toolbox familiarity and manipulation, menu items and general skill application will constitute this beginning level course.

119 DIGITAL PAGE LAYOUT (2) CSU

Recommended Preparation: VIS COM 103 with a grade of "C" or better. Lecture: 2 hours

An introduction to the graphics software application QuarkXPress. This course will teach students how to use QuarkXPress as a design tool to enhance other applications such as Adobe Illustrator and Adobe Photoshop. From the basic of the tool palette to more advanced concerns like setting traps for final output, Digital Page Layout will examine all.

120 DRAWING II (2) CSU

Recommended Preparation: VIS COM 106 with a grade of "C" or better. Lecture: 0.5 hour; Lab: 4.25 hours

An advanced drawing course in which indoor and outdoor observational drawing concepts are linked with magazine and book publishing for the creation of cover art and feature article page layouts.

124 COMPUTER ILLUSTRATION I (2) CSU

Recommended Preparation: VIS COM 116 with a grade of "C" or better. Lecture: 0.5 hour; Lab: 4.25 hours

An intermediate level course in digital picture making techniques. It combines the Adobe software applications "Illustrator" and "PhotoShop" for the creation of digital illustrations that include drawing, photo manipulations, and typography stylizations for advertising and editorial purposes.

126 PORTFOLIO DEVELOPMENT I (2) CSU

Recommended Preparation: VIS COM 106 and 116 with a grade of "C" or better. Lecture: 0.5 hour; Lab: 4.25 hours

This is a course in the production of a finished portfolio; all course projects will be reviewed for portfolio consideration. Some projects will require reworking. Preparation of 10 completed works with preliminary developmental books culminates in a simulated job interview with Advisory Board members.

127 DIGITAL PREPRESS III (2) CSU

Recommended Preparation: VIS COM 112 with a grade of "C" or better. Lecture: 0.5 hour; Lab: 4.25 hours

An advanced course in digital prepress. Students will utilize photographic images, typography, and original artwork to create printing files for advertising and graphic design. Advanced Macintosh based theories will be covered to include Adobe Illustrator and Photoshop, and QuarkXPress.

128 DESIGNING LOGOS AND TRADEMARKS (2) CSU

Lecture: 2 hours

Introduction to the principles of trademark design and computer stationary production. Research, marketing, color theory, and corporate identity principles will be stressed. Logos, letterheads, business cards and envelopes will be designed for a variety of clients.

129 DIGITAL PHOTO MANIPULATION (2) CSU

Lecture: 1 hour; Lab: 3 hours

An introductory course that concentrates on the software application Adobe Photoshop. Students will be instructed on how to use this application to create original art and graphics by manipulating scanned photography and other imagery.

130 DRAWING III (2) CSU

Recommended Preparation: VIS COM 120 with a grade of "C" or better. Lecture: 0.5 hour; Lab: 4.25 hours

An advanced drawing course in which quick observational drawings are refined in black and white and color mediums. Renderings, or more highly refined tonal work, will be performed in dry and wet mediums from indoor and outdoor locations.

131 COMPUTER ILLUSTRATION II (2) CSU

*Recommended Preparation: VIS COM 124 with a grade of "C" or better.
Lecture: 0.5 hour; Lab: 4.25 hours*

An advanced course in digital picture-making techniques. It combines the Adobe software applications "Illustrator" and "Photoshop" for the creation of digital illustrations that include drawing, photo manipulations, and typography stylizations for advertising and editorial purposes.

132 PORTFOLIO DEVELOPMENT II (2) CSU

*Recommended Preparation: VIS COM 120, 124, and 126 with a grade of "C" or better.
Lecture: 0.5 hour; Lab: 4.25 hours*

An advanced course in the production of a finished portfolio. Preparation of 10 completed works with preliminary developmental books culminates in a simulated job interview with Advisory Board members.

133 DIGITAL PORTFOLIO PREPARATION (2) CSU

*Recommended Preparation: VIS COM 127 with a grade of "C" or better.
Lecture: 0.5 hour; Lab: 4.25 hours*

Preparation of the digital portfolio required for employment as a Graphic Designer or as an Art Director. Theories of resume preparation, job interview techniques and the development of the students' personal stationary will be stressed. The digital portfolio will show advanced Adobe Illustrator, Photoshop and QuarkXPress files needed for review by prospective employers.

134 GRAPHIC DESIGN BUSINESS PRACTICES (2) CSU

Lecture: 2 hours

Introduction to the financial aspects of running a Graphic Design business. Lecture and projects will include billing procedures, business overhead costs, taxes and retirement planning. Taxes, small business legal issues and understanding business ethics are stressed.

135 WEB PAGE GRAPHICS ON THE MACINTOSH (2) CSU

*Recommended Preparation: VIS COM 118 and 129 with a grade of "C" or better.
Lecture: 1 hour; Lab: 3 hours*

An introductory course in the use of the Macintosh computer to construct web page graphics for the internet. Macromedia Dreamweaver is utilized and particular emphasis is placed on the construction process, design, art and photographic images, typography, RGB Color, HTML and DHTML.

204 FLASH MOTION GRAPHICS (BEGINNING LEVEL) (2)

*Recommended Preparation: VIS COM 135 with a grade of "C" or better.
Lecture: 1 hour; Lab: 3 hours*

This course concentrates on the software application Macromedia Flash MX. It teaches beginning Flash users principles and techniques for designing web sites with motion graphics: how to layout pages, use color and text effectively, work with multiple image types, build navigation, and incorporate sound and video.

203 VISUAL COMMUNICATIONS - DIGITAL TYPE MANIPULATION (2) CSU

Lecture, 1 hour; Lab: 3 hours

This course concentrates on the software application Adobe Photoshop, and its specific application to typography, logos and trademarks. Instruction includes techniques for creating unique surfaces, textures and patterns, and applying these techniques to original logos, film titles, packaging and graphics.

210 OPEN LAB (2)

Corequisite: Enrollment in any Visual Communications course or Sign Graphics course.

Lab: 6 hours

This course is an open lab which allows Macintosh users to work in a non teaching environment. Available software programs include Adobe In-Design, Illustrator, Photoshop, Dreamweaver and Flash. Also available on some computers is Microsoft Word. Scanners and printers are accessible but require a per page fee for black and white or color printing.

229 PHOTOSHOP II (2) CSU

*Recommended Preparation: VIS COM 129 with a grade of "C" or better.
Lecture: 1 hour; Lab: 3 hours*

This course continues to explore and apply the tools and techniques of the software application Adobe Photoshop as introduced in Photoshop I. Instruction includes creative uses of filters, channels, masking, history, and layer effects as these techniques apply to illustration, as well as advanced methods of color correction, retouching, and the preparation of files for both print and digital media.

AUTOMOTIVE TECHNOLOGY

AUTOMOTIVE COLLISION REPAIR

PROGRAM OVERVIEW

Los Angeles is a leading collision capital center in the automotive design world. Insurance companies are increasingly demanding Auto Collision Technicians trained in damage cost estimations. The demand for fully trained Automotive Repair Technicians is very high where skilled technicians are readily employable and command excellent incomes. These Technicians use highly sophisticated devices, such as laser for straightening frames, computer for mixing paint, and dust control contamination vacuum tools for smoothing paint.

The Trade-Tech Automotive Collision Repair program is designed for students who want to enter this growing field. Classes are a combination of classroom instruction coupled with hands-on training. Students learn welding procedures, diagnostic and repair procedures, body part alignment processes, metal finishing/shrinking/filling techniques, auto body electrical wiring systems, body section replacement and structural sectioning practices, body damage estimating techniques, auto body construction methods, paint color application skills, and body shop practices.

Upon successful completion of the program students will be proficient in a variety of automotive collision techniques and will have the knowledge and skills necessary to maintain, repair, and diagnose body and fender repair procedures. They will be proficient at all aspects of preparation and painting, including computerized mixing and matching, damage estimation, creating computerized reports and digital imaging. Students who complete this degree will be able to perform jobs as estimators, service managers equipped to repair problems occurring in automotive collision systems.

Course requirements for the Associate in Science degree program leading to DuPont Paint Systems Certification, may be fulfilled by completing 18 units of general education courses, all core courses for the four semesters as listed below, and nine units of core electives.

AUTOMOTIVE COLLISION REPAIR

■ Associate in Science Degree

REQUIRED COURSES

FIRST SEMESTER	UNITS
AUTOCOR 114 Basic Welding Theory and Practices	3
AUTOCOR 115 Auto Body Construction	3
AUTOCOR 116 Basic Collision Repair	3
CORE ELECTIVE	3

SECOND SEMESTER	UNITS
AUTOCOR 124 Parts Replacement and Alignment	3
AUTOCOR 125 Metal Repair and Refinishing	3
AUTOCOR 126 Frame Straightening	3
CORE ELECTIVE	3

THIRD SEMESTER	UNITS
AUTOCOR 134 Body Panel Replacement	3
AUTOCOR 135 Body Section Replacement	3
AUTOCOR 136 Unitize Body and Frame Alignment	3
CORE ELECTIVE	3

FOURTH SEMESTER	UNITS
AUTOCOR 140 Advanced Collision Repair - Section A	3
AUTOCOR 144 Advanced Collision Repair - Section B	3
AUTOCOR 145 Advanced Collision Repair - Section C	3
TOTAL UNITS	36

CORE ELECTIVES

CORE ELECTIVES	UNITS
AUTOCOR 148 Paint Preparation and Application	3
AUTOCOR 149 Estimating Body Damage	3
AUTOCOR 226 Auto Collision Repair I	3
AUTOCOR 227 Auto Collision Repair II	3
TOTAL UNITS	48

AUTOMOTIVE COLLISION REPAIR

■ Certificate of Completion

A Certificate of Completion is awarded for the completion of 36 units in the first through fourth semester courses listed, above, along with the core electives. This program includes DuPont Paint Systems Certificate of Completion for Rule 1151.

AUTOMOTIVE COLLISION REPAIR

■ COURSE DESCRIPTIONS

114 BASIC WELDING THEORY AND PRACTICES (3)

Lecture: 1 hour; Lab: 6 hours

Instruction is given in the theory and safety of MIG and plastic welding/plastic adhesives. Students will understand welding procedures, protection of sensitive components, weld selection. Students will identify weldable materials and/or adhesives, and perform required repairs to industry standards.

115 AUTO BODY CONSTRUCTION (3)*Lecture: 1 hour; Lab: 6 hours*

A study is made of auto body construction and body part nomenclature. The student will disassemble and reassemble bolt-on parts on the automobile body. Students will understand diagnostic and repair procedures for movable and/or stationary glass and hardware. Students will inspect, adjust, repair or replace all power accessories, window glass and hardware to industry standards.

116 BASIC COLLISION REPAIR (3)*Lecture: 1 hour; Lab: 6 hours*

Instruction is given in occupational information that includes body shop safety, work habits, job orientation and local laws and ordinances. The type of auto body tools and their uses are discussed and demonstrated. Laboratory experiences are provided for using basic hand and power tools in repairing minor sheet metal damage.

124 INTERMEDIATE COLLISION REPAIR - PARTS REPLACEMENT AND ALIGNMENT (3)*Lecture: 1 hour; Lab: 6 hours*

Lecture and demonstration of body parts alignment, devices and equipment used in checking alignment. Students will understand techniques of outer body panel repairs, replacements, and adjustments. Students will remove, repair, and replace steel, aluminum, and plastic composition body panels, doors, deck lids, hoods, adjust and align to manufacturers' specifications.

125 INTERMEDIATE COLLISION REPAIR - METAL REPAIR AND REFINISHING (3)*Lecture: 1 hour; Lab: 6 hours*

Instruction is given in metal finishing, shrinking, and filled application. Students will grind, sand, and restore contours with heat and plastic body fillers/fiberglass fillers/SMC (Sheet molded compound) fillers/adhesives to industry standards.

126 INTERMEDIATE COLLISION REPAIR - FRAME STRAIGHTENING (3)*Lecture: 1 hour; Lab: 6 hours*

Instruction is given in auto body electrical wiring systems. Lecture and demonstrations on types and usage of auto body pull equipment and pulling and anchor points on damaged vehicles are given. Laboratory projects include proper pulling of damaged parts in conjunction with alignment and body repair.

134 BODY PANEL REPLACEMENT (3)*Lecture: 1 hour; Lab: 6 hours*

Instruction is given in welding procedures of panel replacements and the application of heavy pull equipment for proper alignment. Students will understand the techniques of outer body panel repairs, replacements, and adjustments. Students will remove, repair, and replace steel/ aluminum/ SMC/Plastic body panels, doors, deck lids, and hoods, adjust and align to manufacturers' specifications.

135 BODY SECTION REPLACEMENT (3)*Lecture: 1 hour; Lab: 6 hours*

Instruction is given in body section replacement and structural sectioning, including removing and replacing mechanical parts, using manufacturers' body repair manual and I-CAR recommendations. Measuring for cutting and proper alignment of sections is stressed. Students will understand the proper techniques of body/structural sectioning and anti-corrosion protection.

136 UNITIZED BODY AND FRAME ALIGNMENT (3)*Lecture: 1 hour; Lab: 6 hours*

Students learn proper frame alignment and the methods of straightening damaged frames and unitized body construction. Body shop practices are also covered.

140 ADVANCED COLLISION REPAIR – ESTIMATING (3)*Lecture: 1 hr, Lab 6 hrs*

Body estimating, labor analysis, painting and parts estimating and use of repair and estimate manuals are taught in this course.

144 ADVANCED COLLISION REPAIR – PRIMERS AND PAINTS (3)*Lecture: 1 hr, Lab 6 hrs*

This course offers a review of auto collision repair techniques and includes lectures, demonstrations and guest speakers. Advanced instruction is offered in inspection, paint repair and repaint to I-CAR and industry standards.

144 ADVANCED COLLISION REPAIR – SPECIAL PROBLEMS AND SOLUTIONS (3)*Lecture: 1 hr, Lab 6 hrs*

This course offers a review of auto collision repair techniques, including paint application problems and solutions.

148 PAINT PREPARATION AND APPLICATION (3)*Lecture: 1 hr, Lab 6 hrs*

Students receive instruction in the types and properties of paint, solvent and spot painting. Cause and effect relationships of paint and surface blemishes, paint application problems and repairs, and repaints as required to I-CAR and industry standards are introduced.

149 ESTIMATING BODY DAMAGE (3)*Lecture: 1 hr, Lab 6 hrs*

Students are taught body repair and computerized estimating collision service management systems. Damage reporting, structural and non-structural damage analysis, sequencing of inspections and use of collision estimating guides and damage reports are also addressed.

226 AUTOMOTIVE COLLISION REPAIR I (3)*Lecture: 1 hour; Lab 6 hrs*

This course introduces students to MIG and plastic welding and adhesive techniques as well as cost estimating, customer relations, damage reporting, automotive mechanical and electrical operations and the impact of air bag deployment.

227 AUTOMOTIVE COLLISION REPAIR II (3)*Lecture: 1 hour; Lab 6 hrs*

This course offers advanced training in refinishing, color mixing and matching of OEM (Original Equipment Manufacturer) color codes. Proper paint gun operation and use of use of air pressure and spray patterns are emphasized, as well as VOC (Volatile Organic Compounds) log calculation systems. Students will learn to repair/repaint as required to I-CAR and industry standards.



AUTOMOTIVE AND RELATED TECHNOLOGY

PROGRAM OVERVIEW

Los Angeles' long-time infatuation with the motorcar has made it a leading center in automotive design. Employment opportunities continue to thrive, and the demand for trained automotive technicians in the field continues to increase. The Automotive and Related Technology program trains students to work as professionals in this field, offering instruction in maintenance, diagnosis and overhaul procedures of electrical and fuel injection systems.

AUTOMOTIVE AND RELATED TECHNOLOGY

■ Associate in Science Degree

Course requirements for the Associate in Science degree may be met by completing the required courses listed below, along with 18 units of general education courses meeting the Plan B graduation requirement. Students who complete this degree will be able to perform jobs as a diagnostician, to troubleshoot and repair problems occurring in automotive ABS brake systems, electrical/electronic systems, engine performance, drivability, suspension and steering, automatic and manual transmissions, transaxles, engine repair, heating and air conditioning.

Students should take the 10 basic courses during the 1st year.

AUTORTK 100, 112, 113a and b, 114a and b, 121, 122, 123, and 135

FIRST/SECOND YEAR		UNITS
AUTORTK 100	Heating and Air Conditioning Theory, Inspection, and Repair	3
AUTORTK 112	Basic Shop Principles and Practices	3
AUTORTK 113A	Automatic Transmission Transaxle Theory, Inspection, and Repair	3
AUTORTK 113B	Manual Drive Train Axles Theory, Inspection and Repair	3
AUTORTK 114A	Suspension, Steering Theory, Inspection, and Repair	3
AUTORTK 114B	Brakes Systems Theory, Inspection, and Repair	3
AUTORTK 121	Basic Engine Theory, Inspection, and Repair	3
AUTORTK 122	Electrical/Electronic Systems, Theory, Inspection, and Repairs	3
AUTORTK 123	Fuel Systems and Emissions	3
AUTORTK 135	Computer Control and Fuel injection	3
TOTAL UNITS		30

NOTE: Students cannot successfully proceed to 3rd and 4th semester courses without achieving at least a "C" grade in each of the 10 1st year courses. If you have any questions, please speak directly with the Department Chair.

THIRD SEMESTER		UNITS
AUTORTK 130	Automotive Theory and Repair I - Section A	3
AUTORTK 131	Automotive Theory and Repair II - Section B	3
AUTORTK 132	Automotive Theory and Repair III - Section C	3
TOTAL UNITS		9

FOURTH SEMESTER		UNITS
AUTORTK 140	Automotive Theory and Repair III - Section A	3
AUTORTK 141	Automotive Theory and Repair IV- Section B	3
AUTORTK 142	Automotive Theory and Repair V - Section C	3
UNITS		9
TOTAL UNITS		48

RECOMMENDED ELECTIVES

		UNITS
AUTORTK 136	Automotive Emission Control Systems	3
AUTORTK 144	Cal State Board of Auto Repair (Clean Air Car Course)	3
TOTAL UNITS		54

AUTOMOTIVE AND RELATED TECHNOLOGY

■ Certificate of Completion

A Certificate of Completion in Automotive and Related Technology is awarded for the successful completion of 48 units in the first through fourth semester courses listed above. Upon successful completion of the program, students will have gained the skills necessary to maintain, repair, and diagnose electrical, fuel injection systems, and overhaul procedures, as well as basic shop practices needed to meet industry standards.

AUTOMOTIVE AND RELATED TECHNOLOGY

■ COURSE DESCRIPTIONS

100 HEATING AND AIR CONDITIONING SYSTEMS THEORY, INSPECTION AND REPAIR (3)

Lecture: 1 hour; Lab: 6 hours

This course offers instruction in heating and air conditioning systems. Instruction covers the components function, testing of heater controls, heater cores, air conditioning theory and testing and repairs of compressors, clutch and controls. This class conforms to NATEF standards. Emphasis is placed on the necessary comprehension for student to successfully pass the ASE A/C examination. Minimum demonstration and application of the task will complete the student's satisfactory performance.

112 BASIC SHOP PRINCIPLES AND PRACTICES (3)

Lecture: 1 hour; Lab: 6 hours

This course offers instruction in the principles involved in the use and care of automotive hand tools and measuring instruments, theory, identification, and application of automotive fasteners. Principles, application and practice for the tools used in the automotive industry are covered.

113A AUTOMATIC TRANSMISSION/TRANSAXLE THEORY, INSPECTION AND REPAIR (3) CSU*Lecture: 1 hour; Lab: 6 hours*

This course offers instruction in the construction, function and testing of the automatic transmission and transaxle. Emphasis is placed on safety power train, torque converter, hydraulic fundamentals and controls, fluid and seal, planetary systems, and electronic shift controls as well as diagnosis.

113B MANUAL DRIVE TRAIN AND AXLES THEORY, INSPECTION AND REPAIR (3) CSU*Lecture: 1 hour; Lab: 6 hours*

This course offers instruction in the principles of manual transmission and axles, including gears, gear reduction, ratios, gear combinations, bearing and type of clutches. Laboratory instruction is offered in the repair and servicing of clutches, standard transmission and differentials.

114A SUSPENSION AND STEERING THEORY, INSPECTION AND REPAIR (3) CSU*Lecture: 1 hour; Lab: 6 hours*

This course offers instructions in the principles involved in steering, suspension, wheel alignment, wheel balancing, hydraulic and power brakes. This course also covers related sciences such as physics and mathematics applied to steering, suspension, principles. In conjunction, this course covers instruction in disassembly, inspection, reassembly and adjustment of suspension and steering systems.

114B BRAKE SYSTEM THEORY, INSPECTION AND REPAIR (3) CSU*Lecture: 1 hour; Lab: 6 hours*

This course offers instruction in the principles of the modern automobile braking system, including the hydraulic system, drum brake systems, disc brake system, power assist systems, and the antilock systems. This course also covers related sciences such as physics and mathematics applied to the braking system.

121 ENGINE THEORY, INSPECTION AND REPAIR (3) CSU*Lecture: 1 hour; Lab: 6 hours*

This course offers instruction in the types, of operating principles and performance characteristics of automotive engines. Applied mathematics and related physics are emphasized throughout the course. Students will disassemble and assemble a complete engine and apply related theory to factory procedures.

122 ELECTRICAL/ELECTRONIC SYSTEMS THEORY, INSPECTION AND REPAIR (3) CSU*Lecture: 1 hour; Lab: 6 hours*

This course offers instruction in basic electrical components and systems. Laboratory practices on testing, servicing and diagnosing of electrical components and systems are performed by the students.

123 FUEL AND EMISSIONS SYSTEMS THEORY, INSPECTION AND REPAIR (3) CSU

NOTE: Students are strongly advised to have successfully completed Auto and Related Technology 121, 122 with a grade of "C" or better prior to entering this class.

Lecture: 1 hour; Lab: 6 hours

This course offers instruction in engine performance, diagnosis and repair. Emphasis is placed on ignition, fuel, and emission systems. Instruction is given in related technologies of automotive fuels, carburetors, fuel injection, computer controls, ignition, induction and scavenging systems. The proper use of test equipment and automotive comprehension are stressed in this course. Additionally, proper work ethics, rules and regulations (State and Federal) are presented in the relation of importance to overall customer relations and community responsibility.

130 AUTOMOTIVE THEORY AND REPAIR I - SECTION A (3) CSU*Lecture: 1 hour; Lab: 6 hours*

This course offers advanced instruction in review of engines, engine theory and diagnosis, engine diagnostic equipment. Actual diagnosis and repair of engine components, clutches, flywheels and standard transmissions clutches flywheel and standard transmissions.

131 AUTOMOTIVE THEORY AND REPAIR II - SECTION B (3) CSU*Lecture: 1 hour; Lab: 6 hours*

Theory and practice is given on emission control and engine performance. Introduction to the mechanic certification program is stressed.

132 AUTOMOTIVE THEORY AND REPAIR III - SECTION C (3) CSU*Lecture: 1 hour; Lab: 6 hours*

This course offers instruction in the review of chassis electrical wiring batteries, cranking systems, charging systems, and electronic ignition. Actual repair and diagnosis of automotive components are completed on American and imported cars.

135 COMPUTER CONTROL AND FUEL INJECTION (3) CSU

NOTE: Students are strongly advised to have successfully completed Auto and Related Technology 122, 123 with a grade of "C" or better prior to entering this class.

Lecture: 1 hour; Lab: 6 hours

This course offers instruction in Automotive Computer Control and Fuel Injection Systems. Emphasis is placed on computer control electronic and fuel systems construction, function and testing.

136 AUTOMOTIVE EMISSION CONTROL SYSTEMS (3)*Lecture: 1 hour; Lab: 6 hours*

This course is designed to upgrade the knowledge of students who are currently employed in the automotive field. It will prepare students to take the Alternative Test for the State of California Bureau of Automotive Repair: These are the alternative to the ASE A6, A8, and L1 test. Materials and content comply with B.A.R. requirements. This is not to be considered and entry level class.

140 AUTOMOTIVE THEORY AND REPAIR IV (3) CSU*Lecture: 1 hour; Lab: 6 hours*

Classroom lecture is offered in the areas of brakes, front suspension, batteries and starting systems, with emphasis on diagnosis and repair procedures. Shop practice is offered in most areas of automotive repairs: engine, transmissions, tune up, brakes, suspension, steering, and automotive accessories, and various other repairs using available vehicles.

141 AUTOMOTIVE THEORY AND REPAIR V (3) CSU*Lecture: 1 hour; Lab: 6 hours*

Classroom lecture is offered in the areas of the use of electrical diagnostic equipment, interpretation of wiring diagrams, engine computer controls and charging systems. Shop practice is offered in most areas of automotive accessories, and various other repairs using available vehicles.

142 AUTOMOTIVE THEORY AND REPAIR VI – SECTION C (3) CSU*Lecture: 1 hour; Lab: 6 hours*

Classroom lecture is offered in the areas of automatic transmissions, air conditioning and fuel injection systems, with emphasis on diagnosis and repair procedure. Shop practice is offered in most areas of automotive repairs: engine, transmissions, tune up, brakes, suspension, steering, and automotive accessories, and various other repairs using customers' vehicles.

144 CALIFORNIA STATE BUREAU OF AUTOMOTIVE REPAIR CLEAN AIR CAR COURSE (3) RPT2

Lecture: 1 hour; Lab: 6 hours

The course is designed to upgrade knowledge of the students who are currently employed in the automotive field. This course also prepares students for employment and licensing in the California State Smog Check Program and prepares them for the California State Smog License Examination. Materials and content comply with Bureau requirements.

DIESEL AND RELATED TECHNOLOGY

PROGRAM OVERVIEW

If you live in the United States, almost every single thing you eat, wear or use was delivered by a diesel-powered vehicle. Our trucks, trains, busses are almost all diesel fueled; freighters, ocean liners, and many other electrical generators are also diesel powered. Trade-Tech trains the professionals who keep this vast pool of machines productive. Graduates of the Diesel Technology program are well paid and have a diverse choice of areas in which to specialize. In recent years, the demand from local employers has exceeded our supply of qualified graduates as the program continues to grow.

Requirements for the Associate in Science, Diesel and Related Technology may be met by completing the four semester courses below, and 18 units of general education courses to meet the Plan "B" requirement listed in this catalog under Graduation/Transfer Requirements. The listed recommended electives also may be substituted for courses in the Diesel and Related Technology with approval of the Department Chair.

Upon successful completion of the program, students will be proficient in all aspects of diesel engine fundamentals, electrical components, fuel systems, overhaul procedures, hydraulic brake system and the construction and operation of diesel engines.

*Note: Students are required to provide basic hand tools, appropriate work clothing and personal safety equipment.

DIESEL AND RELATED TECHNOLOGY

■ Associate in Science Degree

REQUIRED COURSES

FIRST SEMESTER		UNITS
DIESLTK 112	Diesel Engine Fundamentals	11
SECOND SEMESTER		UNITS
DIESLTK 122	Diesel Fuel Systems and Electrical Component Theory	11
WELDG/E 201A	Welding and Related Technical Information (may be taken in either 1st or 2nd semester)	1

Admission to third semester courses is limited to those who have received a grade of "C" or better in all first year Diesel courses.

THIRD SEMESTER		UNITS
DIESLTK 142	Diesel Engine Overhaul Fundamentals	11

FOURTH SEMESTER		UNITS
DIESLTK 132	Heavy Duty Drive Train Fundamentals	11
TOTAL UNITS		45

RECOMMENDED ELECTIVES

		UNITS
ENGLISH 28	Intermediate Reading and Composition	3
MSCNC 111	Principles and Operations of Machine Tools I	3
WELDG/E 201	Welding - Gas and Electric I	2

DIESEL AND RELATED TECHNOLOGY

■ Certificate of Completion

A Certificate of Completion is awarded for the successful completion of 45 units in the four semester courses listed above. Upon completion, students will be able to enter the job market as diesel technicians.

RECOMMENDED ELECTIVES

		UNITS
ENGLISH 28	Intermediate Reading and Composition	3
MSCNC 111	Principles and Operations of Machine Tools I	3
WELDG/E 201	Welding - Gas and Electric I	2

DIESEL AND RELATED TECHNOLOGY

■ Certificate of Completion – Adjunct

A Certificate of Completion in Diesel and Related Technology may be earned by attending weekend and evening courses as listed below, along with sufficient electives selected from the Automotive Repair Mechanics program to meet the 23-unit requirement. Upon completion, students will be viable for jobs as diesel technicians.

REQUIRED COURSES

		UNITS
DIESLTK 148	Truck Air and Hydraulic Brake System Theory and Repair	3
DIESLTK 261	Construction and Operation of Diesel Engines	4
DIESLTK 262	Tune-up and Trouble Shooting	4
DIESLTK 263	Diesel Fuel System	4
DIESLTK 264	Heavy Duty Drive-train	4
DIESLTK 265	Heavy Duty Electrical and Electronic Systems	4
DIESLTK 266	Diesel Engine Overhaul	4
TOTAL UNITS		27

(Diesel 261, 262, 263, 264, 265 and 266, together, may be used to satisfy requirements for first semester of the Associate in Science degree curriculum.) An Associate Degree in Diesel and Related Technology may not be earned in the evening program.

DIESEL AND RELATED TECHNOLOGY

■ COURSE DESCRIPTIONS

112 DIESEL ENGINE FUNDAMENTALS (11)

Lecture: 6 hours; Lab: 15 hours

The theory of operation of diesel engine components, shop safety, basic employment information, fastening devices, mechanical procedures, use of measuring instruments, and electrical system are subjects covered in this course.

122 DIESEL FUEL SYSTEMS AND ELECTRICAL COMPONENT THEORY (11)

Lecture: 6 hours; Lab: 15 hours

This course covers the principles of fuel injection systems. Emphasis is placed on the proper disassembly, diagnosis, reassembly and testing and calibrating of different type pumps and fuel injectors. Various models will be examined.

132 HEAVY DUTY DRIVE TRAIN FUNDAMENTALS (11)

NOTE: Students are strongly advised to have successfully completed Diesel and Related Technology 112, 122 with a grade of "C" or better prior to entering this class

Lecture: 6 hours; Lab: 15 hours

This course provides the theory and skills necessary to troubleshoot, repair and replace air brakes, specialized clutches, multi-speed transmissions, and the differential of heavy duty trucks.

142 DIESEL ENGINE OVERHAUL FUNDAMENTALS (11)

NOTE: Students are strongly advised to have successfully completed Diesel and Related Technology 112, 122 with a grade of "C" or better prior to entering this class

Lecture: 6 hours; Lab: 15 hours

This course provides the theory to develop the skills necessary for the selection of methods to be used in the repairing of the diesel engine and the accessories. The proper procedures for disassembling, measuring and rebuilding are covered. The complete engine is reviewed and the emphasis is on gaining the skills necessary to make determinations as to the status of the engine components and to return it to service after proper reassembly, adjustments and testing.

148 TRUCK AIR AND HYDRAULIC BRAKE SYSTEM THEORY AND REPAIR (3)

Lecture: 3 hours; Lab: 3 hours

The operating principles of hydraulic, pneumatic, combination and vacuum brake systems are studied. The student is given shop experience in service and repair in various types of truck brake systems.

261 CONSTRUCTION AND OPERATION OF DIESEL ENGINES (4)

Lecture: 3 hours; Lab: 3 hours

The theory and operation of diesel engines, the construction of diesel engines and the electrical systems are covered. The proper use of tools, fastening devices, mechanical procedures and safety practices in the shop are part of the course.

262 TUNE-UP AND TROUBLESHOOTING (4)

Lecture: 3 hours; Lab: 3 hours

A course of instruction designed to instruct the student in the theory and procedures for tune up and troubleshooting of diesel engines. All engine systems, including the air, fuel, lube and cooling systems will be examined and the student will be provided with a hands on experience in working with these systems.

263 DIESEL FUEL SYSTEMS (4)

Lecture: 3 hours; Lab: 3 hours

This course covers the fuel injection systems of diesel engines and the components necessary for efficient operation of the diesel engine. A review of the operation of the two and four cycle engine is a part of the course. A variety of fuel injection systems will be covered. The second part of the course covers the charging and cranking systems necessary for operation of the engine.

264 HEAVY DUTY DRIVE TRAIN (4)

Lecture: 3 hours; Lab: 3 hours

This course covers the heavy duty clutch, transmission, drive line, steering axle, drive axle theory and overhaul.

265 HEAVY DUTY ELECTRICAL/ELECTRONIC SYSTEMS (4)

Lecture: 3 hours; Lab: 3 hours

Provides an understanding of electrical/electronic terms, electrical circuit concepts, starting and charging systems, failure diagnosis and repair techniques. Classroom instruction and hands-on training on how to use electrical wiring diagrams, digital multi-meters and specialized automotive test equipment.

266 DIESEL ENGINE OVERHAUL (4)

Lecture: 3 hours; Lab: 3 hours

Heavy-duty diesel engine overhaul including disassembly, cleaning and inspection, adjustments and reassembly. All engines are live and will be started upon completion in class.

301 INTRODUCTION TO ALTERNATIVE FUELS & HYBRID VEHICLE TECHNOLOGY (1)

Lecture: 18 hours

Course offers an introduction to various alternative fuels such as biodiesel, CNG/LNG, ethanol and fuel cell technology. Hybrid vehicle introduction is also included.

MOTORCYCLE REPAIR MECHANICS

PROGRAM OVERVIEW

The Los Angeles basin is the leader in off road motorcycle racing. The Certificate of Completion in Motorcycle Repair is designed for both new students as well as industry professionals who want to upgrade their skills and show validation of technology training.

Courses leading to the Certificate are offered during evenings and on weekends. The Certificate may be earned by completing the required courses, below, along with sufficient core electives to meet the 25-unit minimum requirement. Upon completion of the program, students will have the skills necessary to maintain, repair, and diagnose electrical and fuel induction systems, and will be proficient in tune-up overhaul procedures and basic shop practices.

*Note: Students are required to furnish their own hand tools. Consult with the instructor for more information.

MOTORCYCLE REPAIR MECHANICS

■ Certificate of Completion – Adjunct

REQUIRED COURSES

	UNITS
MCYCMEK 210 Internal Combustion Engine Theory	4
MCYCMEK 212 Motorcycle Service and Tune-up Theory and Repair	4
MCYCMEK 214 Multi-cylinder Electrical Principles and Repair	4
MCYCMEK 216 Multi-cylinder Diagnosis and Overhaul	4
Core Electives	9
TOTAL UNITS	25

CORE ELECTIVES

	UNITS
AUTORTK 122 Electric Systems, Principles, and Repair	3
AUTORTK 135 Computer Control and Fuel Injection	3
AUTORTK 136 Automotive Emission Control Systems	3

Satisfactory completion of the "Required Courses" plus one "Core Elective" together with 30 units of general education courses to meet the requirements of "Plan A", will entitle the student to an Associate Degree.

MOTORCYCLE REPAIR MECHANICS

■ COURSE DESCRIPTIONS

210 INTERNAL COMBUSTION ENGINE THEORY AND REPAIR (4)

Lecture: 3 hours; Lab: 3 hours

A study is made of engine types, construction operating principles and performance. Shop practice is given on engine disassembly and inspection, valve reconditioning, bearing replacement, piston and ring service and engine reassembly.

212 MOTORCYCLE SERVICE AND TUNE-UP THEORY AND REPAIR (4)

Lecture: 3 hours; Lab: 3 hours

Lecture and laboratory experiences are given on routine motorcycle service and tune-up as well as trouble-shooting and repairing engine performance problems.

214 MULTI-CYLINDER ELECTRICAL PRINCIPLES AND REPAIR (4)

Lecture: 3 hours; Lab: 3 hours

Instruction is offered in electrical theory, diagnosis, and repair as applied to the electrical systems of multi-cylinder motorcycles. Shop practices are given on testing procedures and test equipment, and repair.

216 MULTI-CYLINDER ENGINE DIAGNOSIS AND OVERHAUL (4)

Lecture: 3 hours; Lab: 3 hours

Multi-cylinder engine principles, operation and overhaul methods are stressed. Shop instruction on diagnosis, disassembly, repair, overhaul and assembly of multi-cylinder engines is offered.



BUSINESS

BUSINESS

PROGRAM OVERVIEW

The Business program offers occupational training in a variety of business skills and techniques required by supervisors and managers in both private industry and public agencies. Management personnel are responsible for planning, organizing, budgeting, purchasing, operations, maintenance, directing the work of employees and directing the activities of an organization. Instruction is provided in management theory and practical application techniques required by entry-level positions, those seeking career advancement, and the owner/operator(s) of a small business.

Major areas of emphasis in Business leading to an A.A. degree include Accounting, Management/Supervision, Marketing and Public Relations, Real Estate, and Retail Merchandising. A variety of Certificates are offered in Accounting, Governmental Supervision, Management/Supervision, Marketing and Public Relations, Real Estate, and Small Business Entrepreneurship. Many of the courses are applicable to a number of specific Business majors and provide great latitude in course selection to allow students to customize the program to meet their goals. In addition, students planning to transfer to four-year institutions in Business and related fields may complete the lower division requirements of many colleges and universities. Students should confer with a counselor as soon as practicable in the program to determine the specific requirements of the particular institution to which they plan to transfer.

Courses required for a variety of Business Certificate designations and short-term Skills Certificates are designed to prepare students for entry-level positions in specialized occupational areas after 2 to 3 semesters and are also applicable to the Associates in Arts degree.

BUSINESS

■ Associate in Arts Degree Options

The Associate in Arts degree options in Business lead to acquired skills necessary for entry-level positions and career advancement opportunities in industry and the public sector, a solid foundation for transfer to four-year institutions and the development and improvement of the basic skills required by the small business owner.

Upon successful completion of the degree, students will have a sound background in the analysis of basic business situations and the application of business and management principles and techniques as related to private business and public agencies.

The degree requirement may be met by completion of the 26 units of core courses listed, and 16-21 units from the requirements within the selected program major: (1) Accounting (2) Management/Supervision (3) Marketing/Public Relations (4) Real Estate (5) Retail Merchandising.

CORE COURSES

		UNITS
ACCTG 1	Introductory Accounting I	5
BUS 1	Introduction to Business	3
BUS 5	Business Law I	3
BUS 32 or 33	Business Communications or Technical Report Writing	3
BUS 38	Business Computations	3
CAOT 82 or 100	Microcomputer Software Survey in the Office/Windows Based Computer Applications	3
ECON 2	Principles of Economics II (Macro)	3
SUPV 11	Oral Communications	3
	TOTAL UNITS	26

Note: Completion of English 21 with a grade of "C" or better prior to enrollment is recommended for success in the above Business Administration classes. Some classes may only be offered during the day or only in the evening or may only be offered once during the academic year. Students should check with counseling in order to schedule their time accordingly. Students should take CAOT 1 (keyboarding I) if they do not demonstrate at least a minimal proficiency in typing.

RECOMMENDED ELECTIVES

The following courses may be used as electives provided that the course is NOT a requirement in the major:

		UNITS
ACCTG 2	Introductory Accounting II	5
BUS 18	Business Lab	1
BUS 22	E-Commerce Essentials	3
BUS 32	Business Communications	3
BUS 33	Technical Report Writing	3
BUS 40	Business Project Management	3
CAOT 85	Spreadsheet Analysis	3
CAOT 98	Introduction to Windows	3
CAOT 101	Hands-on Internet	1
ECON 1	Principles of Economics I (Micro)	3
MGMT 2	Organization and Management Theory	3
MGMT 33	Personnel Management	3
MARKET 1	Principles of Selling	3
MARKET 11	Fundamentals of Advertising	3
MARKET 21	Principles of Marketing	3
MARKET 25	Marketing Internship Lab	3
OFF MCH 2	Office Machines	1
PUBREL 1	Principles of Public Relations	3
PUBREL 2	Public Relation Techniques	3
PUBREL 3	Writing for Public Relations	3
REAL ES 1	Real Estate Principles	3
SUPV 1	Principles of Supervision	3
SUPV 3	Human Relations	3

BUSINESS

■ COURSE DESCRIPTIONS

1 INTRODUCTION TO BUSINESS (3) UC: CSU

Lecture: 3 hours

Special emphasis is placed on the meaning and purpose of business in our society, the historical development of business, the general economic setting for business today, and the following business areas: forms of business organization, manufacturing, marketing, human relations, financing, accounting, budgeting, reports, government-based relations, and the social responsibilities of people in business.

5 BUSINESS LAW I (3) UC: CSU

Lecture: 3 hours

This is an introductory course in civil law. Emphasis is placed upon the study of contracts, agency, negotiable instruments, personal property, sales, forms of business organization, partnership, corporations, security transactions, business torts, current ownership of land and goods and real property. Attention is also given to logical reasoning and the application of rules of law to everyday affairs in business. (Same as Law 1)

6 BUSINESS LAW II (3) UC: CSU

Lecture: 3 hours

Bailment; principles of agency, including rights and liabilities of agent, principal, and third parties; formation of partnerships, the powers and liabilities of partners before and after dissolution of the partnership; the formation and management of California corporations, the rights and liabilities of stockholders, and dissolution of corporations; legal aspects of negotiable instruments and securities, including stocks, bonds, notes, commercial paper, and checks. (Same as Law 2)

12 CUSTOMER SERVICE PRINCIPLES (3)

Lecture: 3 hours

Instruction will focus on those skills the customer service student needs to be well prepared for a work environment characterized by demanding customers, changing economic conditions, constant change, and a new level of competitiveness. This interpersonal skills approach places greater emphasis on the application of knowledge through practice, followed by feedback and reinforcement. The skills, strategies, and techniques used in this class are directed toward identifying customer needs and the satisfaction of those needs.

13 CUSTOMER SERVICE ISSUES (3)

Lecture: 3 hours

Course covers customer service issues such as decision-making, problem solving, handling conflict, teamwork, managing change, attitude and self-esteem in the customer service workplace.

14 ORAL COMMUNICATIONS FOR CUSTOMER SERVICE PERSONNEL (3)

Lecture: 3 hours

Instruction will focus on the key issues of creating positive and productive customer service communications, identifying customer needs and problems and finding viable solutions.

18 BUSINESS COMPUTER LAB (1)

Recommended Preparation: Any Business course; Lab: 3 hours

A lab class which provides additional computer availability for students to complete their class assignments.

22 THE BUSINESS ELECTRONICS COMMERCE (3)

Lecture: 3 hours

This comprehensive course emphasizes emerging online technologies and future trends with respect to e-commerce. In addition to the early development of e-commerce, strategies for e-commerce success, e-marketing, online payment methods, spamming, phishing, identity theft, and other e-commerce components will be explored.

32 BUSINESS COMMUNICATIONS (3) CSU

Lecture: 2 hours; Lab: 2 hours

This is a course designed to achieve the following: effective written communication in English for the transaction of business; development of letter writing principles and techniques; enrichment of general vocabulary. Practical experience is given in writing the basic types of letters used in business: order, complaint, adjustment, sales collection, and application. (Same as CAOT 32.)

33 TECHNICAL REPORT WRITING (3) CSU

Lecture: 3 hours

The written report as used in business, industry, and the technical profession is studied. Practice is given in organizing and presenting factual material with clarity, definiteness, and conciseness. The content of the course will be adapted to the business and professional needs of the student. (Same as English 129.)

34 LEGAL OFFICE PROCEDURES

Lecture: 2 hours

This course is designed to prepare students for employment as an entry-level law office clerk. It emphasizes law office procedures, preparation and maintenance of case calendars, and the preparation and maintenance of case files. Students will learn how to document phone calls, keep accurate correspondence files, organize case files, and perform other clerical duties relevant to a law office.

35 SPANISH LEGAL OFFICE TERMINOLOGY

Lecture: 2 hours

This course is designed to provide Spanish legal terminology for legal professionals, paraprofessionals, and law office support staff whose offices serve Spanish-speaking clients. Both civil and criminal legal terminology will be covered in this course. This course is suitable for both fluent and non-fluent speakers of Spanish.

37 BUSINESS COMPUTATIONS LAB (1)

Lab: 2 hours

A lab class which provides opportunity for students enrolled in Business Computations to solve problems directly related to business applications.

38 BUSINESS COMPUTATIONS (3) CSU

Lecture: 3 hours

The principles of mathematics are reviewed and applied to typical accounting, financial, and general business problems, including the following: Bank services including checking account and credit card account activity, payroll calculations, cash and trade discounts, merchandise mark-up and inventory valuation, simple and compound interest, annuities, stock and bond transactions, business and consumer loans, taxes and insurance, depreciation, financial statements and ratios, and business statistics.

40 BUSINESS PROJECT MANAGEMENT (3) CSU

Lecture: 2 hours; Lab: 2 hours

Students will study all phases of project management and learn the tools for bringing in projects on time and within budget. Specific topics will include project life cycles, setting objectives, identifying activities and resources, work breakdown structure, workflow, network analysis, contingency planning, scheduling, budgeting, work-in-progress and reporting. Special emphasis will be placed on MS Project.

ACCOUNTING

PROGRAM OVERVIEW

The Accounting program offers occupational training to the student who plans to work in general and corporate accounting. Instruction is provided in financial and managerial accounting theory and in various practical aspects of the accounting field. General accountants record transactions involving receivables, payables, payroll, and property into a general ledger and examine the financial records for compliance with accounting standards and applicable laws. Corporate accountants record financial transactions, analyze and evaluate financial records, apply tax law and finance techniques, and may design and implement accounting/ bookkeeping systems and procedures. Many of the courses offer practical accounting training to the owner/operators of a small business. Courses required in the Associate Degree program are basic to the study of more advanced accounting for the student who wishes to continue formal education at a four-year institution. Courses required for the Accounting Certificate, Accounting Clerk Certificate, and short-term skills certificates are designed to prepare students for entry-level positions in specialized occupational areas after 2 to 3 semesters of study.

In 2008, there were 69,200 bookkeeping, accounting, and auditing positions in industry. Their average annual wages were \$40,000. (Source: Occupational Employment Statistics Program, U.S. Bureau of Labor Statistics)

Upon successful completion of the program, students will be proficient in the application of basic financial and managerial accounting principles and techniques. They will be adept at analyzing and recording economic transactions using Generally Accepted Accounting Principles (GAAP) and relevant computer applications. They will understand the application of the accounting principles and techniques to service, merchandising, and manufacturing businesses. Typical positions are bookkeeper, accounting clerk, junior-accountant and tax preparer. The program will prepare students for advancement to senior accountant or chief bookkeeper. This major may also lead to many other careers in business and industry.

ACCOUNTING

■ Associate in Arts Degree

Requirements for the Associate in Arts degree in Accounting may be met by completing the 44 units of the required courses listed below and 18 units of general education courses to meet the Plan B graduation requirement.

REQUIRED COURSES

FIRST SEMESTER		UNITS
BUS 1†	Introduction to Business	3
BUS 32† or 33	Business Communications/or Technical Report Writing	3
BUS 38†	Business Computations	3
CAOT 82† or 100	Microcomputer Software Survey in the Office/Windows Based Computer Applications	3
SUPV 11†	Oral Communications	3
UNITS		15

SECOND SEMESTER		UNITS
ACCTG 1†	Introductory Accounting I	5
ACCTG 25‡	Computerized Accounting Methods and Procedures (Spring only)	3
ECON 2†	Principles of Economics II (Macro)	3
OFF MCH 2‡	Office Machines	1
UNITS		12

THIRD SEMESTER		UNITS
ACCTG 2‡	Introductory Accounting II	5
BUS 5†	Business Law I	3
CAOT 85‡	Spreadsheet Analysis	3
UNITS		11

FOURTH SEMESTER		UNITS
ACCTG 11**	Cost Accounting (offered Spring only)	3
ACCTG 15‡ or 18‡	Tax Accounting or Computerized Payroll Accounting (Fall only)	3
ACCTG 3**	Intermediate Accounting (offered Fall only)	3
UNITS		6 OR 9
TOTAL UNITS		44 OR 47

Note: Students planning for a career in financial accounting may wish to take Accounting 3 offered in the FALL semester.

† Degree CORE requirements

‡ Accounting Major AA degree requirements

ACCOUNTING

■ Certificate of Completion

A Certificate of Completion may be earned by completing the required courses listed below. Many of the courses may apply toward the fulfillment of the AA Degree in Accounting or Business Administration-Accounting.

Upon successful completion students will understand the application of basic financial accounting principles and techniques to service and merchandising businesses. They will be skilled at analyzing and recording business transactions in a general ledger, preparing basic financial reports and financial analysis. The courses are intended to provide the basic practical and technical skills that are required by industry and government employers.

REQUIRED COURSES

FIRST SEMESTER		UNITS
ACCTG 1	Introductory Accounting I	5
BUS 1	Introduction to Business	3
BUS 32	Business Communications	3
BUS 38	Business Computations	3
OFF MCH 2	Office Machines	1
UNITS		15

SECOND SEMESTER		UNITS
ACCTG 2	Introductory Accounting II	5
ACCTG 25	Computerized Accounting Methods and Procedures (Spring only)	3
BUS 5	Business Law I	3
CAOT 82 or 100	Microcomputer Software Survey in the Office/Windows Based Computer Applications	3
UNITS		14

THIRD SEMESTER		UNITS
ACCTG 3	Intermediate Accounting (Offered Fall semester only)	3
ACCTG 11	Cost Accounting (Offered Spring only)	3
ACCTG 15 or 18	Tax Accounting or Computerized Payroll Accounting (Fall only)	3
CAOT 85	Spreadsheet Analysis	3
SUPV 11	Oral Communications	3
UNITS		15
TOTAL UNITS		44

ACCOUNTING

■ Certificate of Completion - Accounting Clerk

A Certificate of Completion may be earned by completing the required courses listed below with a grade of "C" or better.

REQUIRED COURSES

FIRST SEMESTER		UNITS
ACCTG 1	Introductory Accounting I	5
BUS 1	Introduction to Business	3
BUS 38	Business Computations	3
CAOT 82 or 100	Microcomputer Software Survey in the Office/Windows Based Computer Applications	3
OFF MCH 2	Office Machines	1
UNITS		15

SECOND SEMESTER		UNITS
ACCTG 18	Computerized Payroll Accounting	3
ACCTG 25	Computerized Accounting Methods and Procedures (Spring only)	3
ECON 2	Principles of Economics II (Macro)	3
CAOT 85	Spreadsheet Analysis	3
SUPV 11	Oral Communications	3
UNITS		15
TOTAL UNITS		30

ACCOUNTING

■ COURSE DESCRIPTIONS

1 INTRODUCTORY ACCOUNTING I (5) UC:CSU

NOTE: Accounting 21 plus Accounting 22, (total, 6 units) are equivalent to Accounting I, 5 units. Credit allowed only for Accounting I or the combination of Accounting 21 and Accounting 22.

Recommended Preparation: Business 38 (Business Computations).

Lecture: 5 hours

Introduces the fundamental principles and concepts of accounting as a basis for financial communication in business. This includes the procedures for maintaining records in business transactions and the preparation of financial statements for the sole proprietorship in a service and merchandising firm. Procedures and techniques for internal control, deferrals and accruals, inventory, plant assets, accounts receivable, accounts payable, and payroll are included.

2 INTRODUCTORY ACCOUNTING II (5) UC:CSU

Lecture: 5 hours

Continues the introductory phase of accounting. Topics covered include: Partnerships, Corporations, Income Tax, Bonds, Cash Flow, Financial Statement Analysis, Managerial Accounting, Job Order and Process Cost Systems, Cost Behavior and Analysis, Budgeting, Performance Evaluation, Product Pricing, Capital Investment Analysis.

3 INTERMEDIATE ACCOUNTING (3) CSU

Lecture: 3 hours

This course includes theory, practice, and problems pertaining to presentation of the financial statements - balance sheet and income statement, the accounting process; valuation of working capital, plant and equipment, intangibles, long-term liabilities, and stockholders' equity accounts; financial statement analysis; and funds-flow and cash-flow reporting. Computerized output is offered along with manual projects.

11 COST ACCOUNTING (3) CSU

Lecture: 3 hours

Cost systems and cost elements are studied in this course. Cost accounting for materials is covered by the study of purchases, inventories, pricing methods, requisitions, and vouchers. Labor cost accounting includes the subjects of payroll systems, records and analysis. Factory overhead is analyzed from the viewpoint of variable and fixed costs, direct and service costs and methods of application. Materials, labor and overhead costs are also studied for their application to job order, process and standard costs systems. Standard variances and cost factors are also presented in the cost practice set.

15 TAX ACCOUNTING I (3) CSU

Lecture: 3 hours

This course presents the fundamentals of federal income taxation with emphasis on the taxation of individuals. Computerized output is offered along with manual preparation.

17 PAYROLL ACCOUNTING (2)

Lecture: 2 hours

Methods and procedures of compiling the payroll records, and preparation of payroll tax returns required by State and Federal laws are covered. Included are State and Federal unemployment and social security and workers' compensation reports.

18 COMPUTERIZED PAYROLL ACCOUNTING (3)

Lecture: 2 hours; Lab: 2 hours

Concerned with procedures and practices involved in a manual or automated payroll system. Includes familiarizing students with current State and Federal laws affecting payroll, computation of payroll taxes, and preparation of payroll tax returns.

21 BOOKKEEPING AND ACCOUNTING I (3) UC:CSU

NOTE: Credit allowed only for Accounting I (5 units) or Accounting 21 and 22

(6 units) (UC limits credit for Accounting 21 and 22 to 5 units)

Recommended Preparation: Business 38 (Business Computations)

Lecture: 3 hours

This course includes fundamentals of double entry bookkeeping; preparation of the trial balance; work sheets and simple financial statements; use of controlling accounts; the control of cash and bank reconciliation statements. Students may complete a mercantile firm practice set.

22 BOOKKEEPING AND ACCOUNTING II (3) UC:CSU

Lecture: 3 hours

This course includes fundamentals of double entry bookkeeping; preparation of the trial balance, worksheets and simple financial statements; use of controlling accounts; the control of cash and bank reconciliation statements. Students may complete a mercantile firm practice set.

25 COMPUTERIZED ACCOUNTING METHODS AND PROCEDURES (3)

Lecture: 3 hours

This course emphasizes the hands-on use of popular computer software applications to accounting and business, with special reference to the general ledger, billing, accounts receivable, accounts payable, payroll, and inventory control.

55 ACCOUNTING COMPUTER LAB (1)

Lab: 2 hours

This is an accounting computer lab which provides the student with an opportunity to apply the accounting concepts being studied in a concurrent lecture/discussion Accounting class section.

PARALEGAL AND LAW OFFICE

PROGRAM OVERVIEW

LATTC offers a range of courses designed for students who are interested in paralegal studies or work in a legal environment.

The Paralegal and Law Office Program is designed to prepare students to assist attorneys in both private and public sectors in all phases of legal work and to equip the student with the knowledge necessary to enter the legal service fields as an entry-level paralegal. It will also insure a quality paralegal education at the community college level

PARALEGAL AND LAW OFFICE

■ COURSE DESCRIPTIONS

3 CIVIL RIGHTS AND THE LAW (3)

Lecture: 3 hours

This course will analyze civil rights decisions in the context of their historical period. It is designed to give the student an understanding of the relationship of the role social movements have played in creating civil rights law.

10 INTRODUCTION TO LEGAL ASSISTANT I (3)

Lecture: 3 hours

Introductory course providing an introduction to legal terminology, research problems, law and ethics, and the role of the paralegal as a legal assistant.

11 INTRODUCTION TO LEGAL ASSISTANT II (3)

Lecture: 3 hours

Continuation of Paralegal I with the study of composition, location, and jurisdiction of all courts including an introduction to legal drafting and writing with continued study of document production and administration within the judiciary and a detailed examination of civil and criminal litigation.

12 TORT LAW AND CLAIMS INVESTIGATION (3)

Lecture: 3 hours

Overview of the fundamentals of Tort Law including intentional torts, negligence, and strict liability. Additionally, students will study personal injury investigation, preparation of legal pleadings, preparation and analysis of discovery materials, and how to prepare for trial.

13 WILLS, TRUSTS, AND PROBATE ADMINISTRATION (3)

Lecture: 3 hours

Study of the fundamental principles of the law of wills, trusts, and probate including an examination of the organization and jurisdiction of the California Probate Court and the administration of estates through that court.

14 LAW OFFICE MANAGEMENT

Lecture: 3 hours

Study of the basic objectives of the management of a law office including examining the hardware and software used in a law office, office manuals, and law office correspondence.

16 CIVIL AND CRIMINAL EVIDENCE

Lecture: 3 hours

Students will examine the rules of court including deposition and interrogatory preparations and how each affects the admissibility of evidence in a civil or criminal proceeding.

17 LEGAL WRITING (3)

Lecture: 3 hours

Advanced legal drafting and writing, including special research and projects.

18 MARRIAGE AND FAMILY LAW

Lecture: 3 hours

Course surveys practice and procedures relating to issues concerning family law. An examination of parental prerogatives, marriage, separation, divorce, custody and support, adoption and guardianship.

19 PROPERTY AND CREDITOR RIGHTS (3)

Lecture: 3 hours

Study of property including community property, tenancies, leases, deeds, other property interests, a study of the system of recording and search of public documents, and bankruptcy laws. The student will also explore the ramifications of secured transactions.

20 PROBATE PROCEDURES

Lecture: 3 hours

A comprehensive study of methods for fact gathering, office procedures, and required court work involved in the processing of probates for testate and intestate decedents.

MANAGEMENT/ SUPERVISION

PROGRAM OVERVIEW

The Management/Supervision program is designed to comprehensively cover the major aspects of business, management, and supervision necessary to advance and succeed in business and industry. Course work will cover the basic business management skills with emphasis on human relations, leadership, and written and oral communications specifically related to managerial/supervisory positions. It is designed to meet the needs of those who plan to (1) prepare for supervisory positions, (2) existing supervisors/management personnel seeking advancement to more responsible positions, and (3) individuals planning to own and operate their own business.

Administrative services managers perform a broad range of duties in virtually every sector of the economy. They coordinate and direct support services to organizations as diverse as insurance companies, computer manufacturers, and government offices. (Source: U.S. Bureau of Labor Statistics)

This program prepares students to move into positions as supervisors, team-leaders, or first-line managers by adding basic management/supervisory skills to the occupational/technical skills they may already possess. Upon successful completion of the program, students will be adept at problem solving, decision-making, communicating, motivating people in groups and teams, and understanding and applying management skills required for entry-level positions in business and industry, or for their own businesses. Typical positions are supervisor/manager in business, industry, government, and nonprofit sectors, self-employed business owners/operators.

MANAGEMENT/SUPERVISION

■ Associate in Arts Degree

Requirements for the Associate in Arts degree in Management/Supervision may be met by completing the required 47 units of courses listed below, and 18 units of general education courses to meet the Plan B graduation requirement.

REQUIRED COURSES

FIRST SEMESTER	UNITS
BUS 1† Introduction to Business	3
BUS 32† or 33 Business Communications/or Technical Report Writing	3
BUS 38† Business Computations	3
CAOT 82† or 100 Microcomputer Software Survey in the Office/Windows Based Computer Applications	3
SUPV 11† Oral Communications	3
UNITS	15

SECOND SEMESTER	UNITS
ACCTG 1† Introductory Accounting I	5
ECON 2† Principles of Economics II (Macro)	3
SUPV 1† Principles of Supervision	3
MARKET 21† Principles of Marketing	3
UNITS	14

THIRD SEMESTER	UNITS
BUS 5† Business Law I	3
MGMT 2† Organization and Management Theory	3
BUS 40† Business Project Management	3
SUPV 3† Human Relations	3
UNITS	12

FOURTH SEMESTER	UNITS
MGMT 13† Small Business Entrepreneurship	3
MGMT 33† Personnel Management	3
UNITS	6
TOTAL UNITS	47

† Degree CORE requirements

‡ Management/Supervision Major AA degree requirements

MANAGEMENT/SUPERVISION

■ Certificate of Completion

The Management/Supervision certificate program is designed to cover the major aspects of business, management and supervision necessary to obtain entry-level positions and succeed in business and industry.

REQUIRED COURSES

FIRST SEMESTER	UNITS
BUS 1 Introduction to Business	3
BUS 5 Business Law I	3
BUS 32 Business Communications	3
CAOT 82 or 100 Microcomputer Software Survey in the Office/Windows Based Computer Applications	3
MGMT 2 Organization and Management Theory	3
UNITS	15

SECOND SEMESTER	UNITS
ACCTG 21 Bookkeeping and Accounting I	3
MGMT 33 Personnel Management	3
MARKET 21 Principles of Marketing	3
CAOT 85 Spreadsheet Analysis	3
SUPV 3 Human Relations	3
SUPV 11 Oral Communications	3
UNITS	18
TOTAL UNITS	33

MANAGEMENT/SUPERVISION

■ Certificate of Completion - Governmental Supervision

A Certificate of Completion in Governmental Supervision is offered to students who complete a total of 30 units of the required courses listed below. The certificate is regarded by management agencies as evidence of significant achievement.

In the federal government, industrial specialists in non-supervisory, supervisory, and managerial positions averaged \$73,990 a year in 2008. (Source: U.S. Bureau of Labor Statistics).

Upon successful completion of the program the students will be proficient in the application of basic business and management principles and techniques in a governmental environment. They will be adept at analyzing basic business situations as related to governmental agencies. This program prepares students to advance to positions of responsibility in governmental organizations and trains them in fundamental aspects of supervision and management in city, state, and federal agencies.

REQUIRED COURSES

		UNITS
SUPV 1	Elements of Supervision	3
SUPV 3	Human Relations	3
SUPV 6	Labor-Management Relations	3
- or -		
LABOR ST 2	Collective Bargaining	3
- or -		
LABOR ST 4	Issues in Labor Relations	3
SUPV 11	Oral Communications	3
BUS 33	Technical Report Writing	3
MGMT 2	Organization and Management Theory	3
MGMT 50	Local Government for the Manager	3
ECON 2	Principles of Economics II (Macro)	3
MGMT 33	Personnel Management	3
BUS 40	Business Project Management	3
TOTAL UNITS		30

MANAGEMENT

■ COURSE DESCRIPTIONS

2 ORGANIZATION AND MANAGEMENT THEORY (3) CSU

Lecture: 3 hours

As part of the study of industrial organization, this course covers such topics as financing the enterprise, building the internal organization, and plant layout. The study of industrial operations includes production planning and control, inventory and material handling, quality control, and methods analysis and work simplification. In addition, this course includes a consideration of the principles of industrial relations and personnel management, office management, and internal coordination and environmental issues.

13 SMALL BUSINESS ENTREPRENEURSHIP (3) CSU

Lecture: 3 hours

This course is designed to teach the student to understand the problems of organizing and operating a small business and how to analyze one's own personal qualifications for small business management.

33 PERSONNEL MANAGEMENT (3) CSU

Lecture: 3 hours

This course is concerned with the development of the personnel function, personnel tools and records, and the use of psychology in personnel administration. Training and education of employees, incentives, special problems of personnel administration and management, employee representation, and social controls are included as topics of discussion.

50 LOCAL GOVERNMENT FOR THE MANAGER (3) CSU

Lecture: 3 hours

A course designed to develop an understanding of the principles and functions of management in large governmental agencies, especially at the municipal level. The course will emphasize management in the areas of personnel, finance, controls, organization, and planning.

SUPERVISION

■ COURSE DESCRIPTIONS

1 ELEMENTS OF SUPERVISION (3) CSU

Lecture: 3 hours

This is a basic introductory course covering in general terms the total responsibilities of a supervisor in industry, such as organization, duties, human relations, grievances training, rating, promotion, quality-quantity control, management-employee relations, and related topics.

2 BASIC PSYCHOLOGY FOR SUPERVISORS (3) CSU

Lecture: 3 hours

Instruction will focus on "how to succeed" orientation in handling problems and situations frequently encountered at work. The emphasis is on psychological aspects, perceptions, learning processes, emotions, attitudes and personalities. This approach is useful in development of the practical insights and specific skills — yet is academically respectable.

3 HUMAN RELATIONS (DEVELOPING SUPERVISORY LEADERSHIP) (3)

Lecture: 3 hours

Instruction will focus on those human relation skills the supervisory student needs to be well rounded and thoroughly prepared for a work environment characterized by economic volatility, constant change, and a new level of competitiveness. This interpersonal skills approach places greater emphasis on the application of knowledge through practice, followed by feedback and reinforcement.

6 LABOR-MANAGEMENT RELATIONS (3)

Lecture: 3 hours

Instruction covers the history and development of the labor movement, the Wagner Act, the Taft-Hartley Act, the Landrum-Griffin Act, and other federal labor laws including civil rights legislation, state and local labor laws relating to the public sector, and related topics in the field of labor management relations.

11 ORAL COMMUNICATIONS FOR SUPERVISORS (3)*Lecture: 3 hours*

A practical understanding of the communication process, listening, and group dynamics is gained through the use of structured experiences and role playing. Students also learn to develop and deliver effective oral presentations through the application of speech principles and presentation media.

12 WRITTEN COMMUNICATIONS FOR SUPERVISORS (3)*Lecture: 3 hours*

This fundamental course is written communications for supervisors. A study of the basic forms of supervisory writing that includes memos, e-mails, research proposals, policies and procedure manuals. Additional topics may include: writing and analyzing resumes, developing employee career plans, and preparing worker performance appraisals.

14 DEVELOPING EMPLOYEES THROUGH TRAINING (3)*Lecture: 3 hours*

The supervisor is given insight into responsibility for developing employees through training. Included are such topics as orientation; on-the-job techniques; job instruction principles; supervisory training; management development; training needs; and evaluating training.

MARKETING AND PUBLIC RELATIONS

PROGRAM OVERVIEW

This program is designed for students who wish to enter the fields of marketing or public relations. It is designed to meet the needs of those who wish to become store managers, department store buyers, or retail/wholesale salespersons. Publicity, sales, and business writing are stressed.

The advertising and public relations industry employed 431,000 workers in 2008. An additional 62,000 workers were self-employed. Management, business and financial workers; professional and related workers; and sales and related workers account for more than 6 out of 10 jobs in the industry. (Source: U.S. Bureau of Labor Statistics)

Upon successful completion of the program, the student will have a background in the principles and practices involved in the promotion and distribution of products and services from producers through middleman to the ultimate consumer. This program leads to entry-level positions in public relations and marketing careers in business, industry, agency, government, and nonprofit sectors of society. Typical positions are retail, wholesale, industrial sales, buyer, merchandising supervisor, and self-employment.

MARKETING AND PUBLIC RELATIONS

■ Associates in Arts Degree

Requirements for the Associate in Arts degree in Marketing/Public Relations may be met by completing the required 18-units of courses below, the required 26 unit core courses required for all business majors, and 18 units of general education courses to meet the Plan B graduation requirement.

	UNITS
MARKET 1	Principles of Selling
MARKET 11	Fundamentals of Advertising
MARKET 21	Principles of Marketing
PUB REL 1	Principles of Public Relations
PUB REL 2	Public Relations Techniques
PUB REL 3	Writing for Public Relations
TOTAL UNITS	18

The following is a suggested sequence of required courses to be taken:

FIRST SEMESTER	UNITS
BUS 1†	Introduction to Business
BUS 32† or 33	Business Communications/or Technical Report Writing
BUS 38†	Business Computations
CAOT 82† or 100	Microcomputer Software Survey in the Office/Windows Based Computer Applications
SUPV 11†	Oral Communications
UNITS	15

SECOND SEMESTER	UNITS
ACCTG 1†	Introductory Accounting I
ECON 2†	Principles of Economics II (Macro)
MARKET 1‡	Principles of Selling
PUB REL 1‡	Principles of Public Relations
UNITS	14

THIRD SEMESTER	UNITS
BUS 5*†	Business Law I
MARKET 21‡	Principles of Marketing
PUB REL 2‡	Public Relations Techniques
UNITS	9

FOURTH SEMESTER	UNITS
MARKET 11‡	Fundamentals of Advertising
PUB REL 3‡	Writing for Public Relations
UNITS	6
TOTAL UNITS	44

† Degree CORE requirements

‡ Marketing/Public Relations AA degree requirements

MARKETING AND PUBLIC RELATIONS

■ Certificate of Completion

The Certificate of Completion is awarded for successful completion of 33 units of the core courses below. All of the courses may be applied toward the fulfillment of the Marketing/Public Relations Associate in Arts degree.

Upon successful completion of the Certificate program, students will have a background in the principles and practices involved in the promotion and distribution procedures for products and services.

REQUIRED COURSES

FIRST SEMESTER		UNITS
ACCTG 21	Bookkeeping and Accounting 1	3
BUS 1	Introduction Business	3
BUS 5	Business Law	3
BUS 32	Business Communications	3
CAOT 82 or 100	Microcomputer Software Survey in the Office/Windows Based Computer Applications	3
SUPV 11	Oral Communications	3
UNITS		18
SECOND SEMESTER		UNITS
MARKET 1	Principles of Selling	3
MARKET 11	Fundamentals of Advertising	3
MARKET 21	Principles of Marketing	3
PUB REL 1	Principles of Public Relations	3
PUB REL 2	Public Relations Techniques	3
UNITS		15
TOTAL UNITS		33

MARKETING

■ COURSE DESCRIPTIONS

1 PRINCIPLES OF SELLING (3) CSU

Lecture: 3 hours

Study is made of the development of the fundamental principles of wholesale and specialty selling, including such phases as developing the sales plan, securing prospects, effective goods and service presentation, product analysis, closing the sale, and service after the sale.

11 FUNDAMENTALS OF ADVERTISING (3) CSU

Lecture: 3 hours

This course covers the principles and practice of advertising, including copy, layout, slogans, trademarks, mechanics, media, and the organization and execution of advertising campaigns.

21 PRINCIPLES OF MARKETING (3) CSU

Lecture: 3 hours

This course is a managerial approach to marketing principles. It covers marketing research, sales forecasting, sales cost analysis, domestic and international markets, customer motivation, production analysis, consumer and industrial markets, retailing and wholesaling, distribution channels, sales promotion and advertising, personal selling, pricing policies, market legislation and environment factors which impact marketing.

25 MARKETING INTERNSHIP LAB (3) RPT3

Lecture: 2 hours; Lab: 2 hours

A lab class which provides opportunity for students to implement a marketing plan directly with actual business from industry.

PUBLIC RELATIONS

■ COURSE DESCRIPTIONS

1 PRINCIPLES OF PUBLIC RELATIONS (3) CSU

Lecture: 3 hours

This course offers the student an understanding of the broad aspects of relationships with the public as they apply to business, education, public agencies, and other organizations. It includes methods of either promoting favorable relations with various segments of the public or coping with situations involving adverse public opinion.

2 PUBLIC RELATIONS TECHNIQUES (3) CSU

Lecture: 3 hours

This course is a comprehensive study of various public relations techniques utilized in campaigns by businesses, educational institutions, public agencies, and other organizations. Case histories are used to stimulate student initiative in problem solving. The social impact of the various communications media and their role in public relations also are stressed.

3 WRITING FOR PUBLIC RELATIONS (3) CSU

Lecture: 3 hours

The persuasive powers of the written and spoken word are explored and utilized in creating viable communicative messages such as news releases, feature stories, interviews, public service announcements, speeches and institutional advertising.

RETAIL MERCHANDISING

PROGRAM OVERVIEW

Retail merchandising is one of the fastest growing employment sectors in the Los Angeles region, and Trade-Tech has created a unique interdisciplinary Associate in Arts degree to prepare students for career opportunities in this field. While regional manufacturing operations are dwindling, retail activities are growing by leaps and bounds. In fact, the state of California is projected to have an 18% gain in retail sales workers by the year 2012 (source: EDD), making retail sales a promising career option.

This program will prepare students for employment in the retail sales industry by providing studies in a multitude of essential disciplines, including marketing, management, supervision and business, as well as fashion merchandising. Further, it will allow each student to select the 'track' that best suits his/her educational goals; Sales, Store Operations, or Personnel.

Upon completion of this program, students will be prepared to gain employment as a sales associate/retail clerk in retail operations with the chance to advance into management. In addition, this program provides a head start for those who aspire to a Bachelors Degree in Business Administration at one of the numerous CSU campuses.

RETAIL MERCHANDISING

■ Associates in Arts Degree

Requirements for the Associate in Arts degree in Retail Merchandising may be met by completing the required courses below and 18 units of general education courses from graduation Plan B.

REQUIRED COURSES

FIRST SEMESTER	UNITS
ENGLISH 28 or ENGLISH 101 (transfer)	3
FASHMER 10 Retail Merchandising	3
MARKET 1 Principles of Selling	3
BUS 1 Introduction to Business	3
— or —	
INT BUS 1 International Trade	3
— or —	
FASHMER 50 International Fashion Business	3
UNITS	12

SECOND SEMESTER	UNITS
MARKET 21 Principles of Marketing	3
BUS 32 Business Communications	3
— or —	
BUS 33 Technical Report Writing	3
CAOT 82 Microcomputer Software Survey in the Office	3
— or —	
CAOT 100 Windows Applications	3
ACCTG 1 Introductory Accounting I	5
UNITS	14

THIRD SEMESTER	UNITS
BUS 5 Business Law I	3
SUPV 11 Oral Communications	3
ECON 2 Principle of Economics II	3
BUS 38 Business Computations	3
UNITS	12

FOURTH SEMESTER	UNITS
Choose 9 units from one track	9
TOTAL UNITS	47

MANAGEMENT SALES TRACK

	UNITS
MARKET 30 Contemporary Issues in Retailing	3
MGMT 13 Small Business Entrepreneurship	3
MARKET 11 Fundamentals of Advertising	3
INTL BUS 1 International Trade	3
FASHMER 35 Fashion Promotion	3
FASHMER 40 Modern Merchandising Math	3
SUPV 1 Elements of Supervision	3
SUPV 3 Human Relations	3

Note: Students may focus on International Business by selecting MARKET 30, INTL BUS 1, 3, and 6.

STORE OPERATIONS TRACK

	UNITS
CAOT 85 Spreadsheet Analysis (Day section offered Fall semester only)	3
MGMT 2 Organization and Management Theory	3
MGMT 33 Personnel Management	3
SUPV 1 Elements of Supervision	3
SUPV 3 Human Relations	3

PERSONNEL TRACK

	UNITS
MGMT 2 Organization and Management Theory	3
MGMT 33 Personnel Management	3
ACCTG 17/18 Payroll Accounting/Computerized Payroll Accounting	3
SUPV 1 Elements of Supervision	3
SUPV 3 Human Relations	3

SMALL BUSINESS ENTREPRENEURSHIP

PROGRAM OVERVIEW

The Small Business Entrepreneurship Certificate of Completion is designed to teach the student to understand the problems of organizing and operating a small business and how to analyze one's own personal qualifications for small business management. Particular emphasis is placed on record keeping for the small business, hiring appropriate personnel, and selling techniques. This program is recommended for individuals who are planning to work in a small business or who are thinking of starting and operating their own business.

In 2004, there were approximately 24.7 million businesses in the United States. Small firms represent 99.7% of all employer firms and employ half of all private sector employees. (Source: Advocacy Small Business Statistics and Research)

Upon successful completion of the program the students will be proficient in the process and procedures needed to transform an initial entrepreneurial idea into a viable business operation. They will be adept at in-depth analysis of ways new business ventures are created, designed, developed, and operated. They will understand and perform the basic planning and management skills required to form and operate a small/entrepreneurial business.

SMALL BUSINESS ENTREPRENEURSHIP

■ Certificate of Completion

A Certificate of Completion in Small Business Entrepreneurship may be earned by completing the 32 units of required courses listed below with a "C" or better grade.

REQUIRED COURSES

FIRST SEMESTER		UNITS
BUS 38	Business Computations	3
BUS 5	Business Law I	3
MGMT 13	Small Business Entrepreneurship	3
MARKET 1	Principles of Selling	3
CAOT 82	Microcomputer Software Survey in the Office	3
UNITS		15

SECOND SEMESTER		UNITS
SUPV 1	Elements of Supervision	3
— or —		
MGMT 33	Personnel Management	
ACCTG 1	Principles of Accounting I	5
MARKET 21	Principles of Marketing	3
SUPV 11	Oral Communications	3
CAOT 85	Spreadsheet Analysis	3
UNITS		17
TOTAL UNITS		32

ECONOMICS

ECONOMICS

■ COURSE DESCRIPTIONS

- 1 PRINCIPLES OF ECONOMICS I (MICROECONOMICS) (3) UC:CSU**
Lecture: 3 hours
 This course is designed to give the student some understanding of the economic forces and conditions which govern society. Among the topics studied are the theory of prices, competition and monopoly, the theory of distribution, and the organization of business. The price and market approach is used to introduce subject matter.
- 2 PRINCIPLES OF ECONOMICS II (MACROECONOMICS) (3) UC:CSU**
Lecture: 3 hours
 Using the National Income Approach, topics considered are: taxation, income, employment, money and banking, business cycles, and economic growth.

FINANCE

FINANCE

■ Course Description

8 PERSONAL FINANCE AND INVESTMENTS (3) CSU

Lecture: 3 hours

This course is designed to provide students with an understanding of a person's financial affairs, including family budgeting, consumer credit, home ownership, insurance, investment/savings, banking services, and major consumer purchases.

INTERNATIONAL BUSINESS

INTERNATIONAL BUSINESS

■ Course Description

1 INTERNATIONAL TRADE (3) CSU

Lecture: 3 hours

A study of the principles of international trade, including the basics of operating an import and/or export business. Topics covered include: marketing, terminology, documentation, financial procedures, credits, collections, and communications.

OFFICE MACHINES

OFFICE MACHINES

■ COURSE DESCRIPTION

2 ADDING AND CALCULATING MACHINES (1) CSU

Lab: 2 hours

This course emphasizes the touch method of skill development in the use of electronic calculating machines. It also provides a review of basic math functions with emphasis on practical business problems.

COMPUTER APPLICATIONS AND OFFICE TECHNOLOGIES

PROGRAM OVERVIEW

The Computer Applications and Office Technologies degree and certificate programs are designed to provide students with administrative and clerical skills required for employment in a variety of areas, such as business and industry, government agencies, schools, and hospitals. Office workers use a variety of computer software applications, produce correspondence, maintain databases, organize meetings, manage records and projects, and schedule appointments. The program includes courses that are integral to many different administrative fields, and most include specific technical skills, relevant computer applications, and the necessary training in communicating, problem solving, and decision-making required for a variety of administrative and clerical entry-level positions as well as promotion and career advancement opportunities. The course content is designed to meet the varying needs of a wide spectrum of students, including those seeking:

- Associate in Arts degree (s)
- Certificate (s) that are specific to a discipline or area
- Entry into the job market
- Advanced training and/or retraining
- Lifelong learning

As reliance on technology continues to expand in offices, the role of the office professional has greatly evolved. Office automation and organizational restructuring have led secretaries and administrative assistants to assume responsibilities once reserved for managerial and professional staff. (Source: Occupational Outlook Handbook, 2006-2007).

Upon successful completion of the program, students will be prepared for entry-level positions, promotion, and career advancement in a variety of office occupations. They will be adept at analyzing business situations and using critical thinking skills to apply technological solutions in an office environment. The student will be proficient in the use of current software application programs such as Microsoft Word, Excel, PowerPoint, and Access, and Internet-related skills and techniques. Typical positions: Administrative Assistant, Office Assistant, Medical Office Assistant, Information Processing, and a variety of data entry/clerical occupations.

Instruction in this program focuses on four specialty areas:

(1) Administrative Assistant (2) Information Processing (3) Medical Office Assistant (4) Office Assistant – Clerical.

COMPUTER APPLICATIONS AND OFFICE TECHNOLOGIES

■ Associate in Arts Degree Options

The degree options in Computer Applications and Office Technologies can be met by completing 26 units of the required core courses listed below, 17 units minimum in the major area and 18 units of the general education requirements for the Graduation Plan B.

CORE COURSES

		UNITS
CAOT 2*	Computer Keyboarding II (must have completed CAOT 1 or equivalent)	3
CAOT 30*	Office Procedures	3
CAOT 31*	Business English	3
BUS 32*	Business Communications	3
CAOT 33	Records Management and Filing	2
CAOT 34	Business Vocabulary and Spelling (Same as Business Terminology)	2
CAOT 82	Microcomputer Software Survey in the Office	3
CAOT 84*	Microsoft Word	3
CAOT 101	Hands-on Internet	1
BUS 38*	Business Computations	3
	TOTAL CORE UNITS	26

Note: Completion of English 21 with a grade of "C" or better prior to enrollment is recommended for success in the classes listed above.

RECOMMENDED ELECTIVES

The following courses may be used as electives provided that the course is NOT a requirement in the major or the core:

		UNITS
CAOT 7*	Machine Transcription	3
CAOT 9	Typing Improvement	1
CAOT 47*	Applied Office Practice	2
CAOT 85*	Spreadsheet Analysis	3
CAOT 86*	Microsoft Access	3
CAOT 88*	Desktop Publishing	3
CAOT 98*	Introduction to Windows	3
OFF MCH 2	Office Machines	1
BUS 1	Introduction to Business	3
BUS 5	Business Law	3
SUPV 1	Elements of Supervision	3
SUPV 11	Oral Communications	3
BUS 40	Business Project Management	3
CAOT 100	Windows Based Computer Applications	3

COMPUTER APPLICATIONS AND OFFICE TECHNOLOGIES

■ Associate in Arts Degree - Administrative Assistant

The Administrative Assistant program prepares students for employment in business, government, and educational offices using automated systems and procedures. Emphasis is placed on the development of basic business office procedure and language skills, and training in the use of relevant computer application programs and office equipment.

Secretaries and Administrative Assistants held about 4.2 million jobs in 2008, ranking among the largest occupations in the U.S. economy. (Source: U.S. Bureau of Labor Statistics)

Upon successful completion of the degree program, students are prepared to assume intermediate office duties and decision-making office responsibilities. The program prepares students for career advancement and retraining in the use of current computer application programs. The program provides the foundation for entry into office management positions. Typical positions: Administrative Assistant, Secretary, Senior Office Clerk.

REQUIRED COURSES

The following suggested sequence of required courses can be taken in any order provided prerequisites are met.

FIRST SEMESTER		UNITS
CAOT 2*	Computer Keyboarding II (Must have completed CAOT 1 or equivalent)	3
CAOT 33*	Records Management and Filing	2
CAOT 34*	Business Vocabulary and Spelling (Same as Business Terminology)	2
CAOT 82*	Microcomputer Software Survey in the Office	3
UNITS		10

SECOND SEMESTER		UNITS
CAOT	Computer Applications and Office Technologies Elective	3
CAOT 31*	Business English	3
CAOT 84*	Microsoft Word	3
UNITS		9

THIRD SEMESTER		UNITS
BUS 32*	Business Communications	3
BUS 38*	Business Computations	3
CAOT	Computer Applications and Office Technologies Elective	3
UNITS		9

FOURTH SEMESTER		UNITS
CAOT 7	Machine Transcription	3
CAOT 30*	Office Procedures	3
CAOT 98*	Introduction to Windows	3
CAOT	Computer Applications and Office Technologies Elective	3
UNITS		12
TOTAL UNITS		40

*Degree core requirements

REQUIRED COURSES

FIRST SEMESTER		UNITS
CAOT 2*	Computer Keyboarding II (Must have completed CAOT 1 or equivalent)	3
CAOT 33*	Records Management and Filing	2
CAOT 34*	Business Vocabulary and Spelling (Same as Business Terminology)	2
CAOT 82	Microcomputer Software Survey in the Office	3
CAOT	Computer Applications and Office Technologies Elective	6
UNITS		16

SECOND SEMESTER		UNITS
CAOT 7	Machine Transcription	3
CAOT 30*	Office Procedures	3
CAOT 31*	Business English	3
BUS 32*	Business Communications	3
UNITS		12
TOTAL UNITS		28

*Degree core requirements

COMPUTER APPLICATIONS AND OFFICE TECHNOLOGIES

■ Associate in Arts Degree - Information Processing Specialist

The Information Processing program prepares students for employment in business, government, and educational offices using computerized systems and procedures. Emphasis is placed on training and competency in the use of relevant computer applications software programs including word processing, spreadsheets, databases, presentation graphics, desktop publishing, utilization of the Internet, and popular operating systems. The development of basic business office procedure and language skills, and training in the use of office equipment are also emphasized.

Job prospects will be most favorable for those with the best technical skills – in particular, expertise in appropriate computer software applications. (Source: U.S. Bureau of Labor Statistics)

Upon successful completion of the degree program, students are prepared to assume intermediate automated office duties and decision making office responsibilities. The program prepares students for career advancement and retraining in the use of current computer application programs. Selected courses provide the background and skills to help students prepare to take MOS certification exams. The program provides the foundation for entry into office data management positions and the skills that promote success in the workplace. Typical positions include data entry clerk and office clerk.

COMPUTER APPLICATIONS AND OFFICE TECHNOLOGIES

■ Certificate of Completion - Administrative Assistant

Upon successful completion of the Certificate of Completion, students are prepared to assume entry-level office duties and responsibilities. The program prepares students for retraining in the use of current computer application programs. Typical positions include entry-level secretary, office clerk, and receptionist.

REQUIRED COURSES

The following suggested sequence of required courses can be taken in any order provided prerequisites are met:

FIRST SEMESTER		UNITS
CAOT 2*	Computer Keyboarding II (Must have completed CAOT 1 or equivalent)	3
CAOT 34*	Business Vocabulary and Spelling (Same as Business Terminology)	2
CAOT 82*	Microcomputer Software Survey in the Office	3
CAOT 101*	Hands-on Internet	1
UNITS		9

SECOND SEMESTER		UNITS
CAOT 30*	Office Procedures	3
CAOT 31*	Business English	3
CAOT 84*	Microsoft Word	3
BUS 38*	Business Computations	3
UNITS		12

THIRD SEMESTER		UNITS
CAOT 7	Machine Transcription	3
BUS 32*	Business Communications	3
CAOT 33*	Record Management and Filing	2
CAOT 85	Spreadsheet Analysis	3
UNITS		11

FOURTH SEMESTER		UNITS
CAOT 86	Database	3
CAOT 88	Desktop Publishing	3
CAOT 98	Introduction to Windows	3
CAOT	Elective	3
UNITS		12
TOTAL UNITS		44

*Degree core requirements

COMPUTER APPLICATIONS AND OFFICE TECHNOLOGIES

■ Certificate of Completion - Information Processing Specialist

The Information Processing Certificate prepares students for employment in business, government, and educational offices using computerized systems and procedures.

Upon successful completion of the certificate program, students are prepared to assume entry-level computerized/automated office duties and responsibilities. The program prepares students for retraining in the use of current computer application programs. The program provides the foundation for entry into data-entry clerical positions. Typical positions: Data-Entry Clerk, Office Clerk, Junior Clerk.

FIRST SEMESTER		UNITS
BUS 38*	Business Computations	3
CAOT 2*	Computer Keyboarding II (Must have completed CAOT 1 or equivalent)	3
CAOT 31*	Business English	3
CAOT 82*	Microcomputer Software Survey in the Office	3
CAOT 85	Spreadsheet Analysis	3
CAOT 101*	Hands-on Internet	1
UNITS		16

SECOND SEMESTER		UNITS
CAOT 30*	Office Procedures	3
BUS 32*	Business Communications	3
CAOT 34*	Business Vocabulary and Spelling (Same as Business Terminology)	2
CAOT 84*	Microsoft Word	3
CAOT 86	Database	3
CAOT 98	Introduction to Windows	3
UNITS		17
TOTAL UNITS		33

*Degree core requirements

COMPUTER APPLICATIONS AND OFFICE TECHNOLOGIES

■ Associate in Arts Degree - Medical Office Assistant

The Medical Office Assistant program prepares students for employment in a medical/dental front office, such as a doctor/dentist's office, hospital, clinic, and/or medical insurance company. Emphasis is placed on the development of basic medical/dental business office procedure and language skills, and training in the use of office equipment and competency in the use of relevant computer application software programs including word processing, spreadsheets, and utilization of the Internet.

Medical secretaries transcribe dictation, prepare correspondence, and assist physicians or medical scientists with reports, speeches, articles, and conference proceedings. (Source: U.S. Bureau of Labor Statistics)

Upon completion of the degree program, students are prepared to assume intermediate medical/dental office duties and decision-making responsibilities. The program may also prepare students for career advancement and retraining in the use of current computer application programs, and provides the skills that promote success in the workplace.

REQUIRED COURSES

The following suggested sequence of required courses can be taken in any order provided prerequisites are met:

FIRST SEMESTER		UNITS
CAOT 2*	Computer Keyboarding II (Must have completed CAOT 1 or equivalent)	3
CAOT 33*	Records Management and Filing	2

CAOT 34*	Business Vocabulary and Spelling (Same as Business Terminology)	2
CAOT 82*	Microcomputer Software Survey in the Office	3
UNITS		10

SECOND SEMESTER		UNITS
CAOT 30*	Office Procedures	3
CAOT 7	Machine Transcription	3
CAOT 31*	Business English	3
CAOT 84*	Microsoft Word	3
UNITS		12

THIRD SEMESTER		UNITS
CAOT 20	Medical Assistant Office Procedures	5
CAOT 44	Medical Terminology	3
BUS 32*	Business Communications	3
OFF MCH 2	Office Machines	1
UNITS		12

FOURTH SEMESTER		UNITS
CAOT 46	Medical Transcription for Medical Secretaries	3
BUS 38*	Business Computations	3
UNITS		6
TOTAL UNITS		40

*Degree core requirements

COMPUTER APPLICATIONS AND OFFICE TECHNOLOGIES

■ Certificate of Completion - Medical Office Assistant

The Medical Office Assistant Certificate of Completion prepares students for entry-level employment in a medical/dental front office, such as a doctor/dentist's office, hospital, clinic, and/or medical insurance company.

Upon completion of the certificate program, students are prepared to assume entry-level medical/dental office duties and responsibilities. The program may also prepare students for career advancement and retraining in the use of current computer application programs. The program also provides the basic skills that promote success in the workplace. Typical positions include medical clerk, medical transcriber, medical office assistant, and assistant medical office manager.

FIRST SEMESTER		UNITS
CAOT 2*	Computer Keyboarding II (Must have completed CAOT 1 or equivalent)	3
CAOT 44	Medical Terminology	3
CAOT 30*	Office Procedures	3
CAOT 82	Microcomputer Software Survey	3
CAOT 33*	Records Management and Filing	2
UNITS		14

SECOND SEMESTER		UNITS
CAOT 84*	Microsoft Word	3
CAOT 46	Medical Transcription for Medical Secretaries	3
BUS 32*	Business Communications	3
OFF MCH 2	Office Machines	1
UNITS		10

THIRD SEMESTER		UNITS
CAOT 20	Medical Assistant Office Procedures	5
TOTAL UNITS		29

*Degree core requirements

COMPUTER APPLICATIONS AND OFFICE TECHNOLOGIES

■ Associate in Arts Degree - Office Assistant-Clerical

The Office Assistant - Clerical Associate in Arts degree prepares students for employment in business, government, and educational offices using automated systems and procedures. Emphasis is placed on the development of basic business office procedure and language skills, acquiring basic accounting knowledge, and training in the use of relevant computer application programs and office equipment.

General office clerks held about 3.3 million jobs in 2008. Most are employed in relatively small businesses. Although they work in every sector of the economy, about 46% worked in local government; healthcare and social assistance; administrative and support services; finance and insurance; or professional, scientific, and technical industries. (Source: U.S. Bureau of Labor Statistics)

Upon successful completion of the degree program, students are prepared to assume intermediate office duties and decision-making office responsibilities. The program prepares students for career advancement and retraining in the use of current computer application programs. The program provides the foundation for entry into office management positions and the skills that promote success in the workplace. Typical positions include assistant office manager, secretary, and senior office clerk.

REQUIRED COURSES

The following suggested sequence of required courses can be taken in any order provided prerequisites are met:

FIRST SEMESTER		UNITS
CAOT 2*	Computer Keyboarding II (Must have completed CAOT 1 or equivalent)	3
CAOT 33*	Records Management and Filing	2
CAOT 34*	Business Vocabulary and Spelling (Same as Business Terminology)	2
CAOT 82	Microcomputer Software Survey in the Office	3
UNITS		10

SECOND SEMESTER		UNITS
CAOT	Computer Applications and Office Technologies Electives	3
CAOT 31*	Business English	3
BUS 38*	Business Computations	3
UNITS		9

THIRD SEMESTER		UNITS
CAOT 84*	Microsoft Word	3
BUS 32*	Business Communications	3
ACCTG 21 or	Bookkeeping and Accounting I/or	3
ACCTG 1	Introductory Accounting I	5
CAOT	Computer Applications and Office Technologies Elective	3
UNITS		12-14

FOURTH SEMESTER		UNITS
CAOT 7	Machine Transcription	3
CAOT 30*	Office Procedures	3
OFF MCH 2	Office Machines	1
CAOT	Computer Applications and Office Technologies Elective	4
UNITS		11
TOTAL UNITS		42-44

*Degree core requirements

COMPUTER APPLICATIONS AND OFFICE TECHNOLOGIES

■ Certificate of Completion - Office Assistant-Clerical

The Office Assistant – Clerical program prepares students for employment in business, government, and educational offices using automated systems and procedures.

Upon successful completion of the certificate program, students are prepared to assume entry-level office duties and responsibilities. The program prepares students for retraining in the use of current computer application programs. The program provides the foundation for entry into office clerical positions. Typical positions include entry-level secretary, office clerk, office assistant, and junior clerk.

FIRST SEMESTER		UNITS
CAOT 2*	Computer Keyboarding II (Must have completed CAOT 1 or equivalent)	3
CAOT 33*	Records Management and Filing	2
CAOT 34*	Business Vocabulary and Spelling (Same as Business Terminology)	2
CAOT 84*	Microsoft Word	3
CAOT 82	Microcomputer Software Survey in the Office	3
BUS 38*	Business Computations	3
UNITS		16

SECOND SEMESTER		UNITS
ACCTG 21 or	Bookkeeping and Accounting I/ or	3
ACCTG 1	Introductory Accounting I	5
CAOT 30*	Office Procedures	3

CAOT 31*	Business English	3
CAOT 7	Machine Transcription	3
BUS 32*	Business Communications	3
UNITS		15-17
TOTAL UNITS		31-33

*Degree core requirements

COMPUTER APPLICATIONS AND OFFICE TECHNOLOGIES

■ COURSE DESCRIPTIONS

1 COMPUTER KEYBOARDING I (3)

Lecture: 2 hours; Lab: 3 hours

This is a beginning course designed to develop touch control of the keyboard and proper keyboarding techniques, using the microcomputer and printer, build basic speed and accuracy, and provide practice in applying these basic skills to the formatting of letters, tables, reports, and business forms using MS Word. The achievement of a speed of at least 30 words a minute for 5 minutes with no more than 5 errors is expected.

2 COMPUTER KEYBOARDING II (3) CSU

Lecture: 2 hours; Lab: 3 hours

This is an intermediate course designed to develop speed and accuracy and a review of computer keyboarding techniques. It also includes training in the production of letters, manuscripts, business forms, and legal documents using MS Word. An achievement of a speed of at least 40 words a minute for 5 minutes with no more than 5 errors is expected.

3 COMPUTER KEYBOARDING III (3) CSU

Lecture: 2 hours; Lab: 3 hours

This is an advanced course designed to develop speed and accuracy in computer keyboarding, to train in the handling of integrated office projects which includes: legal and medical documents; reports; insurance, banking, travel, government, energy and electronic forms; letters; and tables using MS Word. The achievement of a typing speed of at least 50 words a minute for 5 minutes with no more than 5 errors is expected.

4 COMPUTER KEYBOARDING IV (3) CSU

Lecture: 2 hours; Lab: 3 hours

This is an advanced course designed to develop high speed and accuracy, practice in planning and keyboarding advanced problems such as purchase orders, sales invoices, minutes, news releases, tables, form letters, travel expense reports, bar and line graphs, letter composition, outlines, legal documents, and business letters using MS Word. An achievement of a speed of at least 60 words a minute for 5 minutes with no more than 5 errors is expected.

7 MACHINE TRANSCRIPTION (3)

Lecture: 3 hours; Lab: 1 hour

This course provides an opportunity for students to develop skill in voice transcriptions, related English skills, and general office routines.

9 COMPUTER KEYBOARDING IMPROVEMENT (1) RPT1

Lab: 3 hours

This course is designed to improve keyboarding skills for occupational and personal use. Timed writings, correctional drills, and visual aids will be used to develop speed and accuracy. Students will be required to appraise, diagnose, and select remedial exercises to improve their keyboarding skills.

15 SCRIPT SHORTHAND I (SPEEDWRITING) (3) CSU*Lecture: 3 hours*

This is a beginning course in speedwriting. It is designed to broaden students' shorthand vocabulary, to build shorthand speed, to increase their ability to transcribe accurately and quickly, and to expand students' knowledge of business practices and terminology.

20 MEDICAL ASSISTANT OFFICE PROCEDURES (5)*Lecture: 5 hours*

This course focuses on medical office procedures: proficiency in typing medical correspondence, case histories, insurance forms, and reports. Telephone techniques, medical records keeping, filing, and other office skills are some of the topics covered in this course.

30 OFFICE PROCEDURES (3) CSU*Lecture: 2 hours; Lab: 2 hours*

The student is instructed in the development of attitudes and personality traits essential to successful office work. Training is received in office organization, duties of office workers, office problems and their solutions, receptionist and telephone techniques, processing written communication, administrative responsibility, and professional growth.

31 BUSINESS ENGLISH (3)*Lecture: 3 hours*

This course offers thorough training in the mechanics of English: spelling, grammar, punctuation, sentence structure, and word usage. It develops business vocabulary as well as the English skills necessary for business situations.

32 OFFICE ADMINISTRATION (3) CSU*Lecture: 3 hours*

This is a course designed to achieve the following: effective written communication in English for the transaction of business; development of letter writing principles and techniques; enrichment of general vocabulary. Practical experience is given in writing the basic types of letters used in business: order, complaint, adjustment, sales collection, and application.

33 RECORDS MANAGEMENT AND FILING (2)*Lecture: 1 hour; Lab: 2 hours*

This course discusses the importance of records management in an office. Indexing and filing rules are presented and applied to card and correspondence filing, using alphabetic, numeric, and subject filing systems.

34 BUSINESS VOCABULARY AND SPELLING (2)*Lecture: 2 hours*

This course emphasizes improvement in spelling proficiency through the study of basic rules, as well as exercises in irregularly spelled words. Vocabulary is built by study of roots, prefixes, suffixes, synonyms, antonyms, homonyms, and words often confused.

44 MEDICAL TERMINOLOGY (3)*Lecture: 3 hours*

The student develops a comprehensive medical vocabulary applicable to all specialties of medicine through the learning of Greek and Latin prefixes, word roots, etc. A basic understanding of anatomy and physiology is provided. Training in the spelling, pronunciation and definition of medical terms is given as well as training in the use of a medical dictionary.

46 MEDICAL TRANSCRIPTION (3)*Lecture: 2 hours; Lab: 2 hours*

This course develops skill in correct transcription procedures and in transcribing medical materials. Production typing of recorded material stressing terminology from medical reports, diagnoses, case histories, is included. Correct spelling of medical terms is stressed.

47 APPLIED OFFICE PRACTICE (2) RPT3*Lab: 5 hours*

This course reinforces office administration classroom knowledge by enabling students to develop practical office skills by working in an office on campus for five hours a week. Special attention is given to developing the personal/business qualities desirable in the office.

64 COMPUTER AND OFFICE TECHNOLOGY LAB (1) RPT3*Lab: 2 hours*

Lab class which provides opportunity for students enrolled in Office Administration classes to use a variety of software.

76 KEYBOARDING ON MICROCOMPUTERS (1) RPT2*Lab: 2 hours*

Develops fundamental keyboarding skills necessary to input information on the computer terminal efficiently and accurately. This course is designed to meet the needs of data processing students and other individuals interested in developing computer keyboarding skills.

82 MICROCOMPUTER SOFTWARE SURVEY IN THE OFFICE (3) CSU RPT2*Lecture: 1 hour; Lab: 4 hours*

Introduction to office information systems and computer literacy by incorporating group discussions, research, and hands-on experience in a variety of windows applications. Software includes word processing, spreadsheets, databases, communications, graphics, desktop publishing, Operating Systems, scheduling, and the Internet.

84 MICROCOMPUTER APPLICATIONS: WORD PROCESSING (3) CSU RPT2*Lecture: 1 hour; Lab: 4 hours*

This comprehensive course using Word 2007 develops skills in creating professional documents with emphasis on planning and creating, editing, formatting, desktop publishing, form letters and mailing labels, styles, outlines, hyperlinks, e-mail, advanced table techniques, integration with other programs and the World Wide Web, and customizing and automating tasks.

85 MICROCOMPUTER OFFICE APPLICATIONS: SPREADSHEET (3) CSU RPT2*Lecture: 1 hour; Lab: 4 hours*

This comprehensive course using Excel 2007 develops skill in creating professional and powerful worksheets with emphasis on what-if-analysis and conditional functions; complex problem solving; auditing; scenario management; data validation; using VBA; macros; importing external data from text files – web pages – Access; creating static and dynamic web pages; linking Excel with Word; accessing real-time data using web queries; creating data tables and maps – pivot charts and tables; sharing and merging workbook.

86 MICROCOMPUTER OFFICE APPLICATIONS: DATA BASE (3) CSU RPT2*Lecture: 1 hour; Lab: 4 hours*

This comprehensive course using Access 2007 develops skills in creating and updating databases with emphasis on designing, creating, and/or using tables, reports, custom forms with OLE fields, hyperlinks, sub-forms, queries, validation rules, application systems using macros, wizards, and the switchboard manager, data access pages, and integrating Excel worksheet with Access tables.

88 MICROCOMPUTER OFFICE APPLICATIONS: DESKTOP PUBLISHING (3)*Lecture: 1 hour; Lab: 4 hours*

This course provides information and hands-on training in using state-of-the-art microcomputers, laser printers, and various desktop publishing software packages. Students will learn to produce camera ready, typeset quality reports, newsletters, business forms, and presentations.

**89 MICROCOMPUTER OFFICE APPLICATIONS:
BEGINNING AND ADVANCED DOS (3)**

Lecture: 1 hour; Lab: 4 hours

This course provides introductory and intermediate hands-on experiences to microcomputer operating systems using an IBM PC or compatible. The major components of MS/PC DOS, its command structure, terminology, interrelationships and dependencies of hardware, operating system, and application software are covered.

90 SCRIPT SHORTHAND II (SPEEDWRITING) (3)

Lecture: 3 hours

This is an intermediate course in speedwriting designed to follow principles of speedwriting shorthand and to develop a minimum dictation speed of 80 w.p.m. on new material and to develop transcription skill.

**98 MICROCOMPUTER OFFICE APPLICATIONS:
INTRODUCTION TO WINDOWS (3)**

Prerequisites: Business English 31

Lecture: 1 hour; Lab: 4 hours

Designed to prepare students to operate a computer in the Windows environment. This course covers elements of Windows including: Windows operation, disk and file management, modification and customization of the Windows environment, application of Windows accessories, WEB page design, and the Internet.

100 WINDOWS BASED COMPUTER APPLICATIONS (3) CSU

Lecture: 1.5 hours; Lab: 4.5 hours

This course provides computer hardware concepts and end-user software applications in a Windows environment including operating systems, Windows, word processing, spreadsheets, data bases, graphics, OLE, integration of applications, telecommunications with Internet, desk-top publishing, and presentation software.

101 HANDS-ON INTERNET (1) CSU

Lab: 2 hours

This course focuses on hands-on introduction to the World Wide Web and its components with emphasis on using traditional Internet services, news groups, electronic mail, and search engines to browse the Internet.

**103 ADVANCED WINDOWS BASED COMPUTER
APPLICATIONS (3) CSU**

Recommended Preparation: CAOT 82

Lecture: 1 hour; Lab: 4 hours

This course explores advanced end-user software applications in a Windows environment including advanced word processing, spreadsheets, databases, presentation software, desktop publishing, graphics, OLE, integration of applications, and telecommunications with the Internet.

114 ADOBE ACROBAT FOR THE OFFICE AND WEB (2)

Lecture: 1 hour; Lab: 2 hours

Adobe PDF (Portable Document File) is a workflow standard in most industries. Students will learn how to use Adobe Acrobat to create, review, and modify PDFs from Microsoft Office files, including Word and PowerPoint, as well as from Web pages. Emphasis is on the use of PDFs on the Web for various purposes, including creating multimedia presentations, adding interactive features, creating electronic forms, and adding electronic security to documents.

133 HOW TO SUCCEED IN AN ONLINE COURSE (1.5)

Lecture: 1 hour; Lab: 1 hour

This course is intended for students wishing to enroll for the first time in an online class. It covers the basic navigation of the online environment including how to post to forums, take quizzes, submit assignments, etc., as well as the soft skills needed to be successful in an online environment.

134 HOW TO TEACH AN ONLINE COURSE (1.5)

Lecture: 1 hour; Lab: 1 hour

This is a class that prepares instructors to use online components in both traditional classes and online classes and to use a common Course Management System to facilitate their course. This class will give instructors actual online class experience as students, expose them to pedagogy of online classes, and help them prepare their own course material.

COMPUTER INFORMATION SYSTEMS

PROGRAM OVERVIEW

The Computer Information Systems program is designed to prepare students for careers in exciting Information Technology fields such as programming, software engineering, database administration, computer networking, multimedia, and web technologies. Microcomputer usage continues to grow at an ever increasing pace as does the demand for workers with solid technical skills and knowledge of programming, networking, and website development and management. The primary goal of the program is to prepare students for entry-level employment as well as providing marketable career advancement knowledge and skills. Students with interest in transferring to an Information Systems program at four-year institutions should consult with the Counseling department for needed course work.

Computer programmers held about 460,000 jobs in 2008. Programmers are employed in almost every industry, but the largest concentration is in computer systems design and related services. Large numbers of programmers also work for telecommunications companies, software publishers, financial institutions, insurance carriers, educational institutions, and government agencies. Prospects should be best for college graduates with knowledge of, and experience working with, a variety of programming languages and tools – including C++ and other object-oriented languages such as Java, as well as newer, domain-specific languages that apply to computer networking, database management, and Internet application development. (Source: U.S. Bureau of Labor Statistics)

Upon successful completion of the program, students will be proficient in the use of current software application programs. They will be adept at integrating computer-based technology by applying both data and word processing aspects of information systems. They will understand how computers and software applications are utilized in today's information systems that support business decisions. Computer Information Systems personnel are involved in a variety of administrative, clerical, and accounting functions required to efficiently operate and maintain computerized business systems. This program leads to entry-level positions that maintain databases, manage projects, create presentations, and design, develop, and maintain websites. Typical positions are website creator, data entry/records clerk, computerized business systems supervisor, and self-employment.

COMPUTER INFORMATION SYSTEMS

■ Associate in Science Degree

Requirements for the Associate in Science degree in Computer Information Systems may be met by completing the required 21 units of courses listed below, with a grade of "C" or better. Students are also required to take 21 units of required CO INFO electives or related classes and 18 units of general education courses to meet the Plan B graduation requirements. Students planning to continue studies at a four-year institution should consult a counselor concerning a transfer curriculum.

REQUIRED CORE COURSES

	UNITS
CO INFO 700 Computer Concepts	3
CO INFO 701 Introduction to Computers and Their Uses	3
CO INFO 709 Object Oriented Programming	3
CO INFO 733 Microcomputer Data Base Programming	3
CO INFO 739 Programming in C ++	3
CO INFO 787 Network Essentials	3
BUS 1 Introduction to Business	3
TOTAL UNITS	21

CORE ELECTIVES

	UNITS
CIS 11 Network Security Fundamentals	3
CIS 035 Multimedia Presentations for the Internet I	3
CIS 734 Operating Systems	3
CIS 750 Dreamweaver Concepts and Techniques	3
CIS 757 Web Site Design	3
CIS 762 Web Scripting	3
CIS 790 Programming in JAVA	3
TOTAL UNITS	21

Note: The following related courses are acceptable as electives:

- Accounting I
- MicroTech 77, 78, 80, 160, 162, 164

CIS 12 Web Security	3
CIS 741 Programming Windows Applications in C++	3
CIS 743 Object-Oriented Programming in C++	3
CIS 770 Local Area Network Administration	3
CIS 771 Local Area Network Technical Support	3

COMPUTER INFORMATION SYSTEMS

■ Certificate of Completion

The Computer Information Systems Certificate of Completion is designed to prepare students for entry-level careers in exciting Information Technology fields such as entry-level programming, multimedia, and web technologies. Microcomputer usage continues to grow at an ever increasing pace as does the demand for workers with solid technical skills and knowledge of programming, and website development and management. The primary goal of the program is to prepare students for entry-level employment as well as providing marketable career advancement knowledge and skills.

Upon successful completion of the Certificate, students will have a background in the use of current software application programs. They will understand how computers and software applications are utilized in today's information systems that support business decisions. This program leads to entry-level positions that maintain databases, create presentations, and design, develop, and maintain websites. Typical positions are website creator and entry-level data entry/records clerk.

Requirements for the Computer Information Systems Certificate may be met by completion of the 21 units of core courses plus 18 units of Co Info electives or related courses listed under the Associate in Science degree requirement.

COMPUTER INFORMATION SYSTEMS

■ COURSE DESCRIPTIONS

11 NETWORK SECURITY FUNDAMENTALS (3)

Lecture: 3 hours

This course provides instruction and hands-on training in the following computer information systems concepts: Basic security principles, methods of establishing security baselines, and the most recent attack and defense techniques and technologies. It will also help prepare for CompTIA's examination and professional security certification.

12 WEB SECURITY (3) CSU

Lecture: 3 hours

This course is designed to educate users in the technologies, terms, and processes related to Internet Security. Methods for testing security and implementing proper defense measures are covered for both Linux and Windows Operating Systems.

35 MULTIMEDIA PRESENTATIONS FOR THE INTERNET I (3)

Lecture: 1.5 hours; Lab: 3 hours

This course examines the power of using the Internet as a presentation tool and includes Internet history, simple document conversion for the World Wide Web, use of FrontPage, PowerPoint, and Producer. Students will prepare presentations for the Internet by assembling ready-made digital audio, video, and images.

36 ORACLE DEVELOPMENT (3)

Lecture: 2 hours; Lab: 2 hours

Examines the process of analysis, design, and implementation of computer database systems as applied to business. Using Oracle Developer, project work will be assigned in table design and data retrieval missing SQL forms and report development.

100 COMPUTER WEB GRAPHICS APPLICATIONS (3) CSU

Lecture: 3 hours

This course develops skills necessary to digitally manipulate graphic images and text in industry standard multimedia computer applications. Emphasis is placed on creating graphics for web pages and applying design principles to web projects.

700 COMPUTER CONCEPTS (3) CSU

Lecture: 2 hours; Lab: 2 hours

This course provides an overview of computer concepts. It emphasizes the physical components of a computer system, an introduction to operating systems with emphases on Windows and DOS, and an introduction to programming concepts. It is intended for students who want to understand the basic concepts of both computer hardware and software.

701 INTRODUCTION TO COMPUTERS AND THEIR USES (3) UC:CSU*Lecture: 2 hours; Lab: 2 hours*

The student will be introduced to computer applications using Microsoft Office--Word, Excel, Access, and PowerPoint are covered. Also, the student will learn to integrate different applications, and understand the fundamentals of the Windows operating system.

709 VISUAL BASIC PROGRAMMING (3) UC:CSU*Lecture: 2 hours; Lab: 2 hours*

The course covers object oriented programming operations with the most commonly used objects of the Visual Basic programming system. The work of the class consists of projects that provide experience in the fundamental Visual Basic procedures. It is intended for students who want a general understanding of object oriented programming methods.

733 MICROCOMPUTER DATA BASE PROGRAMMING (3) CSU*(Formerly Computer Science 48)*

Recommended Preparation: CAOT 82 or CO INFO 707 or equivalent with a grade of "C" or better.

Lecture: 2 hours; Lab: 2 hours

The course covers fundamental operations with all of the basic objects of a database system. The Access system in the Microsoft Office Suite is used as a model. The work of the class consists of projects that provide experience in all of the common database procedures. It is intended for students who want a general understanding of database processing.

734 OPERATING SYSTEMS (3) CSU*Prerequisite: CO INFO 700 with a grade of "C" or better.**Lecture: 2 hours; Lab: 2 hours*

This course covers details of a Windows client operating system. It is designed to allow the student to work toward Microsoft Certification. It will concentrate on installing and configuring a client system in a network environment.

736 INTRODUCTION TO DATA STRUCTURES (3)*Lecture: 2 hours; Lab: 2 hours*

This course develops an understanding of data structures. Topics include use of pointers, lists, stacks, queues, linked-lists, trees, and binary trees. Search and sort algorithms are included. This class describes use of data structures, such as stacks, queues, trees, and linked-lists. It builds on the basics covered in CIS 739.

739 PROGRAMMING IN C++ (3) UC:CSU*(Formerly Computer Science 75)**Lecture: 2 hours; Lab: 3 hours*

This class provides an overview of computer programming in C++. It emphasizes the syntax and grammar of the language, problem solving methods, development of algorithms, the programming structures of sequence, selection, and loops, use of functions, arrays and strings, and how different data types work.

741 PROGRAMMING WINDOWS APPLICATIONS IN C++ (3) UC:CSU*Recommended Preparation: CO INFO 743 with a grade of "C" or better.**Lecture: 2 hours; Lab: 2 hours*

This is a continuation of Programming in C++. It uses the student's knowledge of C and introduces object-oriented analysis and design to create applications that interface with the Windows operating environment.

743 OBJECT-ORIENTED PROGRAMMING WITH C++ (3) UC:CSU*Recommended Preparation: CO INFO 739 with a grade of "C" or better.**Lecture: 2 hours; Lab: 2 hours*

This class provides an overview of computer programming in C++. It emphasizes the syntax and grammar of the language, problem solving

methods, development of algorithms, the programming structures of sequence, selection, and loops, use of functions, arrays and strings, and how different data types work.

750 DREAMWEAVER CONCEPTS AND TECHNIQUES (3)*Lecture: 2 hours; Lab: 2 hours*

This course covers concepts and techniques of the Dreamweaver system. It consists of projects that provide experience in the methods used to produce and modify documents for the World Wide Web.

757 XHTML PROGRAMMING APPLICATIONS (3) CSU*Recommended Preparation: CO INFO 701 with a grade of "C" or better.**Lecture: 2 hours; Lab: 2 hours*

The course covers the fundamental operations of the eXtensible HyperText Markup Language (XHTML) system. It consists of projects that provide experience in the methods used to produce and modify documents for the World Wide Web.

758 COMPUTER LITERACY (3) CSU*Lecture: 3 hours*

This class is intended for non-Co Info majors. It will give the student an understanding of computers: computer components, types of computers, Internet, business and home applications, using the operating system, computer security, ethics, and privacy.

762 JAVASCRIPT PROGRAMMING (3) CSU*Lecture: 2 hours; Lab: 2 hours*

This course covers the fundamental operations of the JavaScript system. It consists of projects that provide experience in the methods used to incorporate programming operations and procedures in web page design and maintenance.

770 LOCAL AREA NETWORK ADMINISTRATION (3) CSU*Recommended Preparation: CO INFO 787 with a grade of "C" or better.**Lecture: 2 hours; Lab: 2 hours*

This course will enable a student to administer a server-based network using state-of-the-art operating systems. The student will learn to administer the directory system, file and print resources, network infrastructure, monitor and trouble-shoot the network server.

771 LOCAL AREA NETWORK TECHNICAL SUPPORT (3) CSU*Recommended Preparation: CO INFO 770 with a grade of "C" or better.**Lecture: 2 hours; Lab: 2 hours*

Provides students with skills necessary to install, configure, customize, and troubleshoot Microsoft Windows NT, Windows NT, and Novell NetWare networks. It will help prepare for the Microsoft Certified Professional exams 70-073 and 70-067.

787 NETWORK ESSENTIALS (3) CSU*Recommended Preparation: CO INFO 700 with a grade of "C" or better.**Lecture: 2 hours; Lab: 2 hours*

The purpose of this course is to provide a baseline level of knowledge for success in industry and preparation for networking certifications. Students are exposed to new industry topics and get hands on experience networking the lab and configuring the network. Local area and Wide area networks are covered.

790 PROGRAMMING IN JAVA (3) UC:CSU*Recommended Preparation: CO INFO 739 with a grade of "C" or better.**Lecture: 2 hours; Lab: 2 hours*

This course covers the fundamental operations of the Java programming system. It consists of projects that provide experience in the methods used to create applets that will run in Internet web pages.

CHILD DEVELOPMENT

CHILD DEVELOPMENT

PROGRAM OVERVIEW

The Child Development Program offers several educational options. Potential students are encouraged to read carefully and decide which of these options best suits their goal before enrolling. Completion of each program leads to a Certificate, transfer option and/or an Associate in Arts degree. All child development classes are applicable to the State Child Development Permit.

The Child Development Program is designed to meet the needs of those students wishing to prepare for employment or who are currently employed in the field of Early Childhood Education. The curriculum prepares students to teach in programs for young children including: private facilities, parent-cooperative, Head Start, children's centers and infant/toddler or school age programs. Students with a background in Child Development are able to pursue professional opportunities in both the educational and business fields. With additional general education units and required experience the student will be eligible for the Child Development Permit as defined under Title 5. Meeting this requirement will enable the student to teach in federal and state preschool programs. (All Child Development courses require a minimum grade of a "C".)

CHILD DEVELOPMENT

■ Associate in Arts Degree

The Child Development courses required for the Associate in Arts degree provide training in infant and toddler care; working with school age children; supervising and administering childcare programs, and working with special needs children.

The need for qualified personnel to work with young children has risen over 100 % over the last 10 years. Early childhood centers are requiring teaching staff to have AA and BA degrees in Child Development. Los Angeles Universal Preschool is creating 5000 preschool spaces and so this requires highly qualified teaching staff with the college training in child development. [LAUP Feb 2006]. Students who complete this degree program will be proficient in methodology of working with young children through the extensive overview of theories and application of child development, development of curriculum and lesson planning techniques, ways to observe and record child behavior, and classroom management techniques

Planning Ahead:

Mantoux Test: Some Child Development courses may require you to obtain a Mantoux test for Tuberculosis. The college Health Center provides this service. Please call ahead for days and times the Health Center provides this service.

Criminal Clearance: In order to fulfill State licensing requirements for employment in private and public programs you must receive a Criminal Clearance to work with young children. Consult with faculty for additional information.

CPR Class: Your employer may require you to take a 15-hour Cardiopulmonary Resuscitation class. This class covers training on basic first aid for infants and children, CPR techniques as well as information on basic health and sanitation procedures.

CHILD DEVELOPMENT

■ Associate in Arts Degree – Plan A (Transfer)

Requirements for the Associate in Arts degree in Child Development may be met by completing the required courses below with at least 21 units in Child Development, 3 units in the core electives and 30 units of general education courses to meet the Plan A graduation requirements.

REQUIRED COURSES

	UNITS
CH Dev 1	Child Growth and Development 3
CH Dev 2*	Early Childhood Principles and Practices 3
CH Dev 3*	Creative Experiences for Children I 3
CH DEV 4*	Creative Experiences for Children II 3
CH DEV 10	Child Health 3
CH DEV 11	Home, School and Community 3
CH DEV 34*	Observing and Recording Children's Behavior 3
Core Electives	(Choose one from the list below) 3
TOTAL UNITS	24

CORE ELECTIVES- CHOOSE ONE

	UNITS
CH DEV 30*	Infant and Toddler Studies I 3
CH DEV 31*	Infant and Toddler Studies II 3
CH DEV 38*	Administration of Early Childhood Programs I 3
CH DEV 39*	Administration of Early Childhood Programs II 3
CH DEV 42*	The Child in a Diverse Society 3
CH DEV 46*	School Age Programs 3
CH DEV 65*	Adult Supervision/Early Childhood Mentoring 2
SOC 28	Sex Roles and Family Patterns 3

*These courses have a prerequisite

**Transfer students must coordinate their plan with the requirements of the college of transfer (see a counselor).

Graduation Requirements

Consult with a Counselor for general education requirements for an AA degree.

CHILD DEVELOPMENT

■ Associate in Arts Degree – Plan B

Requirements for the Associate in Arts degree in Child Development may be met by completing the required courses below with at least 37 units in Child Development, 9 units in core electives and 18 units of general education courses to meet the Plan B graduation requirement.

REQUIRED COURSES

		UNITS
CH DEV 1	Child Growth and Development	3
CH DEV 2*	Early Childhood Principles and Practices	3
CH DEV 3*	Creative Experiences for Children I	3
CH DEV 4*	Creative Experiences for Children II	3
CH DEV 10	Child Health	3
CH DEV 11	Home, School and Community	3
CH DEV 22*	Practicum in Child Development I	4
CH DEV 23*	Practicum in Child Development II	4
CH DEV 34*	Observing and Recording Children's Behavior	3
CH DEV 38*	Administration of Early Childhood Programs I	3
CH DEV 42*	The Child in a Diverse Society	3
CD Dev 65*	Adult Supervision/Early Childhood Mentoring	2
Core Electives	(Choose one from the list below)	9
TOTAL UNITS		46

CORE ELECTIVES

		UNITS
CH DEV 30*	Infant and Toddler Studies I	3
CH DEV 31*	Infant and Toddler Studies II	3
CD Dev 39*	Administration of Early Childhood Programs I	3
CD Dev 46*	School Age Programs	3
SOC 28	Sex Roles and Family Patterns	3

*These courses have a prerequisite

**Consult with a counselor for general education requirements for an AA degree.

CHILD DEVELOPMENT

■ Certificate of Completion - Preschool Teacher

With additional general education units and the requisite experience, students will be eligible for the Child Development Matrix Permit as defined under Title 5. Meeting this requirement will enable the student to teach in federal and state preschool programs. All courses must be completed with a grade of "C" or better.

REQUIRED COURSES

		UNITS
CH DEV 1	Child Growth and Development	3
CH DEV 2*	Early Childhood Principles and Practices	3
CH DEV 3*	Creative Experiences for Children I	3
– or –		
CH DEV 4*	Creative Experiences for Children II	3

CH DEV 10	Child Health	3
CH DEV 11	Home, School and Community	3
CH DEV 42*	The Child in a Diverse Society	3
CH DEV 22*	Practicum in Child Development I	4
CH DEV 23*	Practicum in Child Development II	4

PLUS ONE COURSE FROM THE FOLLOWING:		UNITS
CH DEV 30*	Infant and Toddler Studies I	3
CH DEV 31*	Infant and Toddler Studies II	3
CH DEV 38*	Administration of Early Childhood Programs I	3
CH DEV 46*	School Age Programs	3
TOTAL UNITS		32

*These courses have a prerequisite

CHILD DEVELOPMENT

■ Certificate of Completion - Preschool Associate Teacher

With completion of 15 units students will be eligible for the Child Development Matrix Permit as defined under Title 5. Meeting this requirement will enable the student to teach in federal and state preschool programs. All courses must be completed with a grade of "C" or better.

REQUIRED COURSES

		UNITS
CH DEV 1	Child Growth and Development	3
CH DEV 2*	Early Childhood Principles and Practices	3
CH DEV 11	Home, School and Community	3
CH DEV 34*	Observing and Recording Children's Behavior	3

PLUS ONE COURSE FROM THE FOLLOWING:		
CH DEV 3*	Creative Experiences for Children I	3
CH DEV 4*	Creative Experiences for Children II	3
TOTAL UNITS		15

*These courses have a prerequisite

CHILD DEVELOPMENT

■ COURSE DESCRIPTIONS

1 CHILD GROWTH AND DEVELOPMENT (3) UC:CSU

Lecture: 3 hours

This course studies children's development from conception through adolescent emphasizing the areas of physical, cognitive, and social/emotional growth. The course is designed to help expand students' understanding and lead to a more effective approach to adult-child relationships.

2 EARLY CHILDHOOD: PRINCIPLES AND PRACTICES (3) CSU*Prerequisite: CD 1 with a grade of "C" or better.**TB clearance required**Lecture: 3 hours*

A study of the history and development of pre-school education and the various philosophies and practices in effect today. A variety of programs are examined in relation to the needs of the child, the environment and the teacher. The role of the school in social, emotional, cognitive and physical development is stressed. Observations in schools to be arranged.

3 CREATIVE EXPERIENCES FOR CHILDREN I (3) CSU*Prerequisite: CD 2 with a grade of "C" or better.**Lecture: 3 hours*

A study of developmentally appropriate curriculum for young children. Course emphasis on promoting a creative environment that fosters children's physical, cognitive, and socio-emotional development, and provides basic principles of lesson planning. Creative activities in art & craft, play & drama, puppetry, blocks, music & movement are introduced.

4 CREATIVE EXPERIENCES FOR YOUNG CHILDREN II (3) CSU*Prerequisite: CD 2 with a grade of "C" or better.**Lecture: 3 hours*

A study of developmentally appropriate curriculum for young children. Course emphasis on promoting a creative environment that fosters children's physical, cognitive, and socio-emotional development and provides basic principles of lesson planning. Creative activities in language, math, science, social study, & cooking are introduced.

10 CHILD HEALTH, SAFETY AND NUTRITION (3) CSU*Advisory: Eng 21**Lecture: 3 hours*

This course provides information on common childhood diseases, first aid, environmental safety, nutrition and special health problems of children are covered in this course. Students are required to participate in and pass the American Red Cross Infant/Child CPR and First Aid Course.

11 HOME, SCHOOL AND COMMUNITY RELATIONS (3) CSU*Advisory: Eng 21**Lecture: 3 hours*

Designed to bring about understanding, appreciation, and cooperation between the school, the home, and the community. Methods of involving the community and utilizing its resources in the school situation are discussed. Factors relating to parent conferences, parent meetings, and parent involvement are covered.

22 PRACTICUM IN CHILD DEVELOPMENT I (4) CSU*Prerequisite: Child Development 3 and 4 with grade of "C" or better.**TB clearance required and approval of coordinator of fieldwork.**Lecture: 2 hours; Lab: 6 hours*

This course provides a supervised practicum experience in a school setting. Practical applications of child development theories and teaching techniques are emphasized.

23 PRACTICUM IN CHILD DEVELOPMENT II (4) CSU*Prerequisite: Child Development 22 with a grade of "C" or better.**TB clearance required and approval of coordinator of fieldwork.**Lecture: 2 hours; Lab: 6 hours*

This course provides a supervised practicum experience in a school setting. Practical applications of child development theories and teaching techniques are emphasized. An in-depth discussion of curriculum strategies for developmentally appropriate curriculum will be provided.

30 INFANT AND TODDLER STUDIES I (3) CSU*Prerequisite: CD 1 with a grade of "C" or better.**TB clearance required**Lecture: 3 hours*

A survey of infant/toddler development and educational programs currently available. Provides an overview of major theories, principles of care giving, environment design and observation opportunities. Satisfies Title 22 requirements for Infant Child Care Teachers.

31 INFANT AND TODDLER STUDIES II (3) CSU*Prerequisite: CD 30 with a grade of "C" or better.**TB clearance required**Lecture: 3 hours*

This course focuses on group care for infants and toddlers, including regulations, the role of the caregiver, the environment, positive relationships and appropriate experiences. Home visits, assessments, intervention and inclusion skills will be developed. Curriculum development and direct observation in an infant/toddler program are requirements.

34 OBSERVING AND RECORDING CHILDREN'S BEHAVIOR (3) CSU*Prerequisite: CD 1 with a grade of "C" or better. TB Clearance required**Lecture: 3 hours*

This course provides an in depth study of different observational methods for observing, recording, and interpreting young children's behavior. Diary, anecdotal, and other forms of written and oral observation methods will be used.

38 ADMINISTRATION AND SUPERVISION OF EARLY CHILDHOOD PROGRAMS I (3) CSU*Prerequisite: CD 2, 10, & 11 with a grade of "C" or better.**Lecture: 3 hours*

This course examines administrative principles and practices for early childhood programs. Topics covered include: licensing regulations, leadership skills, budget preparation and analysis, personnel management, parent involvement programs and community resources. Professionalism and quality standards are emphasized. The course partially fulfills licensing requirement for the director.

39 ADMINISTRATION AND SUPERVISION OF EARLY CHILDHOOD PROGRAMS II (3) CSU*Prerequisite: CD 38 with a grade of "C" or better.**Lecture: 3 hours*

This course provides training for the owner/operator of an early childhood education program. Administrative principles and practices are studied. Areas studies include organization, budgeting, personnel practices, reporting and maintaining of records; interrelationships of community resources, regulatory agencies and parents.

42 THE CHILD IN A DIVERSE SOCIETY (3) CSU*Co-requisite: CD 11 with a grade of "C" or better.**Lecture: 3 hours*

This course provides students with a framework of philosophies and principles of culturally relevant and anti-bias education to be used and applied in early childhood settings. The misconceptions that affect childcare and early childhood curriculum will be discussed and the development of cross-cultural competence, culturally responsible caregiving and teaching, and anti-bias curriculum will be emphasized.

44 PROGRAMS FOR CHILDREN WITH SPECIAL NEEDS I (3) CSU*Prerequisite: CD 45 with a grade of "C" or better.**TB Clearance required.*

This course is designed for students interested in specializing in or working with special needs. Instruction focuses on accommodating and adapting the physical environment, instructional strategies and curriculum to meet the needs of differently able children and their families

45 PROGRAMS FOR CHILDREN WITH SPECIAL NEEDS II (3) CSU*Prerequisite: CD 1 with a grade of "C" or better.*

This course is designed for students interested in working with children with special needs from preschool to school age. It will include a study of various programs for children with disabilities from a child development perspectives. It comprises of definitions, characteristics, legislation and educational implications.

46 SCHOOL AGE PROGRAMS I (3) CSU*Prerequisite: CD 1 with a grade of "C" or better.**Lecture: 3 hours*

The student will be introduced to the care of school age children. This course is designed for those currently working, or planning to work in before and after school child care. Students will develop age-appropriate curriculum, learn how to support the family and make use of community resources.

47 SCHOOL AGE PROGRAMS II (3) CSU*Prerequisite: CD 46 with a grade of "C" or better.**Lecture: 3 hours*

Introduction to before and after school age programs. Topics covered are guidance of child behavior, the child in context of the family, community and administration of programs. Hiring and supervision of staff, working with parents and marketing and advertising the school age program will be also covered.

60 INTRODUCTION TO FAMILY CHILD CARE I (1)*Prerequisite: None**Lecture: 1 hour*

This course is designed for family childcare providers and persons entering into the profession. Focus is placed on business and environmental considerations, age-appropriate activities for mixed age groups, communication with parents, and community resources.

61 INTRODUCTION TO FAMILY CHILD CARE II (1)*Prerequisite: None**Lecture: 1 hour*

This course focuses on the business aspects of family child care programs. This includes an overview of tax record keeping, marketing, legal and insurance aspects specifically related to the family child care business.

**62 DEVELOPMENTAL PROFILES: PRE-BIRTH THROUGH AGE EIGHT (1)***Prerequisite: None**Lecture: 1 hour*

This course defines concise profiles of physical, emotional, social and intellectual development from pre-birth through age eight. It also deals with key concepts in current child development literature.

63 CREATIVE CURRICULUM IN A FAMILY CHILD CARE SETTING (1)*Prerequisite: None**Lecture: 1 hour*

This course is designed for family child care providers and persons entering the profession. Emphasis is on play and creative experience in the home setting for children. Course includes dramatic play, manipulative, music, math, art, crafts, science, cooking, and language.

65 ADULT SUPERVISION/EARLY CHILDHOOD MENTORING (2) CSU*Prerequisite: Child Development 23 or 39 with a grade of "C" or better.**Lecture: 2 hours*

This course is a study of the methods and principles of supervising teachers and student teachers in early childhood classrooms. Emphasis is on role of experienced early childhood teachers who function as mentors to teachers while addressing needs of children, parents, and other staff.



COMMUNITY AND ECONOMIC DEVELOPMENT

COMMUNITY PLANNING AND ECONOMIC DEVELOPMENT

PROGRAM OVERVIEW

The Community Planning program at LATTC is the only program offered at an accredited community college in the United States. Our unique program provides students the knowledge and training needed for successful employment in the field of community and economic development. The community and economic development industry focuses on revitalizing low and moderate income communities. Rebuilding the economic, physical and social infrastructure of urban communities represents a new, growing and exciting career opportunity.

Students can learn basic planning terminology, development strategies, and other technical skills needed to enter the industry, earning a Certificate of Completion in two semesters. Students who want to further develop their skills and advance their careers in the community planning and economic development field while earning a college degree can do so by completing the requirements for an Associate in Arts degree.

The Community Planning curriculum and courses are regularly reviewed and refined to ensure that courses are relevant, industry appropriate and cutting-edge. Industry experts and professionals develop, design and teach our courses. Our industry partnerships provide critical resources for our students, providing them with invaluable employment, volunteer, internship and networking opportunities. Our courses are structured to be laboratories that combine lecture, project driven learning and hands-on application of knowledge to contemporary issues affecting communities. Community planning courses are taught during the evening/weekends on campus, online and in the community to provide students with the greatest range of educational opportunities.

The Community Planning program is designed as the entry point for students wanting to begin a rewarding career in the community and economic development industry by working to build livable communities. Community development specialists are needed to help local residents, government and businesses solve complex neighborhood problems. Community developers work in community-based organizations; banks, city, state and federal governments; foundations; real estate development companies; social service agencies; job training and placement organizations; investment firms; and think tanks.

The community and economic development industry has three main goals. First, to change the economy of a community for the better increasing the income and wealth of residents and stimulating investments in the community, while placing assets and economic opportunities in the hands of resident leaders. A second goal is to improve the physical nature of the neighborhood, from its housing to its shopping areas, transportation, public spaces, and environment. The third is to strengthen the social bonds among residents and strengthen the infrastructure in communities – organizing the community,

The community and economic development industry allows individuals to improve the quality of life in communities while getting paid competitive salaries. Many community developers begin with community organizing and transition to housing and workforce development as a natural growth of the industry. The skills and knowledge learned in the Community Planning program allow students to be marketable in the non-profit and for-profit corporations. Companies and organizations are interested in hiring individuals that have solid skills and a good understanding of the problems and conditions facing low and moderate income cities across the country.

COMMUNITY PLANNING AND ECONOMIC DEVELOPMENT

■ Associate in Arts Degree

The Associate in Arts degree in Community Planning and Economic Development consists of three basic components as follows:

- Completion of 18 general education units from "Graduation Plan B"
- Completion of 30 units in COMPLAN from list of CORE COURSES
- Completion of 12 units in one of the 3 Community Planning CORE ELECTIVE components

In addition, all COMPLAN major students must successfully complete a minimum of 30 units from the list of core courses below:

CORE COURSES

		UNITS
BUS 5	Business Law	3
BUS 33	Technical Report Writing	3
CAOT 82	Introduction to Computers	3
COMPLAN 1	Introduction to Community Economic Development	3
COMPLAN 2	Introduction to Community Organizing	3
COMPLAN 3	Introduction to Affordable Housing	3
COMPLAN 6	Non-Profit Management	3
COMPLAN 11	Professional Development Skills and Issues	3
COMPLAN 12	Funding Basics for Non-profit Organizations	1
COMPLAN 22	Strategic Media and Communications for Organizing	1
COMPLAN 15	Introduction to the Community Economic Development Industry	1
COMPLAN 185, or 285, or 385	Directed Study	1
CO INFO 758	Computer Literacy	3
LABR ST 108	Economics for Workers	1
LABR ST 121/122	Labor Communications I or II	1
JOURNALISM 101	Collecting and Writing News	3
TOTAL UNITS		30

Note: Some classes may only be offered once during the academic year. Please check the COMPLAN office (Building "C" room 210) so that you can schedule your time accordingly.

Student must successfully complete 12 units of core elective courses from one of the three COMPLAN specialized component areas. Students interested in taking courses from multiple component areas must speak to the Community Planning program director prior to taking the course.

CORE ELECTIVES

ECONOMIC DEVELOPMENT COMPONENT

(12 units from this area)

	UNITS
MGMT 2 Small Business Management	3
MARKET 21 Marketing	3
COMPLAN 9 Commercial Real Estate Development	3
COMPLAN 30 Market Research Tools for Economic Development	3
COMPLAN 50 Practical Multi-family/Apartment Management	3
COMPLAN 200 Strategic Planning and Management Training for Economic Development Executives	3

COMMUNITY ORGANIZING/SOCIAL DEVELOPMENT COMPONENT

(12 units from this area)

	UNITS
COMPLAN 4 School-Based Community Organizing/ Development	3
COMPLAN 7 Popular Education Techniques	3
COMPLAN 10 Comprehensive Community Violence Prevention Strategies	3
COMPLAN 32 Community Building Principles and Strategies	1
COMPLAN 33 Community Engagement Principles and Strategies	1
COMPLAN 35 Health Leadership and Community Development	3

PHYSICAL/BUILT ENVIRONMENT/REAL ESTATE DEVELOPMENT COMPONENT

(12 units from this area)

	UNITS
REAL ES 1 Real Estate Principles	3
REAL ES 7 Real Estate Finance	3
ECONENG 113 Construction Contract Law	3
ARCTECH 124 Building Codes	3
CRPNTRY 243 Building Estimating	3
CRPNTRY 245 Homeowner Maintenance and Repair	3

COMMUNITY PLANNING AND ECONOMIC DEVELOPMENT

■ Certificate of Completion

A Certificate of Completion in Community Planning and Economic Development can be earned by the successful completion of a total of 21 units from the following community planning components. A total of 6 units must be completed in each development component area and 3 units in professional development area – economic, community organizing/social, physical/built environment/real estate and professional development.

REQUIRED COURSES

ECONOMIC DEVELOPMENT COMPONENT

(Complete 6 units from component)

	UNITS
COMPLAN 1 Introduction to Community Economic Development	3
COMPLAN 6 Non-Profit Management	3
COMPLAN 36 Introduction to Applied Community Development Research	3

COMMUNITY ORGANIZING AND SOCIAL DEVELOPMENT COMPONENT

(Complete 6 units from component)

	UNITS
COMPLAN 2 Introduction to Community Organizing	3
COMPLAN 4 School-Based Community Organizing/Development	3
COMPLAN 6 Non-Profit Management	3
COMPLAN 7 Popular Education	3
COMPLAN 10 Comprehensive Violence Prevention Strategies	3
COMPLAN 35 Health Leadership and Community Development	3
COMPLAN 32 Community Building Principles and Strategies	1
COMPLAN 33 Community Engagement Principles and Strategies	1

PHYSICAL/BUILT ENVIRONMENT AND REAL ESTATE COMPONENT

(Complete 6 units from component)

	UNITS
COMPLAN 3 Introduction to Affordable Housing Development	3
MORTFIN 52 Fair Housing and Fair Lending	3
COMPLAN 9 Commercial Real Estate Development	3

PROFESSIONAL DEVELOPMENT

(Complete 3 units from component)

	UNITS
CAOT 82 Computer Applications and Office Technologies	3
CO INFO 701 Computer Information Systems	3
COMPLAN 11 Professional Development Skills and Issues and Community Development	3
COMPLAN 15 Introduction to the Community Economic Development Industry	1
BUS 33 or JOURNALISM 101, ENGLISH 28, ENGLISH 101 or another writing course approved by department.	3
BUS 5 Business Law	3
TOTAL UNITS	21

COMMUNITY PLANNING AND ECONOMIC DEVELOPMENT

■ COURSE DESCRIPTIONS

1 INTRODUCTION TO COMMUNITY ECONOMIC DEVELOPMENT (3) CSU

Lecture: 3 hours

Introduction to the theory, history, and practice of community development as an anti-poverty strategy. The course covers neighborhood development strategies; land-use and real estate development; and business and labor force development strategies to revitalize low-income neighborhoods. The course is also offered as three modules that run concurrently with the full course. Students who prefer to take only one or two modules must enroll separately in each of the desired section(s) as follow.

1A NEIGHBORHOOD DEVELOPMENT STRATEGIES (1) CSU

Lecture: 1 hour

This module introduces students to six major community development methods: real estate, business development, capital formation, import substitution, labor force development, and comprehensive community strategies.

1B LAND-USE AND REAL ESTATE DEVELOPMENT (1) CSU

Lecture: 1 hour

This module exposes students to zoning, land planning, and the fundamentals of housing, commercial, and industrial development.

1C BUSINESS AND LABOR FORCE DEVELOPMENT (1) CSU

Lecture: 1 hour

This module compares traditional and contemporary approaches to strengthening the business environment and to creating jobs for low income populations.

2 INTRODUCTION TO COMMUNITY ORGANIZING (3) CSU

Lecture: 3 hours

This course focuses on community organizing -- effort by people working together to improve their neighborhoods and cities. The course helps prepare you to become professional organizers, community developers, and effective citizen leaders. It explores the history, theory, and different approaches to grassroots organizing. This course is offered as three modules that run concurrently with the full course. Students who prefer to take only one or two of these modules must enroll separately in each of the desired sections as follows.

3 INTRODUCTION TO AFFORDABLE HOUSING DEVELOPMENT (3) CSU

Lecture: 3 hours

Students will become familiar with affordable housing policies, dilemmas, products, and strategies. Students will also develop a working knowledge of the housing development process, including pre-development and land acquisition phase, housing financing, design/constructions, and to property management issues.

4 SCHOOL BASED COMMUNITY DEVELOPMENT APPROACHES (3) CSU

Lecture: 3 hours

This course focuses on critical community development issues in school reform in Los Angeles. The goal is to facilitate the student's understanding of the relationship between school outcomes and community self-sufficiency. The course is organized to draw on the student's own experiences, cutting edge policy research, and best practices in school reform organizing.

6 MANAGING NON-PROFIT ORGANIZATIONS (3) CSU

Lecture: 3 hours

This course deals with the organizational opportunities and challenges facing directors and managers of public and non-profit agencies and organizations. Students will learn organizational development, financial management and proposal writing, and diversity strategies in management and outreach.

7 POPULAR EDUCATION AND ORGANIZING (3) CSU

Lecture: 3 hours

This course deals with citizen education through service-based organizations and in community organizing. The topics covered in the course are: an examination of current context for service and organizing work in L.A.; a review of current teaching methods and materials used in popular education projects, and development of participatory teaching methods and client generated materials.

9 COMMERCIAL REAL ESTATE DEVELOPMENT (3) CSU

Lecture: 3 hours

The course teaches the fundamentals of inner city retail and commercial development. Among the competencies learned are: commercial prototypes, retail market analysis, site and financial feasibility, financing, tenant improvements, operating and managing retail centers.

10 COMPREHENSIVE COMMUNITY VIOLENCE PREVENTION STRATEGIES (3) CSU

Lecture: 3 hours

The course prepares students for work in the field of community violence prevention. Students will learn to analyze root causes of youth and community violence and will become familiar with a variety of community development strategies to reverse those conditions. The course will also cover strategies for building community collaborations to engage youth, parents, community organizations, public sector agencies, schools, law enforcement agencies, and businesses in a comprehensive effort to prevent youth and community violence.

11 PROFESSIONAL DEVELOPMENT SKILLS AND ISSUES IN COMMUNITY DEVELOPMENT (3) CSU

Lecture: 3 hours

Students will learn to identify and understand a variety of personal and professional management strategies used by professionals in community development corporations, community-organizing networks, community-based organizations, and other non-profit sector organizations. Students will work with faculty to assess their current skills and capacities and to develop a personal and professional development plan to prepare for work as community development professionals.

12 FUNDRAISING BASICS FOR NONPROFIT ORGANIZATIONS (1) CSU

Lecture: 1 hour

This course provides students with a basic understanding of fund development concepts applied to Non-profit organizations. Students will become familiar with the language of fund raising, understand the differences between public and private sector funding. In addition students will learn how to put together proposal plans and learn about approaches that can help organizations achieve their revenue goals.

15 INTRODUCTION TO THE COMMUNITY DEVELOPMENT INDUSTRY AND CAREERS (1) CSU

Lecture: 1 hour

Students are introduced to the community and economic development industry, baseline skills required, positions and a basic terminology for the purpose of exploring both a professional and/or academic careers in the field.

17 LEADERSHIP DEVELOPMENT AND SKILL BUILDING (3)

Lecture: 3 hours

The course will teach students to define leadership and examine leadership approaches in which all members of society play pivotal roles in improving the quality of life in low-income communities. Students will demonstrate multicultural appreciation and have the confidence to see themselves as community change agents.

18 CAREER AND EDUCATION EXPLORATION (3)*Lecture: 3 hours*

The course will teach students to define leadership and examine leadership approaches in which all members of society play pivotal roles in improving the quality of life in low-income communities. Students will demonstrate multicultural appreciation and have the confidence to see themselves as community change agents.

22 STRATEGIC MEDIA AND COMMUNICATIONS FOR ORGANIZING (1) CSU*Lecture: 1 hour*

This course will help students to become familiar with the current theories and methods used to devise a media campaign to advance a specific agenda and/or redefine the parameters of an issue in the market place of public opinion.

30 MARKET RESEARCH TOOLS FOR THE ECONOMIC DEVELOPMENT (3)*3 hours*

This course is specifically designed for professionals in community economic development organizations who provide technical assistance to small businesses. This hands-on course will provide professionals with the tools needed to assess client needs and develop and implement effective market research and marketing plans for small businesses.

32 COMMUNITY BUILDING PRINCIPLES AND STRATEGIES (1) CSU*Lecture: 1 hour*

This course provides students with a basic understanding of community building principles, strategies and tools for community and economic development. The course is taught in a training/workshop format where students work in small groups to apply classroom lessons to the development of community building processes, addressing key neighborhood issues.

33 COMMUNITY ENGAGEMENT PRINCIPLES AND STRATEGIES (1) CSU*Lecture: 1 hour*

This course provides students with a basic understanding of community engagement principles, strategies and tools for community and economic development. Students will develop outreach strategies that include planning, networking, canvassing and connecting with local residents.

35 HEALTH LEADERSHIP AND COMMUNITY DEVELOPMENT (3) CSU*Lecture: 3 hours*

This course provides students with a basic understanding of the health disparities and conditions affecting low-income, inner-city communities and the leadership skills and strategies required to improve them. Students are exposed to different types of community development strategies that incorporate policy development, community organizing and education to change the quality of health services, and resources, directed to low-income communities.

36 INTRODUCTION TO APPLIED COMMUNITY DEVELOPMENT RESEARCH (3)*Lecture: 3 hours*

This course provides students with a basic understanding of community-based research principles, tools and strategies. The course is taught in a training/workshop format where students will work in small groups to apply classroom lessons to investigate local community issues, such as transportation, environment and economic health. Topics covered include participatory action research theory and methodology, history of Los Angeles, mobility issues in urban settings, sources and impacts of pollution and income and wealth inequality.

37 LEADERSHIP DEVELOPMENT: EFFECTIVE STRATEGIES FOR BUILDING THE CAPACITY OF INDIVIDUALS (1) CSU*Lecture: 1 hour*

This course is intended for those individuals that want to improve their leadership skills as well as work to build the leadership skills of residents in low-income communities. The course explores different philosophies and approaches to leadership development, roles, responsibilities and application. Students will also learn how to build a base of community leaders using the recruitment, training and retention strategies developed in the course.

38 DEVELOPING SOCIAL NETWORKS FOR COMMUNITY BUILDING (1)*Lecture: 1 hour*

The course examines the value of developing social networks in the process of community building. The course examines strategies for collaboration, collective problem solving, identification of neighborhood assets and developing support mechanisms across sectors of development.

39 PREVENTION WORKS! A COST-BENEFIT ANALYSIS TOOL TO IMPROVE COMMUNITIES (1) CSU*Lecture: 1 hour*

This course is designed for professionals in community-based organizations. Course will provide students with the tools necessary to frame the debate around resource allocation and help answer a fundamental policy question: what programs or services yield the greatest health benefits? Students in this course will use the cost-benefit analysis tool to evaluate health and personal lifestyle choices, crime prevention, education and job training, and disaster preparedness.

40 NON-PROFIT PROGRAM DESIGN AND DEVELOPMENT (2)*Lecture: 2 hours*

This course guides students to design a program and services that are highly integrated with an organization's mission, vision and values. Topics included program goals, outcomes, strategies, and objectives. Students will also learn about service delivery, work plan creation, timeline and the similarities of program development with a business plan.

41 TIME MANAGEMENT SKILLS FOR COMMUNITY DEVELOPMENT SPECIALISTS (1)*Lecture: 1 hour*

This course teaches participants to set priorities as the first step in learning how to manage time effectively. In addition, participants learn techniques to create a more efficient workplace, including developing strategies for skill improvement with respect to scheduling, analyzing, planning, avoiding procrastination, and handling interruptions.

42 EVALUATING COMMUNITY BASED PROGRAMS (1)*Lecture: 1 hour*

This course provides students with a basic understanding of the principles and purpose of evaluation in community based organizations. This course is taught in a lecture format that infuses real world examples with group work where students will learn about evaluation methods, database management and practical application.

50 PRACTICAL MULTI-FAMILY/APARTMENT MANAGEMENT (3) CSU*Lecture: 3 hours*

This course will provide students with an understanding of the necessary legal and practical aspects of apartment management, primarily focusing on building with 8+ units.

52 FAIR HOUSING AND FAIR LENDING (3) CSU*Lecture: 3 hours*

This course covers the history of discrimination, along with federal and state regulations as they pertain to correcting discriminatory lending practices. Students will learn about regulatory agencies and their oversight of financial institutions. (This course is identical to Mortgage Finance 52. Students must complete a petition to officially substitute Mortgage Finance 52 with

Community Planning 52 as part of their fulfillment of the requirements for a Certificate of Completion and Associate in Arts degree in Mortgage Finance.)

61 EMERGENCY PREPAREDNESS AND DISASTER MANAGEMENT (3) CSU

Lecture: 3 hours

This course will prepare students to effectively create an emergency preparedness plan in the wake of a natural disaster. Students will analyze current disaster management plans and evaluate previous disaster responses. Topics include, planning, preparing, recovering after a disaster, locating existing resources for disaster relief and emergency preparedness, and dealing with trauma after a disaster.

65 COMMUNITY-BASED HEALTH POLICY ADVOCACY (3)

Lecture: 3 hours

The course examines the history and results of grassroots health policy campaign efforts that have successfully shifted public consciousness about serious public health issues; how social movements develop and advance. Students will gain understanding about the importance and limits of public participation in policy development and implementation.

70 INTRODUCTION TO SMALL PROJECT REAL ESTATE (3)

Lecture: 3 hours

Students learn how to develop a small-scale residential or mixed-use project (250 to 10,000 square feet). Topics include how to assemble a project team; roles and responsibilities of the owner, architect, engineer, contractor, attorney, and lender; the RFQ and RFP process; hard and soft development costs; an overview of project phases, including planning, preconstruction, and construction budgets; scheduling and the critical path; an overview of municipal agency requirements, including filing permits and the certificate of occupancy; and required insurances. Project based case study method is used. The course will focus on site selection, project finance, design management, construction issues and relevant community development issues of a project.

71 GREEN BUILDING BASICS FOR DEVELOPERS (2) CSU

Lecture: 2 hours

Green Building Basics for Developers is a non-technical course introducing community development practitioners, small contractors and individuals to the laws, strategies, practices, pros and cons of developing environmentally healthy buildings and projects. Students will learn the basics to plan, develop and guide a sustainable project, and the appropriate delivery system for green building. In order to remain competitive, developers and small businesses must understand the laws, requirements and opportunities related to the new green economy.

72 INTRODUCTION TO LOW INCOME HOUSING TAX CREDIT FINANCE (3)

Lecture: 3 hours

This course covers all basic information and the latest developments in the low income housing tax credit program: how the program operates; role of state housing credit agencies; the amount of tax credits and how they provide dollars for housing; raising investment equity through syndication; developers and investors; structuring the ownership of a tax credit project; non-profits, housing authorities, and government agencies as developers; the types of tax credit.

200 STRATEGIC PLANNING AND MANAGEMENT TRAINING FOR ECONOMIC DEVELOPMENT EXECUTIVES (3)

Lecture: 3 hours

This is a hands-on course for executives of community economic development organizations who want to learn the fundamentals of strategic business planning, practice their new tools and develop documents for their own organizations. The content of this course is geared towards individuals with 2-3 years of professional experience and whose organizations provide assistance to small businesses.

201 FINANCIAL MANAGEMENT ASSISTANCE FOR SMALL BUSINESSES: FOR ECONOMIC DEVELOPMENT PROFESSIONALS (3)

Lecture: 3 hours

This course focuses on developing the knowledge and capacity of individuals working in the community development and small business assistance industry. The course will provide the tools and information necessary to improve the opportunities for small business and community development organizations the ability to be successful, sustainable, apply a business framework with clear benchmarks and outcomes.

202 EFFECTIVE HUMAN RESOURCES MANAGEMENT FOR SMALL BUSINESS ASSISTANCE PROVIDERS (3)

Lecture: 3 hours

This course offers executive directors of community economic development organizations the opportunity to learn the fundamentals of strategic human resources management for non-profit organizations. This is a hands-on course in which students get the opportunity and guidance needed to formulate strategies and create specific plans for their own organizations. The content of this course is geared toward individuals with 2-3 years of professional experience and whose organizations provide assistance to small businesses and non-profit organizations.

203 MARKETING AND COMMUNICATIONS PLANNING FOR BUSINESS DEVELOPMENT ORGANIZATIONS (3)

Lecture: 3 hours

This course offers executive directors at community economic development organizations the opportunity to learn the fundamentals of strategic marketing and communications for non-profit organizations. This is a hands on course in which students get the opportunity and guidance needed to formulate strategies and create specific plans for their own organizations. The content of this course is geared toward individuals with 2-3 years of professional experience and whose organizations provide assistance to small businesses.

MORTGAGE FINANCE

PROGRAM OVERVIEW

The LATTC Mortgage Finance program is one of three programs nationwide created for the purpose of developing a pipeline of well-trained and diverse workers for the mortgage finance industry. As part of the Community & Economic Development Department, the Mortgage Finance Program focuses its education and training on the wealth and asset building of its students (both as consumers and workers) and the inner city communities it serves. In recent years, the program has been expanded to address consumer education needs around financial and credit management, homeownership, and general asset building. The Mortgage Finance program continues to develop a robust and comprehensive offering of education and training that serves consumers, students preparing to enter the mortgage industry and current mortgage professionals.

Our unique program provides students the knowledge and training needed for successful employment, career advancement, and professional development in the residential mortgage and real estate industry. Our courses are organized into three tracks: 1) consumer education; 2) core Mortgage Finance courses; and 3) professional development/continuing education. Our consumer education classes consist of credit (tuition) and non-credit (free) courses to accommodate the different needs of students. Our courses are scheduled to accommodate the working person, therefore, the majority of our courses are taught in the evening, weekends, online, hybrid online, or as one-day seminars. The Mortgage Finance curriculum is regularly reviewed

and refined to ensure the courses are relevant, appropriate and cutting-edge – providing our students with the necessary skills and knowledge to be successful in the industry and remain at the top of their profession.

Industry leaders participate in the Mortgage Finance Industry Advisory Board and help guide the development of new curriculum, teach courses, recruit instructors and mentors, assist with internships and employment of our students, provide industry training and network opportunities, and provide resources for the program. Our industry partners include mortgage bankers, mortgage brokers, non-profit housing counselors, federal regulators, bankers, and realtors.

The Mortgage Finance program offers a wide variety of educational credentials ranging from skills certificates to an Associate in Arts degree. Students can take a one-day seminar on a specialized training subject or our full curriculum for their A.A. degree. Students can earn a skills certificate in one semester to get them started in the industry. Many students and professionals return to take classes for specialized training or to earn their A.A. degree to complement their professional skills and career. The curriculum is flexible and diverse, with something for everyone. Courses focus on practical skill building that will facilitate student success in the mortgage finance, real estate, and financial services fields as well as in related occupations and industries that demand similar skills of their workforce.

MORTGAGE FINANCE (PLAN A-TRANSFER)

■ Associate in Arts Degree

The Plan A program is appropriate for those students that wish to earn a bachelor's degree and continue their education by transferring to a four-year college or university. Most students who earn their Associate in Arts degree in Mortgage Finance – Plan A major in business and finance while attending a four-year college or university. Requirements for the Plan A program may be met by completing a total of 60 units, consisting of 24 units of core courses, 6 units of approved electives, and 30 units of general education courses.

	UNITS
Core Courses	24
Approved Electives	6
General Education Courses	30
TOTAL UNITS	60

REQUIRED MAJOR COURSES

Required major courses consist of 24 units of core courses and 6 units of approved electives.

CORE COURSES

	UNITS
MORTFIN 36 Intro to Financial and Credit Management	1
MORTFIN 50 Mortgage Finance Fundamentals	3
MORTFIN 52 Fair Housing and Fair Lending	3
MORTFIN 54 Diversity Awareness Customer Service	3
MORTFIN 56 Homeownership and Community Lending	3
MORTFIN 60 Technology Applications in Mortgage Finance	3
MORTFIN 64 Introduction to Loan Sales and Origination	3
MORTFIN 102 Train-the-Trainer in Financial and Homebuyer Education	2
COMPLAN 1 Intro to Community Economic Development	3
TOTAL UNITS	24

APPROVED ELECTIVES

	UNITS
ACCTG 1 Introductory Accounting 1	5
ACCTG 2 Introductory Accounting 2	5
BUS 1 Introduction to Business	3
BUS 5 Business Law 1	3
COMPLAN 3 Intro to Affordable Housing Development	3
COMPLAN 6 Intro to Non-Profit Management	3
COMPLAN 9 Commercial Real Estate Development	3
ECON 1 Principles of Economics 1	3
ECON 2 Principles of Economics 2	3
MKTG 1 Principles of Selling	3
MORTFIN 23 Homebuyer Education – FastTrack	0.5
MORTFIN 25 Homeownership Education	1
MORTFIN 27 Post-Purchase & Asset Protection Education	0.5
MORTFIN 31 Intro to Mortgage Finance Careers and Industry	1
MORTFIN 32 Applied Computations in Mortgage Finance	2
MORTFIN 33 Mortgage Finance Calculator	1
MORTFIN 185, 285, 385 - Directed Studies	1-3
MORTFIN 202 Effective Residential Mortgage Sales Strategies for Emerging Inner City Markets	.5
MORTFIN 203 Understanding & Tapping Emerging Inner City Markets	.5
MORTFIN 204 Understanding & Using Residential Subsidies for Emerging Inner City Markets	.5
MORTFIN 205 Consumer Protection Issues in Mortgage Finance & Homeownership	.5
MORTFIN 206 Using the Right Partners in Emerging Inner City Markets	.5
MORTFIN 207 Understanding Real Estate & Loan Documents Required to Close Transactions	.5
REALEST 1 Real Estate Principles	3
REALEST 3 Real Estate Practices	3
TOTAL UNITS	6

MORTGAGE FINANCE (PLAN B)

■ Associate in Arts Degree

Plan B is appropriate for those students that view their Mortgage Finance AA degree as providing all the education and training they need to prepare them for a successful career in Mortgage Finance. Requirements for the Associate in Arts degree in Mortgage Finance - Plan B may be met by completing a total of 60 units, consisting of 30 units of core courses, 12 units of approved electives, and 18 units of general education courses.

	UNITS
Core Courses	30
Approved Electives	12
General Education Courses	18
TOTAL UNITS	60

REQUIRED MAJOR COURSES

Students are required to complete the following 30 units of core courses and 18 units of approved electives.

CORE COURSES

		UNITS
MORTFIN 36	Intro to Financial and Credit Management	1
MORTFIN 50	Mortgage Finance Fundamentals	3
MORTFIN 52	Fair Housing and Fair Lending	3
MORTFIN 54	Diversity Awareness Customer Service	3
MORTFIN 56	Homeownership and Community Lending	3
MORTFIN 60	Technology Applications in Mortgage Finance	3
MORTFIN 64	Introduction to Loan Sales and Origination	3
MORTFIN 102	Train-the-Trainer in Financial and Homebuyer Education	2
COMPLAN 1	Intro to Community Economic Development	3
REALEST 1	Real Estate Principles	3
REALEST 3	Real Estate Practices	3
TOTAL UNITS		30

APPROVED ELECTIVES

		UNITS
ACCTG 1	Introductory Accounting 1	5
ACCTG 2	Introductory Accounting 2	5
ACCTG 21	Bookkeeping and Accounting 1	3
BUS 1	Introduction to Business	3
BUS 5	Business Law 1	3
COMPLAN 3	Intro to Affordable Housing Development	3
COMPLAN 6	Intro to Non-Profit Management	3
COMPLAN 9	Commercial Real Estate Development	3
MKTG 1	Principles of Selling	3
MORTFIN 23	Homebuyer Education – FastTrack	0.5
MORTFIN 25	Homeownership Education	1
MORTFIN 27	Post-Purchase & Asset Protection Education	0.5
MORTFIN 31	Intro to the Mortgage Finance Industry and Careers	1
MORTFIN 32	Applied Computations in Mortgage Finance	2
MORTFIN 33	Mortgage Finance Calculator	1
MORTFIN 185, 285, 385 Directed Studies		1-3
MORTFIN 202	Effective Residential Mortgage Sales Strategies for Emerging Inner City Markets	.5
MORTFIN 203	Understanding & Tapping Emerging Inner City Markets	.5
MORTFIN 204	Understanding & Using Residential Subsidies for Emerging Inner City Markets	.5
MORTFIN 205	Consumer Protection Issues in Mortgage Finance & Homeownership	.5
MORTFIN 206	Using the Right Partners in Emerging Inner City Markets	.5
MORTFIN 207	Understanding Real Estate & Loan Documents Required to Close Transactions	.5
REALEST 5	Legal Aspects of Real Estate 1	3
REALEST 7	Real Estate Finance 1	3
REALEST 9	Real Estate Appraisal 1	3
REALEST 11	Fundamentals of Escrow	3
TOTAL UNITS		12

MORTGAGE FINANCE (PLAN B)

■ Certificate of Completion

Upon earning a Certificate of Completion in Mortgage Finance, students will have a good understanding of the mortgage finance industry, knowledge of mortgage finance concepts and terminology and the skills to complete residential mortgage calculations needed for entry-level jobs in the mortgage finance and real estate industry. The curriculum for the Mortgage Finance Certificate is designed to provide students with a solid foundation for entry into the industry and for continuing their education and professional development.

REQUIRED COURSES

Students are required to complete the following 24 units of courses:

		UNITS
MORTFIN 25	Homebuyer Education	1
MORTFIN 31	Intro to Mortgage Finance Careers and Industry	1
MORTFIN 32	Applied Computations in Mortgage Finance	2
MORTFIN 33	Mortgage Finance Calculator	1
MORTFIN 36	Intro to Financial and Credit Management	1
MORTFIN 50	Mortgage Finance Fundamentals	3
MORTFIN 52	Fair Housing and Fair Lending	3
MORTFIN 54	Diversity Awareness Customer Service	3
MORTFIN 56	Homeownership and Community Lending	3
MORTFIN 60	Technology Applications in Mortgage Finance	3
COMPLAN 1	Intro to Community Economic Development	3
TOTAL UNITS		24

MORTGAGE FINANCE

■ COURSE DESCRIPTIONS

20 PERSONAL MONEY MANAGEMENT & ASSET BUILDING (1)

Lecture: 1 hour

This course is geared towards consumers that want to learn the basics of money management, credit, banking, and asset building products, programs, and strategies. This class provides students with the essential tools to prepare, manage and grow their finances and credit that can help them achieve many of their goals such as gain employment, purchase a car and home, and build wealth.

23 HOMEBUYER EDUCATION – FAST TRACK (0.5)

Lecture: 0.5 hour

Students will learn the essential information about buying a home. This course will address home ownership readiness, basic financial management and credit issues, getting a mortgage loan, shopping for a home and keeping one's home. This course is geared towards students who are mortgage-ready and on the fast track to home ownership.

25 HOMEBUYER EDUCATION (1)

Lecture: 1 hour

Students will learn the essential information about buying a home. This course will address homeownership readiness, basic financial management and credit issues, getting a mortgage loan, shopping for a home and keeping one's home. This course is geared towards those who are mortgage-ready and on the fast track to home ownership.

27 POST-PURCHASE & ASSET PROTECTION EDUCATION (0.5)*Lecture: 0.5 hour*

Students will learn the essential information about protecting and maintaining one of their most important assets - their home. This course will address basic home maintenance, assessing appropriate refinancing options, protecting and leveraging your home equity, maintaining proper insurance, and preventing foreclosure, identity theft and other consumer scams.)

31 INTRODUCTION TO THE MORTGAGE FINANCE INDUSTRY AND CAREERS (1)*Lecture: 1 hour*

Students are introduced to the mortgage finance industry, career/job positions, and basic terminology for purposes of academic and career exploration.

32 APPLIED COMPUTATIONS IN MORTGAGE FINANCE (2)*Lecture: 2 hours*

Students will learn basic calculations for mortgage finance, including how to calculate income and monthly mortgage payments, taxes and insurance expenses. Students will learn percentage and ratio calculations to determine loan-to-value, debt service and qualifying calculations for mortgage lending purposes.

33 MORTGAGE FINANCE CALCULATOR (1)*Lecture: 1 hour*

This course provides students with specialized skills in the use of the financial calculator (HP 12C) for mortgage lending. While learning specifics of this calculator, students will learn asset, liability and housing calculations as they pertain to current lending practices in the industry.

36 INTRODUCTION TO FINANCIAL AND CREDIT MANAGEMENT (1)*Lecture: 1 hour*

This course provides students with a basic foundation in financial and credit management as it pertains to their personal finances as well as tools and resources to assist their mortgage finance and real estate clients.

50 MORTGAGE FINANCE FUNDAMENTALS (3) CSU

Recommended Preparation: English 21 and Mortgage Finance 32 and Mortgage Finance 33 or comparable professional experience.

Lecture: 3 hours

This course covers the basic principles, terminology and calculations essential in originating, underwriting, processing and administering residential mortgage loans. Topics covered include types of residential mortgage loans, risk evaluation, appraisal, legal requirements and secondary mortgage market.

52 FAIR HOUSING AND FAIR LENDING (3) CSU*Lecture: 3 hours*

This course covers the history of discrimination and federal and state regulations as they pertain to correcting discriminatory lending practices. Students will learn about regulatory agencies and their oversight of financial institutions.

54 DIVERSITY AWARENESS AND CUSTOMER SERVICE (3) CSU*Lecture: 3 hours*

This course highlights sensitivity to and understanding of a culturally diverse customer base. Students will learn how cultural differences affect perception, attitude and behavior of clients and how it relates to saving, establishing credit, purchasing and financing real estate.

56 HOMEOWNERSHIP AND COMMUNITY LENDING (3) CSU

Recommended Preparation: English 21 and Mortgage Finance 50 or comparable professional experience.

Lecture: 3 hours

This course introduces students to programs and guidelines that encourage and facilitate homeownership. This course includes homebuyer education, budgeting, credit analysis, affordable housing and community lending products and non-traditional underwriting and subsidies for low-to-moderate-income borrowers.

60 TECHNOLOGY APPLICATIONS IN MORTGAGE FINANCE (3) CSU

Recommended Preparation: English 21, Math 105 and Mortgage Finance 50. Students must be proficient in using computers, Windows 2000/XP and basic mortgage industry terminology and calculations

Lecture: 3 hours

This course is designed to build upon the student's training and education in mortgage finance fundamentals. This course will equip students with the basic skills of loan origination, prequalification, processing, underwriting, pricing, funding and closing of mortgages while using Calyx Point software.

64 INTRODUCTION TO LOAN SALES AND ORIGATION (3)

Recommended Preparation: Completion of Mortgage Finance 50

Lecture: 3 hours

This course provides advanced Mortgage Finance students with comprehensive training in the home loan sales and origination process. Students will receive practical and applied training in working directly with prospective and new clients interested in buying or refinancing a home. Students will learn how to complete and process a home loan application, pre-qualify clients, and match client's needs with appropriate loan products and pricing. Students will refine their loan processing skills and be introduced to underwriting guidelines and procedures. Students will learn how to market their services to clients and other affiliated entities and industry professionals.

65 HOUSING COUNSELING (3)*Lecture: 3 hours*

This course provides advanced Mortgage Finance students practical and applied training and experience in working directly with prospective and new clients interested in buying or refinancing a home. Students will learn & practice analyzing a client's credit history and FICO score, counseling clients on how to improve their credit, and identifying appropriate loan products and programs their clients may be eligible for. Students will practice using cutting-edge industry software that helps manages clients, helps clients improve their credit and identifies potential mortgage products.

102 TRAIN-THE-TRAINER IN FINANCIAL AND HOMEBUYER EDUCATION (2)

Recommended Preparation: Completion of Mortgage Finance 36

Lecture: 2 hours

This course will provide students with hands-on training in conducting introductory level financial, credit and homebuyer education workshops with the public and/or their clients. Students will be exposed to and use various training curricula and resources. They will develop and practice their presentation and workshop development skills with real clients.

185 DIRECTED STUDY (1)

This course provides students with the opportunity for advanced study of various mortgage finance topics. Students must have instructor approval prior to enrollment and participation a directed study course.

202 EFFECTIVE RESIDENTIAL MORTGAGE SALES STRATEGIES FOR EMERGING INNER CITY MARKETS (0.5)*Lecture: 0.5 hour*

This course will provide residential lending professionals with a basic foundation in sales strategies needed to effectively penetrate the emerging inner city markets.

203 UNDERSTANDING & TAPPING EMERGING INNER CITY MARKETS (0.5)*Lecture: 0.5 hour*

This course will provide residential lending professionals with a basic foundation in effective market analysis & marketing strategies for emerging inner city markets.

204 UNDERSTANDING & USING RESIDENTIAL SUBSIDIES FOR EMERGING INNER CITY MARKETS (0.5)*Lecture: 0.5 hour*

This course will provide residential lending professionals with a basic foundation in subsidy products and programs for first-time homebuyers and/or low-to-moderate income borrowers and other special targeted borrowers. Special emphasis will be on accessing and using subsidies with conventional loan products.

205 CONSUMER PROTECTION ISSUES IN MORTGAGE FINANCE & HOMEOWNERSHIP (0.5)*Lecture: 0.5 hour*

This course will provide residential lending professionals with a basic foundation in understanding special credit, borrowing, "high-touch" and customer service needs of low-to-moderate inner city clients.

206 USING THE RIGHT PARTNERS IN EMERGING INNER CITY MARKETS (0.5)*Lecture: 0.5 hour*

This course will provide residential lending professionals with a basic foundation in working effectively with third parties to close residential loan transactions in the emerging inner city market.

207 UNDERSTANDING REAL ESTATE & LOAN DOCUMENTS REQUIRED TO CLOSE TRANSACTIONS (0.5)*Lecture: 0.5 hour*

This course will provide residential lending professionals with a basic foundation in understanding real estate and loan documents that will facilitate their successful closing of residential real estate transactions in emerging inner city markets.

285 DIRECTED STUDY (2)

This course provides students with the opportunity for advanced study of various mortgage finance topics. Students must have instructor approval prior to enrollment and participation a directed study course.

385 DIRECTED STUDY (3)

This course provides students with the opportunity for advanced study of various mortgage finance topics. Students must have instructor approval prior to enrollment and participation a directed study course.

advanced courses for real estate agents or for individuals in real estate related fields and industries.

Note: Students should verify the broker's and salesperson's licensing requirements with the California Department of Real Estate.

Employment of real estate brokers and sales agents is expected to grow about as fast as average for all occupations through the year 2014, because of the increasing housing needs of a growing population, as well as the perception that real estate is a good investment. (Source: U.S. Bureau of Labor Statistics)

Upon successful completion of the program, students are prepared for a variety of entry-level and advanced career opportunities in the real estate profession. Completion of the degree program satisfies most of the formal education requirements to obtain a California Real Estate Broker's License. In October of 2007 the 18-month conditional license will be eliminated and potential licensees must take RE1 Principles, RE3 Practice and one other 3 unit course to qualify to sit for the Real Estate Salesperson's examination. Many other industries are directly or indirectly related to real estate and often require a basic knowledge of the subject area for employment consideration. Typical positions: Real Estate agent, broker, appraiser, property manager, escrow officer, real estate office manager, land developer, urban planner, construction, and investor/owner of income producing properties.

REAL ESTATE**■ Associate in Arts Degree**

Requirements for the Associate in Arts degree in Real Estate may be met by completing the required 45-units of courses listed below, and 18 units of general education courses to meet the Plan B graduation requirement.

REQUIRED COURSES

FIRST SEMESTER		UNITS
REAL ES 1†	Principles of Real Estate	3
BUS 5†	Business Law I	3
BUS 1†	Introduction to Business	3
CAOT 82† or 100	Microcomputer Software Survey in the Office/Windows Based Computer Applications	3
BUS 32†	Business Communications	3
UNITS		15

SECOND SEMESTER		UNITS
BUS 38†	Business Computations	3
REAL ES 9†	Real Estate Appraisal I (Offered Spring only)	3
UNITS		6

THIRD SEMESTER		UNITS
ACCTG 1†	Principles of Accounting I	5
REAL ES 7†	Real Estate Finance (Offered Fall only)	3
REAL ES 3†	Real Estate Practice (Offered Fall only)	3
CAOT 101	Hands-on Internet	1
UNITS		12

FOURTH SEMESTER		UNITS
REAL ES 14†	Property Management	3
SUPV 11†	Oral Communications	3

REAL ESTATE**PROGRAM OVERVIEW**

The Real Estate program prepares students seeking careers as real estate professionals and equips the general public who are prospective property owners, present property owners, or real estate investors with important real estate knowledge. The program explores many aspects of the real estate profession allowing students to acquire entry-level marketable skills while gaining much of the necessary course work to obtain a California state license as a real estate sales agent and/or broker. The program also offers

REAL ES 5‡	Legal Aspects of Real Estate (Offered Spring only)	3
ECON 2*†	Principles of Economics II	3
	UNITS	12
	TOTAL UNITS	45

Note: † Degree CORE requirements

‡ Real Estate Major AA degree requirements

A certificate is also available in Real Estate.

REAL ESTATE

■ Certificate of Completion

Upon successful completion of the program, students will be prepared for a variety of entry-level and advanced career opportunities in the real estate profession.

REQUIRED COURSES

FIRST SEMESTER		UNITS
REAL ES 1	Real Estate Principles	3
REAL ES 3	Real Estate Practice (Offered Fall only)	3
BUS 5	Business Law I	3
CAOT 82 or 100	Microcomputer Software Survey in the Office/Windows Based Computer Applications	3
REAL ES 7	Real Estate Finance (Offered Fall only)	3
	UNITS	15

SECOND SEMESTER		UNITS
REAL ES 9	Real Estate Appraisal I (Offered Spring only)	3
ACCTG 1	Principles of Accounting	5
MARKET 1	Principles of Selling	3
BUS 1	Introduction to Business	3
CAOT 101	Hands-on Internet	1
	UNITS	15
	TOTAL UNITS	30

REAL ESTATE

■ COURSE DESCRIPTIONS

1 REAL ESTATE PRINCIPLES (3) CSU

Lecture: 3 hours

This course is a preparation for the examination given by the Department of Real Estate for real estate brokers, agents, and salespersons. It includes laws pertaining to estates in real estate and the real estate business, property, contracts, titles, trust deeds, mortgages, liens, encumbrances, assessments, taxes, zoning, community property, title insurance, and escrow procedures. Emphasis is placed on federal, state, and local antidiscrimination laws and their impact on one's real estate career.

3 REAL ESTATE PRACTICES (3) CSU

Lecture: 3 hours

This course deals with the challenges of establishing and conducting a real estate business. Among the major topics considered are: establishing the office, securing listings and prospects, showing properties and closing sales, financing, property management, rentals and leases, appraising, and the California Real Estate Law. Steering, redlining, and other illegal discrimination actions are discussed. The responsibility of the real estate agent as an employee and as an independent contractor is explored.

5 LEGAL ASPECTS OF REAL ESTATE I (3) CSU

Lecture: 3 hours

This is an introductory course in real estate law. Emphasis is placed upon the study of contracts, agency, negotiable instruments, personal property, sales, forms of business torts, current ownership of land and goods, and real property. Attention is also given to logical reasoning and the application of rules of law to everyday affairs in business.

7 REAL ESTATE FINANCE I (3) CSU

Lecture: 3 hours

This course is designed to study the forms and sources of financing property, construction and permanent financing. Topics covered include the procedures for FHA, Cal. Vet., and VA financing as well as conventional loans; mortgage capital from savings and loan associations, commercial banks, insurance companies, and other sources; junior mortgages; appraising for mortgages; loan ratios; and leaseholds. The role of the secondary mortgage market is also presented.

9 REAL ESTATE APPRAISAL I (3) CSU

Lecture: 3 hours

The principles and methods for the estimation of value and price of land and improvements, factors affecting income and values of real estate, and trends in real property values are covered in this course. The role of the appraiser in determining the highest and best use for a particular site is presented. The importance of appraisal to the lender, insurer, seller, and potential buyer are discussed as are appraisal of partial real estate interests.

10 REAL ESTATE APPRAISAL II (3) CSU

Recommended Preparation: Real Estate 9 with a grade of "C" or better.

Lecture: 3 hours

Advanced appraisal includes a review of the appraisal process, critical analysis of appraising data, and preparation of appraisal reports. The methods of appraising single-family residential income, and commercial properties are studied, as is the determination of capitalization rates.

14 PROPERTY MANAGEMENT (3)

Lecture: 3 hours

The fiduciary duty owed to a client, the nature and types of property management; organization for management, leases and contracts, rent scheduling, managing of space and techniques of renting; tenant mix, selection and supervision; relations with owners and budgets; purchasing and accounts; accurate reports, ethics, and legal and professional relationships are covered in this course. PUDs, CCandRs and common area maintenance and management are reviewed.

CONSTRUCTION, DESIGN, AND MANUFACTURING

APPRENTICESHIP EDUCATION

Note: Available to Registered Apprentices only.

EDUCATIONAL PROGRAMS AND COURSES

- Cabinet & Store Fixture
- Electrical Cable Splicer
- Electrical Lineman
- Engineer: Operating/Maintenance

LATTC's Apprenticeship Education program offers classes to students who are registered to learn a trade under agreement with the State of California Division of Apprenticeship Standards, and are required to attend college classes during their registered apprenticeship program. The LATTC Apprenticeship Education program is part of a state approved industrial plan for training skilled workers. It is enabled nationally by the Federal Apprenticeship Law (known as the Fitzgerald Act of 1937) and on the state level by the Shelley-Maloney Labor Standards Act of 1939. The program is authorized and supported by the California Apprenticeship Council under the supervision of the joint Apprenticeship Committee (equal employer and employee representation) for each trade under standards approved by the State of California.

Apprentices training under the cooperative direction of the college and Apprenticeship committees for their trade may petition to receive credit toward the Associate in Arts degree or the Associate in Science degree for all courses successfully completed. A Certificate of Completion will be awarded when the proper application is made and the student has successfully completed all the apprenticeship assigned in their discipline. Additional courses may be substituted with the approval of the apprenticeship coordinator. Substitutions will be limited to 50%.

There are two primary parts to the training of an apprentice: (1) on-the-job training and instruction in the manipulative processes, and (2) in-school training which involves instruction in technical subjects related to the on-the-job training. On-the-job training is comprised of 40 hours per week of supervised work experience and instruction wherein an apprentice rotates through a series of sequential work experiences which are designed to develop the all-around skills of the trade.

State apprenticeship law requires that state and local boards responsible for vocational education administer related and supplemental instruction for apprentices. College offerings provide the apprentice with a study of technical subjects, subject to regular class attendance for the duration of the apprenticeship training period. An example of topics studied, which are generally applicable to a majority of trades, includes applied math and science, blueprint reading and drawing, materials, equipment, processes, and health and safety.

Los Angeles Trade Technical College plays no part in the apprenticeship selection process. For further information about apprenticeship programs operating in California and the possibility of becoming an registered apprentice in any trade, contact the California State Division of Apprenticeship Standards at 8th floor, Room 8000, 320 West Fourth Street, Los Angeles, California 90012. Their phone number is (213) 576-7750

For more information, contact the LATTC apprentice information center located in room B-122. Phone: (213) 763-7151.

CABINETMAKING AND MILLWORK APPRENTICES

■ Certificate of Completion

Prerequisite: Students enrolling in these classes must have been accepted into a California Registered Apprenticeship Program. Students completing the 32 units may be awarded a certificate of Completion. Up to 20 Units may also be applied to the non-apprentice Cabinet & Mill Work or Carpentry degree programs. Student apprentices will be monitored and evaluated during this program by the joint apprenticeship committee for their trade and will gain the skills necessary to perform as a journeyman in their trade.

701 CABINET MILLWORK FOR APPRENTICES I (4) RPT1

Lecture: 3 hours; Lab: 3 hours

This course covers various layout procedures relative to the right triangle, and geometrical functions of development, board foot measure calculation, decimal breakdown of the English yard system, and development of various math formulation procedures used in cabinet and millwork construction and estimation.

702 CABINET MILLWORK FOR APPRENTICES II (4) RPT 1

Lecture: 3 hours; Lab: 3 hours

This course is a brief history of early development in the cabinet industry through present day ramifications of construction and the study of useful species of wood materials, glues, abrasives, plywood and modified woods.

703 CABINET MILLWORK FOR APPRENTICES III (4) RPT 1

Lecture: 3 hours; Lab: 3 hours

This course offers instruction in trade terminology and description of various views of working drawing specifications, with the study of terminology description, purpose, and use of hand and power woodworking tools, including alignment, set-up and operations of the power machines in performance of standard milling practices, and safety.

704 CABINET MILLWORK FOR APPRENTICES IV (4) RPT 1

Lecture: 3 hours; Lab: 3 hours

This course covers the methods used to assemble mill products and the many portable and shop tools used to prepare the wood and other products for joining. Demonstrations on the use of the tools will be followed by shop practice in using the various tools available and applying glues to laminates.

705 CABINET MILLWORK FOR APPRENTICES V (4)*Lecture: 3 hours; Lab: 3 hours*

This course covers the safety, theory, and set up of various operations of the trim saw. Students will learn how to clamp, set up and make various cuts with the trim saw and develop good safety practice in using the trim saw.

706 CABINET MILLWORK FOR APPRENTICES VI (4)*Lecture: 3 hours; Lab: 3 hours*

This course offers instruction in stock billing material takeoff and reading of blueprints and the use of architectural symbols.

707 CABINET MILLWORK FOR APPRENTICES VII (4)*Lecture: 3 hours; Lab: 3 hours*

This course covers scale and full size drawing and the drawings will be produced by the student. Free standing and basic perimeter wall fixtures are included. Stock billing is emphasized.

708 CABINET MILLWORK FOR APPRENTICES VIII (4)*Lecture: 3 hours; Lab: 3 hours*

The actual drawings provided by designers are used. Detailing of store fixtures and restaurant layout and detailing. A brief introduction to computer software used in design and layout is given.

ELECTRICAL CABLE SPLICER APPRENTICES**■ Certificate of Completion**

Prerequisites: Students enrolling in these classes must have been accepted into a California Indentured Apprenticeship program. Student apprentices will be monitored and evaluated during this program by the joint apprenticeship committee for their trade and will gain the skills necessary to perform as a journeyman in their trade. A Certificate of Completion may be awarded when a student completes 18 units in this program.

701 CABLE SPLICER APPRENTICESHIP I (6) RPT1*Lecture: 5 hours; Lab: 3 hours*

Instruction is offered in electrical systems, basic math, basic electricity, accident prevention, hand tools, first aid, rigging, knots and splices and pole climbing procedures.

701A CABLE SPLICER APPRENTICESHIP IA (3 1/3) RPT1*Lecture: 3 hours; Lab: 1 hour*

This is the first module of instruction in electrical systems, basic math, basic electricity, accident prevention, hand tools, first aid, rigging, knots and splices and pole climbing procedures.

701B CABLE SPLICER APPRENTICESHIP IB (2 2/3) RPT1*Lecture: 2 hours; Lab: 2 hours*

This course is a continuation of instruction in electrical systems, basic math, basic electricity, accident prevention, hand tools, first aid, rigging, knots and splices and pole climbing procedures.

702 CABLE SPLICER APPRENTICESHIP II (6) RPT1*Lecture: 5 hours; Lab: 3 hours*

A study is made of the application of rigging principles to underground problems. Installation of equipment, splicing theory, distribution circuits, oil circuit breakers, transformer characteristics, and connections. State law requirements, safety and street lighting electrical systems are included.

702A CABLE SPLICER APPRENTICESHIP IIA (3 1/3) RPT1*Lecture: 3 hours; Lab: 1 hour*

This is the first module of study in the application of rigging principles to underground problems. Installation of equipment, splicing theory, distribution circuits, oil circuit breakers, transformer characteristics, and connections. State law requirements, safety and street lighting electrical systems are included.

702B CABLE SPLICER APPRENTICESHIP IIB (2 2/3) RPT1*Lecture: 2 hours; Lab: 2 hours*

This module continues study in the application of rigging principles to underground problems. Installation of equipment, splicing theory, distribution circuits, oil circuit breakers, transformer characteristics, and connections. State law requirements, safety and street lighting electrical systems are included.

703 CABLE SPLICER APPRENTICESHIP III (6) RPT 1*Lecture: 5 hours; Lab: 3 hours*

Instruction is given in splicing medium voltage cable, tape splicing, cubical termination, shield separation, baked splice. Installation of switches; oil, gas, SF-6, State Law G.O. #128, Safety Orders, OSHA requirements, construction standards, vault detail, print reading, Electrical Service Requirements, and the use of hot sticks for switching. Safety and first aid are taught.

703A CABLE SPLICER APPRENTICESHIP IIIA (3 1/3) RPT 1*Lecture: 3 hours; Lab: 1 hour*

This is the first module of study in the instruction of splicing medium voltage cable, tape splicing, cubical termination, shield separation, baked splice. Installation of switches; oil, gas, SF-6, State Law G.O. #128, Safety Orders, OSHA requirements, construction standards, vault detail, print reading, Electrical Service Requirements, and the use of hot sticks for switching. Safety and first aid are taught.

703B CABLE SPLICER APPRENTICESHIP IIIB (2 2/3) RPT 1*Lecture: 2 hours; Lab: 2 hours*

This continues study in the instruction of splicing medium voltage cable, tape splicing, cubical termination, shield separation, baked splice. Installation of switches; oil, gas, SF-6, State Law G.O. #128, Safety Orders, OSHA requirements, construction standards, vault detail, print reading, Electrical Service Requirements, and the use of hot sticks for switching. Safety and first aid are taught.

ELECTRICAL LINEMAN APPRENTICES**■ Certificate of Completion**

Prerequisites: Students enrolling in these classes must have been accepted into a California Indentured Apprenticeship Program. Student apprentices will be monitored and evaluated during this program by the joint apprenticeship committee for their trade and will gain the skills necessary to perform as a journeyman in their trade. A certificate of completion may be awarded when a student completes 18 units in this program.

701 ELECTRICAL LINEMAN APPRENTICESHIP I (6) RPT 1*Lecture: 5 hours; Lab: 3 hours*

Instruction is given in the generation of electricity; hydro, steam, wind, the elements of electricity, static, magnetism, electric circuit, transmission lines and cables, sub-transmission lines and cables, distribution lines and cables. Students receive training in pole climbing; safe practices, installation of cross arms, insulator guys, hanging of transformer, stringing of lines, pulling cables, pole top rescue and vault rescue. Safety and first aid are emphasized.

701A ELECTRICAL LINEMAN APPRENTICESHIP I A (3 1/3) RPT 1*Lecture: 3 hours; Lab: 1 hour*

This is the first module of instruction in the generation of electricity; hydro, steam, wind, the elements of electricity, static, magnetism, electric circuit, transmission lines and cables, sub-transmission lines and cables, distribution lines and cables. Students receive training in pole climbing; safe practices, installation of cross arms, insulator guys, hanging of transformer, stringing of lines, pulling cables, pole top rescue and vault rescue. Safety and first aid are emphasized.

701B ELECTRICAL LINEMAN APPRENTICESHIP I B (2 2/3) RPT 1*Lecture: 2 hours; Lab: 2 hours*

This course continues instruction in the generation of electricity; hydro, steam, wind, the elements of electricity, static, magnetism, electric circuit, transmission lines and cables, sub-transmission lines and cables, distribution lines and cables. Students receive training in pole climbing; safe practices, installation of cross arms, insulator guys, hanging of transformer, stringing of lines, pulling cables, pole top rescue and vault rescue. Safety and first aid are emphasized.

702 ELECTRICAL LINEMAN APPRENTICESHIP II (6) RPT1*Lecture: 5 hours; Lab: 3 hours*

Instruction is given in the review of electricity including; electrical math, series and parallel circuits, motors, induced emf, mutual and self induction, direct current, alternating current, transformers connections, transformer fusing, capacitors, voltage regulators, definitions, core losses, polarity, markings, oil insulation, cooling practices, loading and testing, and oil circuit breakers. Street light practices, circuits, utilitarian systems, lamps, sodium and mercury lights, glassware, refractors, control of streetlights, map reading, forms, test, regulators and safety in maintenance are all emphasized.

702A ELECTRICAL LINEMAN APPRENTICESHIP II A (3 1/3) RPT1*Lecture: 3 hours; Lab: 1 hour*

First module of instruction in the review of electricity including; electrical math, series and parallel circuits, motors, induced emf, mutual and self induction, direct current, alternating current, transformers connections, transformer fusing, capacitors, voltage regulators, definitions, core losses, polarity, markings, oil insulation, cooling practices, loading and testing, and oil circuit breakers. Street light practices, circuits, utilitarian systems, lamps, sodium and mercury lights, glassware, refractors, control of streetlights, map reading, forms, test, regulators and safety in maintenance are all emphasized.

702B ELECTRICAL LINEMAN APPRENTICESHIP II B (2 2/3) RPT1*Lecture: 2 hours; Lab: 2 hours*

Continuation of instruction in the review of electricity including; electrical math, series and parallel circuits, motors, induced emf, mutual and self induction, direct current, alternating current, transformers connections, transformer fusing, capacitors, voltage regulators, definitions, core losses, polarity, markings, oil insulation, cooling practices, loading and testing, and oil circuit breakers. Street light practices, circuits, utilitarian systems, lamps, sodium and mercury lights, glassware, refractors, control of streetlights, map reading, forms, test, regulators and safety in maintenance are all emphasized.

703 ELECTRICAL LINEMAN APPRENTICESHIP III (6) RPT 1*Lecture: 5 hours; Lab: 3 hours*

Instruction is given in the stringent use of state law G.0.095, safety orders, OSHA requirements, overhead construction standards, overhead jobs, joint pole agreement of California, and electrical service requirements. Course reviews conductor sizes, splices, stringing, dead-ending, guying, rigging, transformer fusing, circulation current, trouble shooting, street lighting and public relations, live-line maintenance using live-line tools, safety and first aid.

703A ELECTRICAL LINEMAN APPRENTICESHIP IIIA (3 1/3) RPT 1*Lecture: 3 hours; Lab: 1 hour*

First module of instruction in the stringent use of state law G.0.095, safety orders, OSHA requirements, overhead construction standards, overhead jobs, joint pole agreement of California, and electrical service requirements. Course reviews conductor sizes, splices, stringing, dead-ending, guying, rigging, transformer fusing, circulation current, trouble shooting, street lighting and public relations, live-line maintenance using live-line tools, safety and first aid.

703B ELECTRICAL LINEMAN APPRENTICESHIP III B (2 2/3) RPT 1*Lecture: 2 hours; Lab: 2 hours*

Continuation of instruction in the stringent use of state law G.0.095, safety orders, OSHA requirements, overhead construction standards, overhead jobs, joint pole agreement of California, and electrical service requirements. Course reviews conductor sizes, splices, stringing, dead-ending, guying, rigging, transformer fusing, circulation current, trouble shooting, street lighting and public relations, live-line maintenance using live-line tools, safety and first aid.

709 ELECTRICAL CRAFT HELPER APPRENTICESHIP (4) RPT 1*Lecture: 4 hours*

This course is designed as entry level preparation for a student interested in careers in the electrical power industry. This introductory course covers the basic fundamentals of planning, installation and maintenance of high and low voltage electrical systems. Basic functions of generation, both hydro and steam are covered. The transmission and distribution of electrical power will be reviewed. Fundamentals of electricity, identification, function, and operation of components will be surveyed. Ohms law, safety, ropes, knots, rigging, and tools required in the trade will be reviewed. Civil service exam assistance will also be covered.

OPERATION MAINTENANCE ENGINEER APPRENTICES

■ Certificate of Completion

Prerequisites: Students enrolling in these classes must have been accepted into a California Indentured Apprenticeship Program. A certificate of completion may be awarded for completion of a combination of 36 units in this program and the A/C Refrigeration Mechanic program.

Student apprentices will be monitored and evaluated during this program by the joint apprenticeship committee for their trade and will gain the skills necessary to perform as a journeyman in their trade.

701 INSTRUMENTATION I FOR APPRENTICES (4) RPT 1*Lecture: 3 hours; Lab: 3 hours*

Students will learn instrumentation and control theory, application, maintenance, troubleshooting, fundamentals of control, terms and definitions specific to H.V.A.C. instrumentation. Emphasis on the principles of operation of valves, dampers, motors, VAV systems and other related controls which when combined from the total control system.

702 INSTRUMENTATION II FOR APPRENTICES (3) RPT 2*Lecture: 3 hours*

This is a continuing course of Basic Instrumentation and Controls I, course 701. Adjustment problems, maintenance problems, proper selection of instruments and the application of instruments in the field will be stressed with the use of simple schematics and circuitry. Many examples using pneumatics as a controlling means are used.

703 COMPUTERS IN ENERGY MANAGEMENT FOR APPRENTICES (3) RPT 2*Lecture: 3 hours*

The computer's place and the learning of computer language as used in the industry and the application of this language are covered. The goal is to prepare the maintenance engineer for the use of computers in our industry by upgrading the computer literacy of the students.

704 ELECTRIC MOTOR CONTROL I FOR APPRENTICES (4) RPT 1*Lecture: 3 hours; Lab: 3 hours*

This course provides instruction in basic motor control fundamentals, including the basic function of controlling devices, review of basic motors, selection of motors and definitions. The class will discuss definitions for controller components and symbols, familiarization of N.E.M.A. standards and review of one-line, wiring and schematic diagrams. The class will also introduce the use of digital controllers for use in industry.

708 BUILDING MAINTENANCE FOR APPRENTICES (3) RPT 1*Lecture: 3 hours*

This course covers the construction design, operation and maintenance of sanitary drainage systems, pressure regulators steam traps, building condensate return systems, chilled and condenser, water pumping systems, centrifugal pumps, backflow preventers, building fire suppression systems, pressure systems and pumping fixtures.

709 STEAM PLANT OPERATION I FOR APPRENTICES (6)*Lecture: 6 hours*

The basic of safe boiler operations, what steam is and how it performs, fire tube boiler design and construction, the combustion process including fluidized bed boilers using various fuel, safety valves, water level devices, feed water treatment, pumping principles, bottom and surface blow down with heat recovery.

709A STEAM PLANT OPERATION IA FOR APPRENTICES (3)*Lecture: 3 hours*

The is the first half of basic of safe boiler operations, what steam is and how it performs, fire tube boiler design and construction, the combustion process including fluidized bed boilers using various fuel, safety valves, water level devices, feed water treatment, pumping principles, bottom and surface blow down with heat recovery.

709B STEAM PLANT OPERATION IIB FOR APPRENTICES (3)*Lecture: 3 hours*

The is the second half basic of safe boiler operations, what steam is and how it performs, fire tube boiler design and construction, the combustion process including fluidized bed boilers using various fuel, safety valves, water level devices, feed water treatment, pumping principles, bottom and surface blow down with heat recovery

710 STEAM PLANT OPERATION II FOR APPRENTICES (6)*Lecture: 6 hours*

Instruction is given in steam engines, valve operating mechanisms and governors, and operating characteristics of steam engines. Course covers steam turbines, pumps, and auxiliary power plant equipment, steam plant efficiencies, boiler water treatment, troubleshooting, and power transmission.

710A STEAM PLANT OPERATION IIA FOR APPRENTICES (3)*Lecture: 3 hours*

This is the first half of Instruction given in steam engines, valve operating mechanisms and governors, and operating characteristics of steam engines. Course covers steam turbines, pumps, and auxiliary power plant equipment, steam plant efficiencies, boiler water treatment, troubleshooting, and power transmission.

710B STEAM PLANT OPERATION IIB FOR APPRENTICES (3)*Lecture: 3 hours*

This is the second half of Instruction given in steam engines, valve operating mechanisms and governors, and operating characteristics of steam engines. Course covers steam turbines, pumps, and auxiliary power plant equipment, steam plant efficiencies, boiler water treatment, troubleshooting, and power transmission.

720 HEATING AND VENTILATING PLANT OPERATION FOR APPRENTICES (3)*Lecture: 3 hours*

Training is given in the operation of systems to provide quality air to indoor environments and abide by IAQ guidelines and pending regulations. Organizing and operating preventative maintenance programs as they relate to providing quality indoor environments and troubleshooting and maintaining HVAC systems, testing and air balance will also be covered.

724 FUNDAMENTALS OF ELECTRICITY (4)*Lecture: 3 hours; Lab: 3 hours*

Course is study of the basic principles of direct and alternating current, an introduction to components, theory of operation of components, the application and troubleshooting of components used in simple circuitry. A lab has been created to allow practice in using these circuits.

726 BASIC ELECTRONICS FOR APPRENTICES (4) RPT1*Lecture: 3 hours; Lab: 3 hours*

Instruction is given on programmable logic controller operation, controller configuration, logic instructions and process applications, in various control situations and industries. A real controller will be used to develop control strategies that incorporate the most common control Instructions as well as other more complex Controller Functions. After completing course, student will be able to recognize, controller components, and perform basic maintenance and troubleshooting. Student will also be able to develop, write, enter, test, and document PLC programs.

727 INDUSTRIAL ELECTRONICS I FOR APPRENTICES (3)*Lecture: 3 hours*

This is a lecture-study course where students team the various application of electronics in environmental and manufacturing process control. The course will cover the use of solid state devices and circuitry in the control of industrial production and the maintenance of a healthy and comfortable environment in buildings.

730 SAFETY AND ENERGY MANAGEMENT FOR APPRENTICES (3) RPT2*Lecture: 3 hours*

The fundamentals of energy conservation as applied to residential, commercial, institutional and industrial buildings; the optimal operation of air conditioning systems. The emphasis of this course is on the changes and modifications an operating engineer may make to conserve energy, the fire department requirements and disaster control methods.

739 LOCKSMITHING AND SECURITY SYSTEMS FOR APPRENTICES (4)*Lecture: 3 hours*

This course is designed to provide an opportunity to those students who are working with security systems to become familiar with the use of the systems used by locksmiths to make buildings secure. The various types of locks and the tools necessary for adapting various lock systems will be discussed.

740 TENANT RELATIONS AND REPORTS FOR APPRENTICES (3)*Lecture: 3 hours*

The techniques used in maintaining wholesome and mutually beneficial relations with tenants and others is the primary purpose of this course. The need to understand the needs of all persons associated with a building is stressed. Instruction in the use of systems to maintain records and deliver timely and accurate reports is provided.

741 REFRIGERATION ELECTRICAL SYSTEMS (3)*Lecture: 3 hours*

This course covers basic electricity, magnetic starters, contractors and relays; pressure and temperature controls; milli-volt and low voltage systems; modulating controls; time clocks and defrost system.

742 ELECTRICAL CODE I (3)*Lecture: 3 hours*

Instruction in basic electrical codes and ordinances; general codes, wiring methods and fittings, and circuits requirements specified in various ordinances.

744 REFRIGERATION AND AIR CONDITIONING CONTROLS FOR APPRENTICES (3)*Lecture: 3 hours*

This course is a continuation of the basic methods of maintaining control of environmental systems to provide a quality atmosphere through the use of auxiliary equipment such as pressure and electrical controls. The student will be introduced to advanced servicing procedures, troubleshooting procedures and maintaining proper records on servicing air conditioning systems. A review of government regulations on ozone depletion will also be included.

752 ELECTRICAL CODE II (3)*Lecture: 3 hours*

Codes requirements on equipment installation, motor installation, various types of occupancies, and high voltage circuits.

761 REFRIGERATION FUNDAMENTALS FOR APPRENTICES I (6)*Lecture: 6 hours*

Applied thermodynamics, laws of mechanics, and laws of gases and change of state in substance and heat transfer.

762 REFRIGERATION FUNDAMENTALS FOR APPRENTICES II (6)*Lecture: 6 hours*

Vapor cycle in refrigeration systems including the study of refrigerants and their behavior in the system.

unitary sense. The creation of space is vital part for the success of any of the activities that take place in them. Professionals trained in the art and science of building design transform these needs into concepts and then develop the finished product that is quantifiable and qualifiable.

Los Angeles and the surrounding area are on the cutting edge of modern architecture and construction, and Architecture Designers and Technicians are in high demand. Many exciting careers are open in the field including architecture technicians, construction management, drafting, estimating, building inspection, civil, electrical, mechanical and structural engineering, computer rendering, smart mapping, urban design and computer-aided drawing. Architecture Designers and Technicians assist the architect in defining, creating, and organizing buildings, urban spaces and cyber-spaces. They participate in the development of three-dimensional models that parallel finished buildings, as well as design studies, maintenance forecasting, materials testing, facilities management, sales and marketing.

Los Angeles Trade-Technical College offers an Architectural Technology Associate in Arts degree, an Architectural Technologies Associate in Science (MAPPS/GIS) Degree, and their equivalent Certificates of Completion (core major classes without general education classes). Skills Certificates in Digital Design, Computer Aided Drafting, and Historic Preservation are also offered for those wishing to enter the field or expand their current knowledge.

The equipment used in the classroom of Los Angeles Trade-Technical College is the same as that found in a professional office with a Local Area Network environment. The program emphasizes computer hardware and software currently used in industry: Microstation, Revit, Revit MEP Architecture, Architecture MEP, Sketch Up, Architectural Desktop, 3D Studio and AutoCAD. The emphasis of the Architecture Technology program follows the new Green Building Information Model and it concentrates on the technology and methods of construction using sustainable methods of construction and materials. On completion, each student in the program will have developed a portfolio that serves to meet both industry employment demands and university transferability requirements.

ARCHITECTURAL TECHNOLOGY**■ Associate in Arts Degree**

Requirements for the Associate in Arts degree in Architectural Technology may be met by completing the 48 units of required courses along with 18 units of general education courses meeting Plan B graduation requirements. Information on the Plan B requirements may be found in the catalog under Graduation/Transfer requirements.

Upon successful completion of this program, students will have the skills needed to enter the field as an Architectural Technician who is both a problem solver and an integral part of the design process. Students will master the skills necessary to work in the construction, drafting, estimating, building inspection, civil, electrical, mechanical and structural engineering, construction computer rendering, and computer-aided drawing arenas. General education classes provide a well rounded education, imparting the knowledge and skills needed to successfully participate in all aspects of society.

ARCHITECTURE AND ENVIRONMENTAL DESIGN

Programs in Architecture Technology, GIS Community Planning, CADD/Drafting, Digital Design, MAPPS/GIS, & Historic Preservation. All programs at some level have been infused with "Sustainable" or "Green" Architecture concepts.

PROGRAM OVERVIEW

People need places in which to live, work and play; to learn, worship, meet, govern, shop, and eat. These places may be private or public; indoors or outdoors; rooms, buildings, or complexes. Together, they make up neighborhoods, towns, suburbs, and cities. The choices we make affect the environment, and in return it affects the way we think, create, learn, interact and communicate. Focus on sustainability compels us to create environments that work with nature, foster physical needs and intellectual growth. Sustainable Space design is an understanding of the world in a

REQUIRED COURSES

FIRST SEMESTER		UNITS
ARC 172	Architectural Drawing I	3
ARC 222	Beginning Architectural Graphics	3
ENV 101	Elements of Architecture	3
DRAFT 62	C.A.D.D. for Architects	3
UNITS		12

SECOND SEMESTER		UNITS
ARC 173	Architectural Drawing II	3
ARC 261	Computer Aided Design for Architecture I	3
INT 200	Residential Planning	3
DRAFT 63	C.A.D.D. for Building Systems	3
UNITS		12

THIRD SEMESTER		UNITS
ARC 130	History of Architecture I	2
ARC 151	Materials of Construction	3
ARC 201	Basic Architectural Drawing	3
ARC 271	Architectural Drawing III	3
Electives		1
UNITS		12

FOURTH SEMESTER		UNITS
ARC 131	History of Architecture II	2
ARC 152	Equipment of Buildings	3
ARC 202	Basic Architectural Design II	3
ARC 272	Architectural Drawing IV	3
Electives		1
UNITS		12
TOTAL UNITS		48

ELECTIVES

		UNITS
DRAFT 60	Introduction to C.A.D.D.	3
DRAFT 64	C.A.D.D. Laboratory	3
ARC 135	Historic Preservation	2
ARC 160	Computers for Designer	3
ARC 261	Computer-Aided Design for Architecture I	3
ARC 341	GIS-Metropolitan Access Planning I	3

ARCHITECTURAL TECHNOLOGY

■ Certificate of Accomplishment

Program Requirements

A Certificate of Accomplishment is awarded for successful completion of 48 units of the required core courses for the Associate in Arts degree (above) with a "C" or better grade in each course.

Upon successful completion of this program, students will have the skills needed to enter the field as an Architectural Technician who is both a

problem solver and an integral part of the design process. Students will master the skills necessary to work in the construction, drafting, estimating, building inspection, civil, electrical, mechanical and structural engineering, construction computer rendering, and computer-aided drawing arenas.

ARCHITECTURAL TECHNOLOGY

■ Associate in Science Degree - M.A.P.S. / GIS*

*M.A.P.S. (Metropolitan Access Planning System)

*GIS (Geographic Information Systems)

The M.P.A.S./G.I.S Program is designed to train students to work in the information system side of architecture and urban planning. This career option focuses on the issues of design and theory as these relate to large systems such as transportation, infrastructure, and global communication. The individual completing the M.A.P.S./GIS option will be prepared as both viewer (preparing reports) and analyst (asking what if) of the complex data structures that compose Geographic Information Systems. Students will learn how to design and maintain complex data systems that are managed in a spatial environment.

GIS is expected to be one of the fastest growing employment fields in the 21st century. Los Angeles and the surrounding areas are on the cutting edge of modern architecture, construction, and many other industries the employ graphical information. Individuals possessing the skills necessary to operate such software are in great demand. Urban planning, the motion picture industry, transportation and global communications are just some of the areas that are utilizing M.A.P.S./GIS systems.

Requirements for the Associate in Science degree in MAPS/GIS may be met by completing the required 52 to 53 units of course work, below, along with 18 units of general education courses meeting Plan B graduation requirements. Information on the Plan B requirements may be found in the catalog under Graduation/Transfer requirements.

Students successfully completing this program will have the skills needed to enter the information system side of architecture and urban planning. Graduates will be prepared to work on large systems such as transportation, infrastructure, and global communications. They will have the skills to design, and maintain large complex data systems that are managed in a spatial environment. General education classes provide a well rounded education, imparting the knowledge and skills needed to successfully participate in all aspects of society.

REQUIRED COURSES

FIRST SEMESTER		UNITS
ARC 222	Beginning Architectural Graphics	3
GEOG 1*	Physical Geography	3
CO INFO 700	Computer Concepts	3
UNITS		9

SECOND SEMESTER		UNITS
DRAFT 60	CADD Introduction	3
ARC 201	Beginning Architectural Design I	3
BIOLOGY 3	Introduction to Biology	4
ENGLISH 101*	College Reading and Composition	3
UNITS		13

THIRD SEMESTER		UNITS
DRAFT 62	CAD for Architects	3
CO INFO 709	Visual Basic Programming	3
ARC 341	GIS/Metropolitan Access Planning I	3
COMPLAN 1	Introduction to Community Planning and Economic Development	3
MATH 240*	Trigonometry	3
UNITS		15

FOURTH SEMESTER		UNITS
ARC 261	Computer Aided Design for Architecture I	3
CO INFO 733	Introduction to Data Base System Design	3
ARC 342	GIS/Metropolitan Access Planning II	3
CO INFO 741	Visual C++	3
MATH 225*	Introductory Statistics	
– or –		
MATH 227*	Statistics	3-4
UNITS		15-16
TOTAL UNITS		52-53

*These courses apply towards general education graduation requirements.

ARCHITECTURAL TECHNOLOGY

■ Certificate of Accomplishment - M.A.P.S./G.I.S

Requirements for the in MAPS/GIS Certificate of Completion may be met by completing 52 to 53 units of the required course work, above, from the core courses for the Associate in Science degree with grade of "C" or better.

ARCHITECTURE TECHNOLOGY

■ COURSE DESCRIPTIONS

130 HISTORY OF ARCHITECTURE I (2) UC: CSU

Lecture: 2 hours (Formerly ARCH 2)

The development of architecture from prehistoric times to the beginning of the Renaissance with emphasis on the influences which determined its characteristics.

131 HISTORY OF ARCHITECTURE II (2) UC: CSU

Lecture: 2 hours (Formerly ARCH 3)

The development of the built environment from the onset of the Renaissance to the present.

135 HISTORIC PRESERVATION (3) CSU

Lecture: 3 hours

Introduction to the field of cultural resource management, providing an overview to the conservation of and advocacy for historic buildings, sites, districts and landscapes.

151 MATERIALS OF CONSTRUCTION (3) RPT1

Lecture: 3 hours (Formerly ARCH 21)

A study is made of the basic building materials, such as wood, steel, concrete, and masonry, and their uses in the construction field. Non-structural materials such as glass, roofing, plastics and paint are explored, as well as the sixteen divisions of construction.

152 EQUIPMENT OF BUILDING (3) CSU

Lecture: 3 hours (Formerly ARCH 22)

A study of principles involved in the design and application of mechanical equipment to buildings for plumbing, heating, air conditioning, electrical power distribution, illumination, vertical transportation and acoustic systems.

160 COMPUTERS FOR DESIGNERS (3) CSU RPT2

Lecture: 1.5 hours; Lab: 4.5 hours

This is an introductory course aimed at 3D graphic use by, environmental and industrial designers such as architecture, landscape architecture, urban planners, product designers, virtual space designers, or any profession that uses computers in three-dimensional design virtually or physically.

172 ARCHITECTURAL DRAWING I (3)

Lecture: 1 hour; Lab: 4 hours (Formerly ARCH 5)

This course covers the preparation of construction documents for a one-story, wood frame residence as well as the study of construction methods, materials, and building ordinances. It concentrates on the development of a floor plan layout and design. It includes graphic representation of a site, foundation layout, floor and roof plans, schedules, cross-sections, details and interior/exterior elevations.

173 ARCHITECTURAL DRAWING II (3)

Lecture: 1 hour; Lab: 4 hours (Formerly ARCH 6)

This course covers the preparation of construction documents for a two-story, wood frame residence and the study of construction methods and material. Special consideration is given to solving problems involving two story construction additions to existing one-story structures. Other topics include graphic representation on site design, building foundation, structural components, elevations and cabinet drawings with floor plans; schedules, cross-sections, details and interior/exterior design.

201 BASIC ARCHITECTURAL DESIGN I (3) UC:CSU

Lecture: 1 hour; Lab: 4 hours (Formerly ARCH 33)

Solution of architectural problems using two- and three-dimensional studies of form and composition.

202 BASIC ARCHITECTURAL DESIGN II (3) UC:CSU

Lecture: 1 hour; Lab: 4 hours (Formerly ARCH 34)

This course explores creative architectural design through the planning of buildings and public spaces with concern for function, orientation, structure and materials.

210 CONSTRUCTION ESTIMATION (3) CSU

Lecture: 3 hours

A study is made of methods used in determining quantities and cost estimates of labor and materials in Engineering and building construction such as excavation, concrete and finish.

222 BEGINNING ARCHITECTURAL GRAPHICS (3) CSU

Lecture: 1 hour; Lab: 4 hours

This course covers graphic communication techniques, including fundamentals of orthographic projection; paraline and perspective drawing; descriptive geometry.

261 COMPUTER AIDED DESIGN FOR ARCHITECTURE I (3) CSU*Lecture: 1 hour; Lab: 4 hours (Formerly ARCH 25)*

A beginning Computer Aided Design course. Students learn the basic concepts involved in preparing computer drawings that communicate design ideas. Appropriate software is used such as Auto-Cad, 3D Studio and Micro station.

271 ARCHITECTURAL DRAWING III (3)*Lecture: 1 hour; Lab: 4 hours (Formerly ARCH 7)*

This course covers the study of concrete block or brick buildings along with wood frame construction, especially long span beam techniques. It includes further study of construction drawings, section layouts, materials and building ordinances as well as energy efficient methodologies, site orientation, roof, electrical, plumbing and air-conditioning; and an introduction to interior design colors, materials and furniture. Creative graphics representation on site analysis, floor plans and interior/exterior elevations also are covered.

272 ARCHITECTURAL DRAWING IV (3) RPT1*Lecture: 1 hour; Lab: 4 hours (Formerly ARCH 8)*

The design and construction of commercial buildings are studied with special emphasis on tilt-up concrete construction and wood frame long span beam techniques. This course also focuses on construction materials, structural details and building ordinances for commercial buildings. Students develop interior design presentations using sample materials for finished surfaces. Working drawings, creative architectural design and graphic presentation methods are also stressed.

341 GIS - METROPOLITAN ACCESS PLANNING I (3) CSU*Lecture: 1 hour; Lab: 4 hours (Formerly ARCH 46)*

CAD, GIS, Data Systems, and Internet accessibility in one course. GIS technology and related digital technologies are used to explore intelligent drawings, as well as drawings that have multiple types of information associated with them. The collection of data will evaluate the environmental conditions of the city.

342 METROPOLITAN ACCESS PLANNING SYSTEMS II (MAP/GIS) (3) CSU*Lecture: 1 hour; Lab: 4 hours (Formerly ARCH 47)*

CAD, GIS, Data Systems and Internet in one course. GIS technology and related digital technologies are used to explore Intelligent drawings, as well as, drawings that have multiple types of information associated with them. Data collection will be used to evaluate environment of the city.

185 DIRECTED STUDY - ARCHITECTURAL (1) CSU*Conference, 1 hour per unit.*

These courses are designed to allow the student to pursue directed study in the architecture program on a contract basis under the close supervision of an architectural drafting instructor. These courses require that the student present a contract and that the instructor approves and evaluates the contract.

285 DIRECTED STUDY - ARCHITECTURAL (2) CSU*Conference, 1 hour per unit.*

These courses are designed to allow the student to pursue directed study in the architecture program on a contract basis under the close supervision of an architectural drafting instructor. These courses require that the student present a contract and that the instructor approves and evaluates the contract.

385 DIRECTED STUDY - ARCHITECTURAL (3) CSU*Conference, 1 hour per unit.*

These courses are designed to allow the student to pursue directed study in the architecture program on a contract basis under the close supervision of an architectural drafting instructor. These courses require that the student present a contract and that the instructor approves and evaluates the contract.

ARCHITECTURAL INTERIORS**■ COURSE DESCRIPTION****200 RESIDENTIAL PLANNING (3)***Lecture: 1 hour; Lab: 4 hours (Formerly ARCH 30)*

A study is made using a "small house project" layout, livability, functionality, size, orientation, cost, furnishing, equipment, ornamentation and future inhabitants. The "small house project" is put in context through a brief history of American shelters – their construction types and styles. At this point in the occurs, the student is ready for developing, retrofitting, adding and remodeling the "small house project" including basic construction details. Residential construction problems are explored with an emphasis placed in functional design.

ENVIRONMENTAL DESIGN**■ COURSE DESCRIPTION****101 ELEMENTS OF ARCHITECTURE (3)***Lecture: 1 hour; Lab: 4 hours (Formerly ARCH 9)*

Basic architectural elements, form and composition are studied mainly through two-dimensional drawing media to organize space. Some two-dimensional concepts are translated and transformed into a three-dimensional conceptual model. Emphasis is placed in analytic techniques and problem solving in the design process.

DRAFTING**■ COURSE DESCRIPTIONS****60 CADD INTRODUCTION (3)***Lecture: 1 hour; Lab: 4 hours*

This is a basic CADD foundation course for students in the AEC (Architecture, Engineering and Construction) field, who will study the relationship between manual drafting, digital drafting and architectural drawing. With "hands-on" learning experience, students will develop mental models to understand the basic principles of CADD: Interfaces, windows, menu bars, tool bars, dialog boxes and basic commands. This course will also cover CADD file management systems, standards for drawings, savings settings and templates.

62 CADD FOR ARCHITECTS (3)*Lecture: 1 hour; Lab: 4 hours*

This course combines AutoCAD drafting tools with building objects like walls, windows, doors, etc. Using this new object-oriented approach, building objects related intelligently with one another in a way that was not possible before with the traditional CAD geometry-based approach.

63 CADD FOR BUILDING SYSTEMS (3)*Lecture: 1 hour; Lab: 4 hours*

Basic introduction to computer aided design and drafting for the mechanical, plumbing, and electrical drawing sheets that are used in a set of construction drawings. The CAD technology used in this class is Architectural Desktop/Building System software with object technology, team coordination, interactive documentation and annotation tools. Building model examples can be in two-dimensional or three-dimensional space.

64 CADD LABORATORY (3) RPT4*Lecture: 1 hour; Lab: 4 hours*

This course provides assistance to the student to resolve architectural or building systems projects in an environment that uses computer aided design/drafting and Internet Work Spaces technology. Students will be able to complete assignments from other courses and expand his/her technology detail knowledge.

BUILDING CONSTRUCTION TECHNIQUES

PROGRAM OVERVIEW

Most craft workers specialize in one kind of work, such as electrical, plumbing, carpentry etc. However there are many skills and knowledge set which are common to the construction and maintenance industries. Contractors for example need to know basic law, contracts, and business practices. This is the area where Building Construction Techniques classes are utilized to give the necessary skills and knowledge sets that many different disciplines require.

BUILDING CONSTRUCTION TECHNIQUES

■ COURSE DESCRIPTIONS

002 PRE-EMPLOYMENT - APPLIED TRADES CALCULATIONS AND MEASUREMENTS (3) NDA*Lecture: 3 hours*

This is an entry level course in applied calculations and measurements with special emphasis on application problems encountered in the utility, manufacturing, and construction industries.

003 MATERIALS OF THE BUILDING INDUSTRY (2) NDA*Lab: 3 hours*

This course covers the identification and proper use of construction materials as well as their selection criteria for common items used in the utility and construction industries. An introduction to various codes and related publications will also be included.

004 PRINCIPLES OF HAND AND POWER TOOLS (3) NDA*Lab: 9 hours*

This course focuses in the care, use, and operation of basic hand, machine and portable electric tools used in the utility, construction, and maintenance industries. Basic skills are taught by class projects in the shop and field experiences.

007 WEATHERIZATION - PRACTICAL ENERGY EFFICIENCY TECHNIQUES (3)*Lecture: 3 hours*

This course provides expertise advice on various techniques that can be used to weatherize homes and other structures. The course is suitable for application by a professional home or energy inspector. Homeowners would also benefit from the knowledge and application of the simpler techniques. Efficiency techniques related to: Energy basics, sealing, insulating, window replacement/installation, environmental air, water, appliance energy efficiency, and lighting are just some of the areas that will be covered.

008 WEATHERIZATION - ENERGY EFFICIENCY PRACTICES (1)*Lab: 3 hours*

This course provides laboratory exercises to build skills necessary for the effective application of energy techniques that can be used to weatherize homes and other structures. Course is suitable for application by a professional weatherization contractor training entry level workers or a homeowner looking to improve their own home. Efficiency practices related to: Energy basics, sealing, insulating, window replacement/installation, environmental air, water, appliance energy efficiency, and lighting are just some of the areas that will be covered.

009 ENERGY AUDITOR - RESIDENTIAL (3)*Lecture: 3 hours*

A course focusing on residential energy requirements, loss and efficiency. How energy is used and lost will be discussed, along with the testing techniques and approaches to measure the amount of energy lost. Students will learn the components of an energy audit report and complete necessary forms.

010 ENERGY AND UTILITY INDUSTRY CAREERS (3)*Lecture: 3 hours*

This course reviews high demand jobs in the energy and utility industry and assists students in deciding on an appropriate career path. Hiring process and interview skills will be explored and fitness for duty and other physical and physiological characteristics will be discussed. An A to Z guide to private, State, Federal, and international career opportunities will be presented.

011 CADD FOR SUSTAINABLE LANDSCAPE DESIGN (3)*Lecture: 3 hours*

Computer Aided Design/Drafting (CADD) applications specific to landscape professionals. Includes introduction to CADD skills, block functions, internet applications, three-dimensional design, presentation drawings, building systems, working drawings, and working drawing coordination.

012 ENERGY AUDITOR - RESIDENTIAL PRACTICES (1)*Lab: 3 hours*

A course focusing on the practical application of residential energy requirements, loss and efficiency. Testing techniques and measurement the amount of energy lost. Students will perform actual energy audits of simulated structures and complete necessary forms.

101 CONTRACT LICENSE LAW (3) CSU*Lecture: 3 hours*

Contractor's License Law is designed to prepare personnel in the construction industry on the California Law requirements for attaining a California State Contractor's License. Topics covered are License Law, Mechanic's Lien Law, Employment Regulations, Worker's Compensation, Safety in Employment and Business Management.

135 INTRODUCTION TO HISTORIC PRESERVATION (3)*Lecture: 3 hours*

Introduction to the field of cultural resource management, providing an overview to the conservation of and advocacy for historic buildings, sites, districts and landscapes.

CABINETMAKING & MILLWORK

PROGRAM OVERVIEW

Despite the development of sophisticated plastics and other materials, the demand for wood products continues unabated. Helping to meet this demand are woodworkers. Woodworkers are found in industries that produce wood, such as sawmills and plywood mills; in industries that use wood to produce furniture, kitchen cabinets, musical instruments, and other fabricated wood products; and in small shops that make architectural woodwork, furniture, and many other specialty items.

Woodworkers assemble finished wood products. They operate machines that cut, shape, assemble, and finish raw wood to make the doors, windows, cabinets, trusses, plywood, flooring, paneling, molding, and trim that are components of most homes. Others may fashion home accessories, such as beds, sofas, tables, dressers, and chairs. In addition to these household goods, woodworkers also make sporting goods, including baseball bats and oars, as well as musical instruments, toys, caskets, tool handles, and many additional wooden items.

Woodworkers have been greatly affected by the introduction of computer-controlled machinery. Production woodworkers set up, operate, and tend woodworking machines such as power saws, planers, sanders, lathes, jointers, and routers and CNC woodworking centers that cut and shape components from lumber, plywood, and other wood products. Computer technology has raised worker productivity by allowing one operator to simultaneously tend a greater number of machines. An operator can program a CNC machine to perform a sequence of operations automatically, resulting in greater precision and reliability. The integration of computers with equipment has improved production speed and capability, simplified setup and maintenance requirements, and increased the demand for workers with computer skills.

To meet the training needs of persons interested in becoming a Woodworker, Los Angeles Trade Technical College offers a Cabinetmaking and Millwork Associate in Science degree and Cabinetmaking and Millwork Construction Technologies Associates in Arts degree as well as their equivalent Certificates of Completion.

The Associate in Science degree is designed for individuals seeking entry level positions in the field. Students enrolling in this program should be able to commit to full-time student status, which is approximately 24 hours per week. This time commitment is necessary to allow for hands-on training with the lab applications used during the course of instruction.

The Associate in Arts degree is an evenings-only course of study designed for individuals currently in the field who want to improve or expand. Due to limitations on available evening hours, the utilization of hands-on lab application is assumed to be provided at the student's place of employment.

Woodworkers held about 306,000 jobs in the United States in 2006. Self-employed woodworkers, mostly cabinetmakers and furniture finishers, accounted for nearly 15% of these jobs. Employment among detailed woodworking occupations was distributed as follows:

Cabinetmakers and bench carpenters	148,000
Woodworking machine setters, operators, and tenders, except sawing	92,000
Furniture finishers	34,000
Model makers, wood	3,200
Patternmakers, wood	2,500
All other woodworkers	26,000

Almost 3 out of 4 woodworkers were employed in manufacturing industries. One-third of woodworkers were found in establishments fabricating household and office furniture and fixtures, and 30% worked in wood product manufacturing, producing a variety of raw, intermediate, and finished wood stock. Wholesale and retail lumber dealers, furniture stores, re-upholstery and furniture repair shops, and construction firms also employ woodworkers.

Employment of bench carpenters, cabinetmakers, model makers, patternmakers, and other specialized woodworking occupations are projected to show modest gains. In addition to the continuing need for repair and renovation of residential and commercial properties, demand for these workers will stem from increases in population, personal income, and business expenditures. Therefore, opportunities should be available for those who specialize in items such as moldings, cabinets, stairs, and windows. Firms that focus on custom woodwork will be best able to compete against imports without transferring jobs offshore, so opportunities should be very good in specialized woodworking sectors, such as architectural woodworking. Model makers and patternmakers who know how to create and execute designs on a computer are projected to have the strongest employment opportunities.

CABINETMAKING AND MILLWORK

■ Associate in Science Degree

Requirements for the Cabinetmaking and Millwork Associate in Science degree may be satisfied by completing a minimum of 48 units in the required courses listed below and an additional 18 units in general education courses (Plan B).

Upon successful completion of this program the student will have the necessary knowledge and skills for a career as a woodworker in the construction or manufacturing arena. Skills learned include the construction, installation, and repair of models, patterns, furniture, moldings, and the finishing of items made from wood and other materials. Working from blueprints, layout, measuring, marking, and arranging materials in accordance detailed designs, cutting and shaping wood, plastic, or fiberglass using hand and power tools, joining materials with nails, screws, staples, or adhesives are also learned during this program.

FIRST SEMESTER		UNITS
CRPNTRY 105	Calculations and Measurement for Woodworking	
	Students I	3
CBNTMKG 113	Application of Mill Cabinet Tooling	4
CBNTMKG 115	Orientation, Materials and Detailing	5
	UNITS	12

SECOND SEMESTER		UNITS
CBNTMKG 126	Standards of Construction and Stock Billing	4
CBNTMKG 127	Hand and Machine Tools	5
CRPNTRY 130	Calculations and Measurement for Woodworking	
	Student II	3
UNITS		12

THIRD SEMESTER		UNITS
CBNTMKG 130	Cabinetry	3
CBNTMKG 138	Advanced Detailing	3
CBNTMKG 139	Hand and Power Tool Application	3
CBNTMKG 170	Introduction to CNC Woodworking Center	3
UNITS		12

FOURTH SEMESTER		UNITS
CBNTMKG 141	Advanced Layout Procedures	4
CBNTMKG 142	Advanced Cabinet Detailing and Machine Work	4
CBNTMKG 143	Cabinet Installation and Laminated Plastic	4
UNITS		12
TOTAL UNITS		48

RECOMMENDED ELECTIVE COURSES

		UNITS
CBNTMKG 150	Design and Construction Techniques I	4
CBNTMKG 151	Design and Construction Techniques II	4
CBNTMKG 201	Cabinet Construction I	4
CBNTMKG 202	Cabinet Construction II	4
CBNTMKG 941	Cooperative Education	4

CABINETMAKING AND MILLWORK

■ Certificate of Accomplishment

A Certificate of Accomplishment is awarded for successful completion of 48 units minimum in the required courses listed for the Associate in Science degree above with a "C" or better grade in each course.

CABINETMAKING AND MILLWORK; CONSTRUCTION TECHNOLOGIES

■ Associate in Arts Degree

Requirements for the Cabinetmaking and Millwork Construction Technologies Associate in Arts degree may be satisfied by completing a minimum of 48 units in the required courses listed below and an additional 18 units in general education courses (Plan B).

Successful completion of this program the student will have the necessary knowledge and skills for a career as a woodworker in the construction or manufacturing arena. Skill learned include the construction, installation, and

repair of models, patterns, furniture, moldings, and the finishing of items made from wood and other materials. Working from blueprints, layout, measuring, marking, and arranging materials in accordance detailed designs, cutting and shaping wood, plastic, or fiberglass using hand and power tools, joining materials with nails, screws, staples, or adhesives are also learned during this program.

REQUIRED COURSES

LEVEL I		UNITS
CRPNTRY 105	Calculations and measurement for Woodworking	
	Students I	3
CBNTMKG 116	Application of Hand and Power Tools	3
CRPNTRY 243	Building Estimating I	3
Electives	Select one (below)	3
UNITS		12

LEVEL II		UNITS
CRPNTRY 130	Calculations and measurement for Woodworking	
	Students II	3
CRPNTRY 200	Furniture Design History and Construction	4
CRPNTRY 240	Building Construction Specialties	4
Electives	Select one (below)	1
UNITS		12

LEVEL III		UNITS
CBNTMKG 170	Introduction to CNC Woodworking Center	3
CRPNTRY 210	Woodworking Lab	2
CRPNTRY 251	Uniform Building Code I	3
Electives	Select one (below)	4
UNITS		12

LEVEL IV		UNITS
ECONENG 113	Construction Contract Law	3
CRPNTRY 241	Blueprint Reading	3
CRPNTRY 252	Uniform Building Code II	3
Elective	Select one (below)	3
TOTAL UNITS		48

ELECTIVES

		UNITS
CBNTMKG 113	Applications of Mill and Cabinet Tooling	3
CBNTMKG 115	Orientation, Materials and Detailing	5
CBNTMKG 150	Design and Construction Techniques I	4
CBNTMKG 151	Design and Construction Techniques II	4
CBNTMKG 200	Furniture Design History and Construction	4
CBNTMKG 201	Cabinet Construction I	4
CBNTMKG 202	Cabinet Construction II	4
CBNTMKG 210	Woodworking Laboratory	2
CBNTMKG 941	Cooperative Education	4

CABINET MAKING AND MILLWORK; CONSTRUCTION TECHNOLOGIES

■ Certificate of Accomplishment

Requirements for the Cabinetmaking and Millwork Construction Technologies Certificate of Completion may be satisfied by completing a minimum of 48 units in the required courses listed for the Associate in Arts degree above with a "C" or better grade in each course.

Upon successful completion of this program, students will have the knowledge and skills necessary for a career as a woodworker in the construction or manufacturing arena. Skills learned include the construction, installation, and repair of models, patterns, furniture, moldings, and the finishing of items made from wood and other materials in accordance detailed designs, cutting and shaping wood, plastic or fiberglass using hand and power tools, joining materials with nails, screws, staples, or adhesives, are also learned during this program.

CABINETMAKING AND MILLWORK

■ COURSE DESCRIPTIONS

113 APPLICATION OF MILL CABINET TOOLING (4)

Lecture: 1 hour; Lab: 9 hours

This course covers standard milling practices including alignment, set-up and use of machinery and tooling. Topics such as shop practice with hand and power tools are studied. Applications including ripping, jointing, planning, shaping, boring, routing and sanding are also reviewed with emphasis on safety.

115 ORIENTATION, MATERIALS AND DETAILING (5)

Lecture: 2 hours; Lab: 9 hours

This course reviews history of cabinet making, study of cabinet making materials, trade terminology, drafting principles and hand sketching and detailing practices.

116 APPLICATION OF HAND AND POWER TOOLS (3)

Lecture: 1 hour; Lab: 6 hours

This course studies shop practice with hand and power tools including portable electric tools, alignment and use of machinery, applications such as ripping, jointing, planning and sanding. Safety practices are also covered in this course.

117 DRAFTING AND BLUEPRINT READING (3)

Lecture: 1 hour; Lab: 6 hours

This course covers basic drafting techniques, building plans and specifications, trade terminology, hand sketching and detailing, as well as applications in material take-off.

126 STANDARDS OF CONSTRUCTION AND STOCK BILLING (4)

Recommended Preparation: Cabinetmaking 113, 115 and Carpentry 105 with a grade of "C" or better.

Lecture: 1 hour; Lab: 9 hours

This course studies construction standards and materials such as fasteners, hardware, glass, and finishing. General ordering procedures and stock billing methods are also reviewed.

127 HAND AND MACHINE TOOLS (5)

Recommended Preparation: Cabinetmaking 126, 113, 115 and Carpentry 105 with a grade of "C" or better.

Lecture: 2 hours; Lab: 9 hours

Topics covered in this course include, trade terminology, hand sketching, working drawings and specifications, use of hand and power woodworking tools, set-up, alignment and operation of power machines, demonstration of standard milling practices. Safety practices will also be reviewed.

130 CABINETRY (3)

Recommended Preparation: Cabinetmaking 126, 127 and Carpentry 130 with a grade of "C" or better.

Lecture: 1 hour; Lab: 6 hours

This course covers stock billing procedures, modular and standard construction, wood finishes and finishing methods, installation methods including squaring and clamping, face frames and counter dies and blind nailing, as well as installation of residential and commercial cabinetry.

138 ADVANCED DETAILING (3)

Recommended Preparation: Cabinetmaking 126, 127 and Carpentry 130 with a grade of "C" or better.

Lecture: 1 hour; Lab: 6 hours

This course studies hand sketching and complete job requirements, full size layout of cabinetry, designing and drafting procedures, and production of scaled working drawings.

139 HAND AND POWER TOOL APPLICATION (3)

Recommended Preparation: Cabinetmaking 126, 127 and Carpentry 130 with a grade of "C" or better.

Lecture: 1 hour; Lab: 6 hours

This course focuses on set-up, alignment and operation of power machines. With emphasis on safe procedures, topics covered include fundamental and advanced machine operations, basic machinery care, cutting to a pattern and the use of templates.

141 ADVANCED LAYOUT AND DETAILING PROCEDURES (4)

Recommended Preparation: Cabinetmaking 126, 127 and Carpentry 130 with a grade of "C" or better.

Lecture: 2.5 hours; Lab: 4.5 hours

This course studies counter die and template layout, hand sketching, layout procedures, development of complete working drawings, and full scale layout of mill-type cabinetry.

142 ADVANCED MACHINE WORK (4)

Recommended Preparation: Cabinetmaking 126, 127 and Carpentry 130 with a grade of "C" or better.

Lecture: 2.5 hours; Lab: 4.5 hours

Topics covered in this course include cabinet measuring methods and cutting to a pattern or template on trim saws and shapers.

143 CABINET INSTALLATION AND LAMINATED PLASTIC (4)

Recommended Preparation: Cabinetmaking 126, 127 and Carpentry 130 with a grade of "C" or better.

Lecture: 2.5 hours; Lab: 4.5 hours

This course studies practical installation of various types of residential and commercial cabinetry and fixtures. Cutting and application of most types of laminated plastic are also studied in this course.

150 DESIGN AND CONSTRUCTION TECHNIQUES I (4)

Lecture: 2 hours; Lab: 6 hours

This course covers applied mathematics, introductory detailing, fundamental cabinet design standards, basic machine operations and cabinet assembly methods.

151 DESIGN AND CONSTRUCTION TECHNIQUES II (4)*Lecture: 2 hours; Lab: 6 hours*

This course focuses on advanced detailing, advanced cabinet design standards, advanced machine operations and advanced cabinet assembly methods.

170 INTRODUCTION TO CNC WOODWORKING MACHINING CENTER (3)*Lecture: 1.5 hours; Lab: 4.5 hours*

This course presents an introduction to the use of a CNC Woodworking Machinery Station. Topics include safety, speeds, feeds, tooling, setups, and programming, which will include related attachments and accessories for the machining center.

200 FURNITURE DESIGN, HISTORY, AND CONSTRUCTION (4)*Lecture: 3 hours; Lab: 3 hours*

This course provides an exploration of three-dimensional furniture design through the media of wood, metal, glass, plastic and casting resins. Basic drawing and planning skills, design skills, and advanced woodworking skills are covered. Students will create their own interpretations of traditional and contemporary furniture.

210 WOODWORKING LAB (2)*Lab: 6 hours*

This course is a review of skills needed in woodworking. Substantial time is devoted to the practical application of these skills. Students are allowed to design and construct projects of their own determination.

The Associate in Science degree is designed for individuals seeking entry level positions in the field. Students enrolling in this program should be able to commit to full-time student status, which is approximately 24 hours per week. This time commitment is necessary to allow for hands-on training with the laboratory applications used during the course of instruction.

The Associate in Arts degree is an evenings-only course of study designed for individuals currently in the field who want to improve their skills or learn new ones. Due to limitations on available evening hours, the utilization of hands-on laboratory application is assumed to be provided at the students' place of employment.

Carpenters are employed throughout the country in almost every community and make up the largest building trades occupation. They held about 1.3 million jobs in 2004. About one-third worked in building construction and about one-fifth worked for special trade contractors. Most of the rest of the wage and salary workers worked for manufacturing firms, government agencies, retail establishments and a wide variety of other industries. About one-third of all carpenters were self-employed.

Job opportunities for carpenters are expected to be excellent throughout the 2006-14 period. Employment of carpenters is expected to increase about as fast as average for all occupations through 2014, and turnover also creates a large number of openings each year. Contractors report having trouble finding skilled carpenters to fill many of their openings and the need for carpenters is expected to grow as construction activity increases in response to demand for new housing, office and retail space, and for modernizing and expanding schools and industrial plants. A strong home remodeling market is also projected to create a large demand for carpenters.

In May 2006, median hourly earnings of carpenters were \$19.78. The middle 50% earned between \$15.91 and \$25.62, while the highest 10% earned more than \$31.65 per hour.

CARPENTRY**PROGRAM OVERVIEW**

Carpenters are involved in many different kinds of construction activity, from the building of highways and bridges, to the installation of kitchen cabinets. Carpenters construct, erect, install, and repair structures and fixtures made from wood and other materials. Working from blueprints or instructions from supervisors, carpenters first perform the layout—measuring, marking, and arranging materials—in accordance with local building codes. They cut and shape wood, plastic, fiberglass, or drywall using hand and power tools. They join the materials with nails, screws, staples, or adhesives. In the final step, carpenters check the accuracy of their work with levels, rules, plumb bobs, framing squares, or electronic versions of these tools and make any necessary adjustments.

Carpenters employed outside the construction industry perform a variety of installation and maintenance work. They may replace panes of glass, ceiling tiles, and doors, as well as repair desks, cabinets, and other furniture. Depending on the employer, carpenters install partitions, doors, and windows; change locks; and repair broken furniture. In manufacturing firms, carpenters may assist in moving or installing machinery.

To meet the training needs of persons interested in becoming a Carpenter, Los Angeles Trade Technical College offers a Carpentry Associate in Science degree and a Carpentry Construction Technologies Associates in Arts degree as well as their equivalent Certificates of Completion.

CARPENTRY**■ Associate in Science Degree**

Requirements for the Carpentry Associate in Science degree may be satisfied by completing a minimum of 48 units in the required courses listed below and an additional 18 units in general education courses (Plan B).

Upon successful completion of this program the student will have the necessary knowledge and skills for a career as a Carpenter in the Construction or Maintenance arena. The construction, installation, and repair of structures and fixtures made from wood and other materials. Working from blueprints, layout, measuring, marking, and arranging materials in accordance with local building codes, cutting and shaping wood, plastic, fiberglass, or drywall using hand and power tools, joining materials with nails, screws, staples, or adhesives are just some of the skills that will be mastered during this program.

REQUIRED COURSES

FIRST SEMESTER		UNITS
CRPNTRY 105	Calculations and Measurement for Woodworking	
	Students I	3
CRPNTRY 114	Hand and Power Tools Application	4
CRPNTRY 115	Basic Blueprint Reading	3
CRPNTRY 117	Construction Materials	2
	UNITS	12

SECOND SEMESTER		UNITS
CRPNTRY 123	Basic House Construction	4
CRPNTRY 124	Blueprint Reading II	3
CRPNTRY 129	Basic Residential Estimating	2
CRPNTRY 130	Calculations and Measurement for Woodworking Students II	3
UNITS		12

THIRD SEMESTER		UNITS
CRPNTRY 132	Applied Blueprint Reading	3
CRPNTRY 133	Advanced Residential Estimating	3
CRPNTRY 134	Advanced Residential Construction	4
CRPNTRY 135	Concrete Construction	2
UNITS		12

FOURTH SEMESTER		UNITS
CRPNTRY 144	Residential Exterior Finish	4
CRPNTRY 145	Residential Interior Finish	5
CBNTMKG 170	Introduction to the CNC Woodworking Center	3
UNITS		12
TOTAL UNITS		48

RECOMMENDED ELECTIVES

		UNITS
CRPNTRY 111	Construction I	7
CRPNTRY 118	Materials	3
CRPNTRY 126	Construction II	6
CRPNTRY 148	Computer Assisted Estimating I	3
CRPNTRY 149	Computer Assisted Estimating II	3
CRPNTRY 243	Building Estimating I	3
CRPNTRY 247	Building Estimating II	3
CRPNTRY 941	Cooperative Education	4

CARPENTRY

■ Certificate of Accomplishment

A Certificate of Accomplishment is awarded for successful completion of 48 units of the required courses listed for the Associate in Science degree, above, with a "C" or better grade in each course.

Upon successful completion of this program the student will have the necessary knowledge and skills for a career as a Carpenter in the Construction or Maintenance arena. The construction, installation, and repair of structures and fixtures made from wood and other materials. Working from blueprints, layout, measuring, marking, and arranging materials in accordance with local building codes, cutting and shaping wood, plastic, fiberglass, or drywall using hand and power tools, joining materials with nails, screws, staples, or adhesives are just some of the skills that will be mastered during this program.

CARPENTRY: CONSTRUCTION TECHNOLOGIES

■ Associate in Arts Degree

Requirements for the Carpentry Construction Technologies Associate in Arts degree may be satisfied by completing a minimum of 48 units in the required courses listed below and an additional 18 units in general education courses (Plan B).

Upon successful completion of this program the student will have the necessary knowledge and skills for a career as a Carpenter in the Construction or Maintenance arena. The construction, installation, and repair of structures and fixtures made from wood and other materials. Working from blueprints, layout, measuring, marking, and arranging materials in accordance with local building codes, cutting and shaping wood, plastic, fiberglass, or drywall using hand and power tools, joining materials with nails, screws, staples, or adhesives are just some of the skills that will be mastered during this program.

REQUIRED COURSES

LEVEL I		UNITS
CRPNTRY 105	Calculations and Measurements for Woodworking Students I	3
CRPNTRY 111	Construction I	3
CRPNTRY 126A	Construction IIA	3
Elective		3
UNITS		12

LEVEL II		UNITS
CRPNTRY 130	Calculations and Measurements for Woodworking Students II	3
CRPNTRY 148	Computer Assisted Estimating I	3
CRPNTRY 241	Blueprint Reading	3
CRPNTRY 243	Building Estimating I	3
UNITS		12

LEVEL III		UNITS
ECONMT 100	(OSHA) Safety Standards	2
CRPNTRY 149	Computer Assisted Estimating II	3
CRPNTRY 240	Building Construction Specialties	4
CRPNTRY 251	Uniform Building Code I	3
UNITS		12

LEVEL IV		UNITS
CRPNTRY 247	Building Estimating II	3
CRPNTRY 252	Uniform Building Code II	3
Electives	Select one (below)	6
UNITS		12
TOTAL UNITS		48

ELECTIVES

		UNITS
CRPNTRY 114	Hand and Power Tool Application	4
CRPNTRY 115	Blueprint Reading	3
CRPNTRY 117	Construction Materials	2
ECONENG 113	Construction Contract Law	3
CBNTMKG 170	Introduction to CNC Woodworking Center	3
CBNTMKG 201	Cabinet Construction I	4
CBNTMKG 202	Cabinet Construction II	4

CARPENTRY: CONSTRUCTION TECHNOLOGIES

■ Certificate of Accomplishment

A Certificate of Accomplishment is awarded for successful completion of 48 units minimum in the required courses listed for the Associate in Arts degree above with a "C" or better grade in each course. Upon successful completion of this program the student will have the necessary knowledge and skills for a career as a Carpenter in the Construction or Maintenance arena. The construction, installation, and repair of structures and fixtures made from wood and other materials. Working from blueprints, layout, measuring, marking, and arranging materials in accordance with local building codes, cutting and shaping wood, plastic, fiberglass, or drywall using hand and power tools, joining materials with nails, screws, staples, or adhesives are just some of the skills that will be mastered during this program.

CARPENTRY

■ COURSE DESCRIPTIONS

105 CALCULATIONS AND MEASUREMENT FOR WOODWORKING STUDENTS I (3)

Lecture: 3 hours

This course reviews the fundamentals of arithmetic used in the construction trade. Topics are selected upon the basis of their application to the woodworking industry.

111 CONSTRUCTION I (7)

Lecture: 3 hours; Lab: 12 hours

This course covers use and operation of hand tools, machine tools and portable electric tools commonly in use in construction. Fundamentals of residential foundation and wall construction, use of rough and finish hardware, glues and adhesives, federal, state and local building codes and safety ordinances are studied in this course.

114 HAND AND POWER TOOLS APPLICATION (4)

Lecture: 1 hour; Lab: 9 hours

This course focuses in the care, use, and operation of basic hand, machine and portable electric tools used in residential type carpentry construction. Basic skills are taught by class projects in the shop.

115 BASIC BLUEPRINT READING (3)

Lecture: 1 hour; Lab: 6 hours

This course covers topics such as basic drafting techniques, residential working plans and specifications, building layout measurements, general notes and specifications, and methods of material take off for residential buildings.

117 CONSTRUCTION MATERIALS (2)

Lecture: 1 hour; Lab: 3 hours

This course focuses on building materials such as concrete, steel and a variety of woods used for exterior and interior carpentry finish. Insulation, flashing, roof covering, interior and exterior wall covering, wood trim and other finish materials in residential construction are studied. Rough and finish hardware such as nails, screws, bolts, timber fasteners, gang nailing, power fastening, powder actuated fasteners, joist hangers, clips and installation methods are also reviewed.

118 MATERIALS (3)

Lecture 1 hour; Lab: 6 hours

This course explores materials such as wood, lumber, sheet materials, fasteners, hardware, glass, laminates, hangers, and clips. Lumber grades and sizes and methods of installation are also covered.

123 BASIC HOUSE CONSTRUCTION (4)

Lecture: 2 hours; Lab: 6 hours

Instruction includes building layout and the use of the transit; floor, wall and the roof framing; application of existing building codes and wood stair layout and framing. Construction of large scale models of typical one-story, two-story and split level houses are explored.

124 BLUEPRINT READING II (3)

Lecture: 1 hour; Lab: 6 hours

This course trains principles and skills of drafting and blueprint reading relating to building construction. Local building code requirements are also explored.

126 CONSTRUCTION II (6)

Lecture: 3 hours; Lab: 9 hours

This course focuses on principles of estimating, quantity take-off, material and labor costs, bidding procedures, remodeling and new residential and commercial construction.

129 BASIC RESIDENTIAL ESTIMATING (2)

Lab: 6 hours

Calculating excavation and concrete volume, rapid estimating methods, overhead and profit calculations, methods and procedures used to construct and submit bids are covered in this course. Topics such as material take-off methods from job blueprints for residential buildings, preparation of a brief estimating booklet used to make estimates and assist in formulating bids are also assessed.

130 CALCULATIONS AND MEASUREMENT FOR WOODWORKING STUDENTS II (3)

Lecture: 3 hours.

This is an introductory course in woodworking calculations with emphasis on algebra, geometry, and trigonometry, as they apply to the woodworking trades.

132 APPLIED BLUEPRINT READING (3)

Lecture: 1 hour; Lab: 6 hours

This course focuses on working drawings and blueprints used in construction with emphasis on the ability to visualize and interpret typical drawings, standards, specifications, and symbols used in architectural drawings.

133 ADVANCED RESIDENTIAL ESTIMATING (3)*Lecture: 3 hours*

This course studies building material quantity survey from residential plans including foundation, underpinning, floors, walls, ceiling and roof as well as other interior and exterior construction.

134 ADVANCED RESIDENTIAL CONSTRUCTION (4)*Lecture: 2.5 hours; Lab: 4.5 hours*

This course emphasizes on advanced framing methods, preparation for utility rough-ins, advanced finish carpentry.

135 CONCRETE CONSTRUCTION (2)*Lecture: 1 hour; Lab: 3 hours*

This course covers practical concrete construction, form work, leveling and squaring, reinforcement placing, concrete mixing, concrete finishes. Emphasis is given on safety, code requirements and correct practices.

144 RESIDENTIAL EXTERIOR FINISH (4)*Lecture: 1 hour; Lab: 9 hours*

Training is provided in principles and skills in residential exterior finish work. Instruction includes siding, stucco, roof covering and window installation.

145 RESIDENTIAL INTERIOR FINISH (5)

Recommended Preparation: Carpentry 123, 124, 129, and 130 with a grade of "C" or better.

Lecture: 2 hours; Lab: 9 hours

This course trains on principles and skills in residential interior finish work with emphasis on dry wall, doors, trim and paneling.

148 COMPUTER ASSISTED ESTIMATING I (3)*Lecture: 1.5 hours; Lab: 4.5 hours*

Instruction is given in the use of a personal computer to make 2D and 3D design drawings, with an emphasis on conforming to the Uniform Building Code and producing a materials list.

149 COMPUTER ASSISTED ESTIMATING II (3)*Lecture: 1.5 hours; Lab: 4.5 hours*

Instruction is given in advanced computer assisted estimating techniques. Students learn to make design projects with emphasis on material applications, structural design, framing lumbers, concrete reinforcement, producing a cost break down and bidding procedures.

240 BUILDING CONSTRUCTION SPECIALTIES (4)*Lecture: 2.5 hours; Lab: 4.5 hours*

This course focuses on drafting and interpreting plans, construction methods and techniques as they relate to building codes, building layout, foundation construction, exterior and interior carpentry techniques as well as residential framing.

241 BLUEPRINT READING AND ESTIMATING (3)*Lecture: 3 hours*

This course is a study of building plans including plot, foundation and floor plans, elevations, sections and details. Instruction given in construction materials, quantity take-off, estimating, allowance for code requirements and introduction to bidding procedures.

243 BUILDING ESTIMATING I (3)*Lecture: 3 hours*

Topics such as general estimating methods and procedures, equipment costs, material transportation and handling costs, quantity take-offs from building plans, subcontracts, pricing the estimate and bidding procedures are covered in this course.

247 BUILDING ESTIMATING II (3)*Lecture: 3 hours*

This course covers estimating techniques, quantity surveying, take-off sheets and summary sheets, use of specifications, estimating concrete work, masonry, carpentry, plaster and wallboard, tile, terrazzo and marble, painting and glazing, as well as hardware and subcontract work.

251 UNIFORM BUILDING CODE I (3) RPT1*Lecture: 3 hours*

This is an introductory course to uniform building codes. Instruction is given in parts such as administrative, definitions, requirements based on occupancy, location in fire zones and types of construction, engineering regulations and detailed regulations on excavations, veneer and roof construction.

252 UNIFORM BUILDING CODE II (3) RPT1*Lecture: 3 hours*

This course covers instruction on fire-resistive standards for fire protection, use of public streets and projections over public property regulations, plaster and wallboard, special subjects, legislative matters, photographic and X-ray film, patio covers, fall-out shelters and excavation and grading.

ELECTRICAL CONSTRUCTION AND MAINTENANCE

PROGRAM OVERVIEW

We flick on the lights, turn on a television set, switch on the computer, hardly ever giving a thought to the miracle of electricity. And yet, electricity is the one thing that has made our lives utterly comfortable. It warms us, cools us, helps us eat and entertain ourselves. And who are the people responsible for this? Electricians.

Electricians install, test, repair and maintain electrical systems. Knowledge of electricity, understanding blueprints and other technical documents, manual dexterity, color vision, good sense of smell, physical stamina are all required for this career. Electricians are the people who wire homes, offices, and factories for electricity. They route and connect electrical wires, install light fixtures and other electrical devices. They also install and maintain all the electronic controls used for machines at both home and work.

To meet the training needs of persons interested in becoming an Electrician LATTC offers an Electrical Construction and Maintenance Associate in Science degree, and Electrical Construction and Maintenance Construction Technologies Associates in Arts degree, as well as their equivalent Certificates of Completion.

The Associate in Science degree is designed for individuals seeking entry level positions in the field. Students enrolling in this program should be able to commit to full-time student status, which is approximately 24 hours per week. This time commitment necessary to allow for hands-on training in the laboratory applications used during the course of instruction.

The Associate in Arts degree is an evenings-only course of study designed for individuals currently in the field who want to improve or expand their skills. Due to limitations on available evening hours, the utilization of hands-on laboratory application is assumed to be provided at the student's place

of employment. Depending on availability, the Associate in Arts degree may require slightly longer to complete. Check with the Department Chair for more details prior to enrolling.

For students seeking a shorter-term educational experience, LATTC also offers several specialized Skills Certificates: Electrician Trainee, Motor Control, Programmable Logic Controllers, Voice Data Video (Low Voltage), and National Electrical Code. These Certificates are valuable to current employees as proof of continuing education and skills improvement to aid in job advancement. In addition, classes that are incorporated as part of the Skills Certificate can also be utilized for the degrees and certificates of completion.

Employment of electricians is expected to increase as fast as average for all occupations through the year 2014. As the population and economy grow, more electricians will be needed to install and maintain electrical devices and wiring in homes, factories, offices, and other structures. New technologies also are expected to continue to stimulate the demand for these workers. For example, buildings need to increasingly accommodate the use of computers and telecommunications equipment. Also, the increasing prevalence in factories of robots and other automated manufacturing systems will require more complex wiring systems to be installed and maintained. Additional jobs will be created as older structures are rehabilitated and retrofitted, which usually requires that they are brought up to meet existing electrical codes.

In addition to jobs created by the increased demand for electrical work, many openings are expected to occur over the next decade as a large number of electricians are expected to retire.

Employment of construction electricians, like that of many other construction workers, is cyclical in nature as construction activity declines employment of construction electrician's declines. Maintenance electrician's jobs are far steadier than that of construction electricians. Those working in the maintenance side of the industry tend to be in the 40 hour a week plus benefits types of employment and are not as affected by the changes in the economy as those working on the construction side.

In May 2006, median hourly earnings of electricians were \$23.33. The middle 50% percent earned between \$18.43 and \$29.90, while the highest 10% earned more than \$36.63 per hour.

ELECTRICAL CONSTRUCTION AND MAINTENANCE

■ Associate in Science Degree

Requirements for the Electrical Construction and Maintenance Associate in Science degree may be satisfied by completing a minimum of 48 units in the required courses listed below and an additional 18 units in general education courses (Plan B).

Upon successful completion of this program the student will have the necessary knowledge and skills for a career in Residential, Commercial, and Industrial Construction and Maintenance of Electrical Systems. Electrical theory, electrical controls, conduit installation, blueprints, low voltage systems, maintenance practices, equipment installation are just some of the skills that will be mastered during this program.

REQUIRED COURSES

SEMESTER I	UNITS
ECONMT 115 Fundamentals of D.C. Electricity	3
ECONMT 116 Hand Tools and Wiring Practices	2
ECONMT 117 Elementary Circuit Practices	4
ECONMT 119 Applied Electrical Calculations and Measurements.	3
— or —	
ECONMT 173 Electrical Mathematics I	3
UNITS	12

SEMESTER II	UNITS
ECONMT 120 Industrial Control Systems	3
ECONMT 128 Industrial Control Systems and Practices	3
ECONMT 129 Fundamentals of Alternating Current	3
ECONMT 169 Alternating Current Practices	2
Elective	1
UNITS	12

SEMESTER III	UNITS
ECONMT 130 Principles of Industrial Electric Power	3
ECONMT 136 Industrial Power Applications	3
ECONMT 137 Industrial Electronic Control Systems.	3
ECONMT 138 Applications of Electrical and Electronic Devices	2
ECONMT 142 Basic Programmable Logic Controls (PLC)	1
UNITS	12

SEMESTER IV	UNITS
ECONMT 140 Construction Wiring Principles and Practices	3
ECONMT 150 Introduction to the Electrical Codes	3
ECONMT 167 Electrical Construction Wiring Techniques	3
ECONMT 168 Installation of Electrical Wiring	2
ECONMT 193A Conduit Bending Laboratory	1
UNITS	12
TOTAL UNITS	48

RECOMMENDED ELECTIVES

	UNITS
ECONMT 6 Security and Alarm Technician Certificate	3
ECONMT 7 Home Theater and Commercial Audio and Video Installation Theory and Practices	3
ECONMT 100 (OSHA) Safety Standards	2
ECONMT 101 Electrical Craft Helper	4
ECONMT 105 Fundamentals of Solar Energy	3
BLDGCTQ 101 Contractor's License Law	3
ECONENG 113 Construction Contract Law	3
ECONMT 139 Electrical Maintenance Practice	2
ECONMT 143 Solid State Fundamentals of Automation	4
ECONMT 159 Programmable Logic Controls (PLC)	4
ECONMT 163 Electro Mechanical Principles and Practices	4
ECONMT 171 Electrical Codes and Ordinances I	3
ECONMT 172 Electrical Codes and Ordinances II	3
ECONMT 173 Electrical Mathematics I	3
ECONMT 174 Electrical Mathematics II	3

ECONMT 177	Electric Motor Control I	3
ECONMT 178	Electric Motor Control II	3
ECONMT 181	Basic Wiring Practices	3
ECONMT 182	Basic Wiring Diagrams and Circuit Practices	1
ECONMT 183	Residential and Practices	3
ECONMT 184	Motor Control Principles and Practices	3
ECONMT 186	Industrial Electrical Principles and Practices	3
ECONMT 187	Advanced Programmable Logics Controllers (PLC)	4
ECONMT 188	Offline (PLC) Programming	3
ECONMT 190	Electrical Code Calculations	3
ECONMT 191	Electrical Wiring Systems	2
ECONMT 192	Residential Wiring and Practices	2
ECONMT 193	Conduit Bending and Calculations	3
ECONMT 193A	Conduit Bending Laboratory	1
ECONMT 194	Documentation Control in Construction Projects	2
ECONMT 195	Grounding: Fundamentals, Applications and Practices	3
ECONMT 196	Infrastructure Wiring Practices (Fiber optic and Copper)	4
ECONMT 197	Low Voltage Wiring Practices	3
ECONMT 199	Journeyman Electrician Exam Preparation	3
ECONMT 200	Electrical Construction Inspection	3
ECONMT 205	Solar Energy Installation & Maintenance Principles and Practices	3
ECONMT 210	Introduction to Instrumentation	3
ECONMT 941	Cooperative Education	4

ELECTRICAL CONSTRUCTION AND MAINTENANCE

■ Certificate of Accomplishment

A Certificate of Accomplishment is awarded for successful completion of 48 units minimum in the required courses listed for the Associate in Science degree above with a "C" or better grade in each course.

ELECTRICAL CONSTRUCTION AND MAINTENANCE: CONSTRUCTION TECHNOLOGIES

■ Associate in Arts Degree

Requirements for the Electrical Construction Technologies Associate in Arts degree may be satisfied by completing the 48 units in the required courses listed below and an additional 18 units in general education courses (Plan B).

Upon successful completion of this program the student will have the necessary knowledge and skills for a career in Residential, Commercial, and Industrial Construction and Maintenance of Electrical Systems. Electrical theory, electrical controls, conduit installation, blueprints, low voltage systems, maintenance practices, equipment installation, etc are just some of the skill that will be mastered during this program.

REQUIRED COURSES

LEVEL I		UNITS
ECONMT 115	Fundamentals of D.C. Electricity	3
ECONMT 116	Hand Tools and Wiring Practices	2
ECONMT 173	Electrical Mathematics I	3
ECONMT 181	Basic Wiring Practices	3
ECONMT 182	Basic Diagrams and Circuit Practices	1
LEVEL II		UNITS
ECONMT 120	Industrial Control Systems	3
ECONMT 129	Fundamentals of Alternating Current	3
ECONMT 177	Electric Motor Control I	3
ECONMT 183	Residential Electric Wiring	3
LEVEL III		UNITS
ECONMT 128	Industrial Control Systems Practices	3
ECONMT 171	Electrical Codes and Ordinances I	3
ECONMT 184	Motor Control Principles and Practices	3
ECONMT 195	Grounding: Fundamentals, Applications & Practices	3
LEVEL IV		UNITS
ECONMT 159	Programmable Logic Controls (PLC)	4
ECONMT 172	Electrical Code and Ordinances II	3
ECONMT 186	Industrial Electrical Principles and Practices	3
ECONMT 100	(OSHA) Safety Standards	2
TOTAL UNITS		48

RECOMMENDED ELECTIVES

		UNITS
ECONMT 6	Security and Alarm Technician Certificate	3
ECONMT 7	Home Theater and Commercial Audio and Video Installation Theory and Practices	3
ECONMT 101	Electrical Craft Helper	4
BLDGCTQ 101	Contractor's License Law	3
ECONMT 105	Fundamentals of Solar Energy	3
ECONENG 113	Construction Contract Law	3
ECONMT 139	Electrical Maintenance Practice	2
ECONMT 143	Solid State Fundamentals of Automation	4
ECONMT 163	Electro Mechanical Principles and Practices	4
ECONMT 174	Electrical Mathematics II	3
ECONMT 178	Electric Motor Control II	3
ECONMT 187	Advanced Programmable Logics Controllers (PLC)	4
ECONMT 188	Offline (PLC) Programming	3
ECONMT 190	Electrical Code Calculations	3
ECONMT 191	Electrical Wiring Systems	2
ECONMT 192	Residential Wiring and Practices	2
ECONMT 193	Conduit Bending and Calculations	3
ECONMT 193A	Conduit Bending Laboratory	1
ECONMT 194	Documentation Control in Construction Projects	2
ECONMT 195	Grounding: Fundamentals Applications and Practices	3

ECONMT 196	Infrastructure Wiring Practices (Fiber optic and Copper)	4
ECONMT 197	Low Voltage Wiring Practices	3
ECONMT 199	Journeyman Electrician Exam Preparation	3
ECONMT 200	Electrical Construction Inspection	3
ECONMT 205	Solar Energy Installation & Maintenance Principles and Practices	3
ECONMT 210	Introduction to Instrumentation	3

ELECTRICAL CONSTRUCTION AND MAINTENANCE: CONSTRUCTION TECHNOLOGIES

■ Certificate of Accomplishment

A Certificate of Accomplishment is awarded for successful completion of 48 units minimum in the required courses listed for the Associate in Arts degree above with a "C" or better grade.

ELECTRICAL CONSTRUCTION AND MAINTENANCE

■ COURSE DESCRIPTIONS

1 RESISTIVE CIRCUIT ELECTRICAL FUNDAMENTALS (3) NDA

Lecture: 3 hours

This course will cover the basic principles of atomic structure, resistors, static electricity, and magnetism. Series and parallel resistive circuits will be analyzed using Ohm's law, power equations, and Kirchhoff's laws.

6 SECURITY AND FIRE ALARM TECHNICIAN CERTIFICATION (3)

Lecture: 1.5 hours; Lab: 4.5 hours

This course offers instruction in the installation of fire and security alarms. Upon successful completion of the course the student will be ready to test for an installer certification by the National Alarm Association of America.

7 HOME THEATER AND COMMERCIAL AUDIO VIDEO INSTALLATION THEORY AND PRACTICES (3)

Lecture: 1.5 hours; Lab 4.5 hours

This course offers instruction in the installation of home theater video and audio systems as well as commercial and industrial applications for audio and video technology. Upon successful completion of the course the student will have the skills to enter this area of the electrical trade.

100 (OSHA) SAFETY STANDARDS: CONSTRUCTION AND INDUSTRY (2)

Lecture: 2 hours

This course provides instruction on industry safety and health rules as it applies to workers and employers within the construction industry. Topics such as fall protection, lock out tag out procedures, PPE, excavations, etc. are covered. Participants that meet the required hourly attendance and successfully pass the final exam will be eligible to receive their OSHA (30 hr) safety-training certificate.

101 ELECTRICAL CRAFT HELPER (4)

Lecture: 4 hours

This course is designed as entry level preparation for a student interested in careers in the electrical power industry. It covers the basics of planning, installation and maintenance of high and low voltage electrical systems, as well as generation, both hydro and steam. Transmission and distribution of electrical power will be reviewed, as well as a survey of Ohm's law and safety practices. Ropes, knots, rigging, and tools required in the trade will be used, and Civil service exam preparation will be covered.

105 FUNDAMENTALS OF SOLAR ENERGY (3)

Lecture: 3 hours

This course is designed for students interested in a career in the solar industry. The fundamental principles and functions of photo voltaic industry will be introduced along with the planning, installation and maintenance of all necessary components for a photo voltaic system. The transmission and distribution of electric power will be reviewed and basic concepts of electricity, identification, functions and operations of components will be surveyed.

110 RENEWABLE ENERGY SYSTEMS (3)

Lecture: 3 hours

This course will cover energy basics, solar basics; active and passive solar, solar-thermal, solar-electric, wind, water; hydropower, wave and tidal power, bio-fuel and biomass resources, geothermal power, energy storage, and hydrogen fuel cells. Both large and small scale, grid interactive and stand alone systems will be discussed. Energy collection, site evaluation, design analysis of various systems, material use, and methods of construction ("green building") will also be covered, along with overviews of California and US energy policy and global energy use. This course is designed for students interested in a career in the solar industry.

115 FUNDAMENTALS OF D.C. ELECTRICITY (3)

Lecture: 3 hours

The basic principles of resistive circuits, Ohm's Law, Kirchhoff's Laws, and circuit analysis are covered in this course.

116 HAND TOOLS AND WIRING PRACTICES (2)

Lab: 6 hours

This course offers study of proper use of tools, wiring methods, identification, selection, splicing and termination of conductors. Trade practices, introduction to codes and related publications are also covered.

117 ELEMENTARY CIRCUIT PRACTICES (4)

Lab: 12 hours

This course studies sign, signal, communication and elementary wiring practices. Topics include operation of basic devices such as lights, buzzers and relays.

119 APPLIED ELECTRICAL CALCULATIONS AND MEASUREMENTS (3)

Lecture: 3 hours

This is an entry-level course in electrical calculations with special emphasis on the application problems encountered in the construction industry.

120 INDUSTRIAL CONTROL SYSTEMS (3)

Recommended Preparation: ECONMT 117 or (181 and 182) with a grade of "C" or better.

Lecture: 3 hours

This course is a study of motors, circuits and devices used for controlling electric motors.

128 INDUSTRIAL CONTROL SYSTEMS PRACTICES (3)

Recommended Preparation: ECONMT 117 or (181 and 182) with a grade of "C" or better.

Lab: 9 hours

The development and application of control circuitry through the use of instructional wiring panels is studied in this course.

128A INDUSTRIAL CONTROL SYSTEMS PRACTICES (1)

Recommended Preparation: ECONMT 117 or (181 and 182) with a grade of "C" or better.

Lab: 9 hours

The development and application of control circuitry through the use of instructional wiring panels module one.

128B INDUSTRIAL CONTROL SYSTEMS PRACTICES (1)

Recommended Preparation: ECONMT 117 or (181 and 182) with a grade of "C" or better.

Lab: 9 hours

A continuation module in the development and application of control circuitry through the use of instructional wiring panels.

128C INDUSTRIAL CONTROL SYSTEMS PRACTICES (1)

Recommended Preparation: ECONMT 117 or (181 and 182) with a grade of "C" or better.

Lab: 9 hours

A continuation module in the development and application of control circuitry through the use of instructional wiring panels.

129 FUNDAMENTALS OF ALTERNATING CURRENT (3)

Recommended Preparation: ECONMT 115 with a grade of "C" or better.

Lecture: 3 hours

This course focuses on the generation of electrical sine waves and response of various circuits when A.C. is applied. Mathematical analyses of resistive circuits are studied.

130 PRINCIPLES OF INDUSTRIAL ELECTRIC POWER (3)

Recommended Preparation: ECONMT 120 and 169 with a grade of "C" or better.

Lecture: 3 hours

This course offers a study in operating principles and maintenance procedures and code requirements for electrical power systems. Theory of D.C. and A.C. generators and motors, load calculations, efficiencies and power factor correction are also covered.

136 INDUSTRIAL POWER APPLICATIONS (3)

Recommended Preparation: ECONMT 120 and 169 with a grade of "C" or better.

Lab: 9 hours

This course offers a practical study on shop experience in testing, servicing and repairing industrial plant electrical equipment, connection and operation of generators, as well as motors and their control systems.

137 INDUSTRIAL ELECTRONIC CONTROL SYSTEMS (3)

Recommended Preparation: ECONMT 120 and 169 with a grade of "C" or better.

Lecture: 3 hours

In this course fundamental electronic and semiconductor theory as well as applications of electronic devices to industrial control systems are studied.

138 APPLICATIONS OF ELECTRICAL AND ELECTRONIC DEVICES (2)

Recommended Preparation: ECONMT 120 and 169 with a grade of "C" or better.

Lab: 6 hours

This course studies identification and operational tests on various types of electrical and electronic equipment, including transformers, electronic motor speed control systems and other industrial control devices.

139 ELECTRICAL MAINTENANCE PRACTICE (2)

Recommended Preparation: ECONMT 120 and 169 with a grade of "C" or better.

Lab: 6 hours

This course provides practical training in identification and operational tests on electrical equipment including transformers, motor controllers and starters, as well as A.C. motors and generators.

140 CONSTRUCTION WIRING PRINCIPLES AND PRACTICES (3)

Recommended Preparation: ECONMT 130 and 136 with a grade of "C" or better.

Lecture: 3 hours

This course offers training in wiring for interior electrical systems including layout and construction methods, and code requirements including both sizing and installation standards as well as practices.

142 BASIC PROGRAMMABLE LOGIC CONTROLS (PLC) (1)

Lab: 3 hours

This course provided a practical study of digital control methods, microprocessor control applications, programmable controllers, ladder logic diagrams and industrial robotics.

143 SOLID STATE FUNDAMENTALS OF AUTOMATION (4)

Lecture: 2.5 hours; Lab: 4.5 hours

This course offers a study of solid state electronic components and circuits used to control automated equipment. Discrete components such as Diodes, transistors, unijunction transistors, diacs, silicon controlled rectifiers, triacs, light emitting diodes, cad photo cells, photo transistors are covered.

150 INTRODUCTION TO THE ELECTRICAL CODES (3)

Recommended Preparation: ECONMT 130 and 136 with a grade of "C" or better.

Lecture, 3 hours

This course is a study and interpretation of the basic electrical codes and ordinances. Regulations covering wiring installations and principal circuit requirements are covered in this course.

159 PROGRAMMABLE LOGIC CONTROLS (PLC) (4)

Lecture, 2.5 hours; Laboratory, 4.5 hours

This course is a survey of the various types of robots presently being used in industry. Topics covered include principal types of robots, robotic programming, and interfacing. Main physical components, practical uses and applications are explored.

160 ANALYSIS OF ELECTRICAL MAINTENANCE (3)

Recommended Preparation: ECONMT 120 and 169 with a grade of "C" or better.

Lecture, 3 hours

Instruction is given on Trouble shooting and preventative maintenance of plant and production electrical systems and equipment. Topics included are maintenance of electrical circuits, lighting installations, motor control, power systems and industrial electronics.

163 ELECTRO-MECHANICAL PRINCIPLES AND PRACTICES (4)

Lecture, 2.5 hours; Laboratory, 4.5 hours

This course focuses on principles and practices of electro-mechanical devices such as relays, controllers, and starters. Industrial application of control devices, circuits and maintenance are covered in this course.

164 SUSTAINABLE LIGHTING PRINCIPLES AND PRACTICES (4)

Lecture, 3 hours

The design of sustainable residential and commercial lighting systems. Including both indoor and outdoor applications. Utilizing drawings, lumen calculations, traditional and energy efficient light sources, color, lamp type, efficiency and maintenance requirements of lighting systems.

167 ELECTRICAL CONSTRUCTION WIRING TECHNIQUES (3)*Recommended Preparation: ECONMT 130 and 136.**Laboratory, 9 hours*

This course provided shop training in acceptable rough-in methods, emphasizing material practices and compliance with the national electrical code.

168 INSTALLATION OF ELECTRICAL WIRING (2)*Recommended Preparation: ECONMT 130 and 136.**Laboratory, 6 hours*

This course provides practical training in calculation and layout of interior electric wiring systems followed by practical installation including both rough-in and finish work.

169 ALTERNATING CURRENT PRACTICES (2)*Recommended Preparation: ECONMT 115 with a grade of "C" or better.**Laboratory, 6 hours*

Principles of alternating current, installation of devices in A.C. circuits, response of circuits to A.C. excitation are covered in this course.

171 ELECTRICAL CODES AND ORDINANCES I (3) RPT1*Lecture, 3 hours*

Basic electrical codes and ordinances are the focus of this course. General codes, wiring methods and fittings, and circuit requirements specified in the various ordinances are reviewed.

172 ELECTRICAL CODES AND ORDINANCES II (3) RPT1*Recommended Preparation: ECONMT 171 with a grade of "C" or better.**Lecture, 3 hours*

Advanced electrical codes and ordinances are discussed in this course. Code requirements on equipment installation, motor installation, various types of occupancies, and high voltage circuits are covered.

173 ELECTRICAL MATHEMATICS I (3)*Lecture, 3 hours*

This course studies the mathematics of varied problems encountered in the electrical trades. The course reviews prime numbers, fractions, and decimals, powers, signed numbers, algebraic and simultaneous equations and applications involving electrical formulae.

174 ELECTRICAL MATHEMATICS II (3)*Recommended Preparation: ECONMT 119 or 173.**Lecture, 3 hours*

Topics covered in this course are problems relating to A.C. power applications, use of the scientific calculator, percentage ratio and proportions, wire sizing, voltage drops, energy and efficiency calculations, trigonometric functions, phasor diagrams, A.C. single and poly-phase circuits, transformers, star and delta connections and mathematics for logic controls.

177 ELECTRIC MOTOR CONTROL I (3)*Lecture, 3 hours*

This course studies basic motor control fundamentals including the basic functions of control. Magnetic principles of D.C. and A.C. motors, types of motors, motor selection fundamentals are reviewed. Topics covered also include definitions for controller components and symbols, familiarization with N.E.M.A. standards and review of one-line, wiring and schematic diagrams.

178 ELECTRIC MOTOR CONTROL II (3)*Recommended Preparation: ECONMT 177 with a grade of "C" or better.**Lecture, 3 hours*

This course focuses on a brief review of material covered in Electric Motor Control I and the selection and application of D.C. and A.C. controllers with emphasis on the A.C. devices. Study areas include manual, magnetic, across-the-line starters, as well as most forms of reduced voltage starters

including the auto transformer, primary resistor, star-delta, part-winding and wound rotor type reduced voltage starters. Synchronous, multi-speed starters and the many methods of decelerating and braking and static components are discussed.

181 BASIC WIRING PRACTICES (3)*Lecture, 3 hours*

Electrical diagrams including fundamental, ladder, schematic, cable, and conduit are studied in this course. Topics of discussion include architectural symbols and drawings, reading plans and specifications, as well as drawing circuits and plans.

182 BASIC DIAGRAM AND CIRCUIT PRACTICES (1)*Laboratory, 3 hours*

This course provides practical shop practice in the wiring of signal, communication and control circuits. Connection of device mechanisms such as lights, buzzers and relays are specifically reviewed.

183 RESIDENTIAL ELECTRIC WIRING (3)*Lecture, 3 hours*

This course covers design and layout of residential electric wiring in accordance with code requirements and recognized good practice.

184 MOTOR CONTROL PRINCIPLES AND PRACTICES (3)*Lecture, 1.5 hours; Laboratory, 4.5 hours*

This course reviews testing, adjusting, servicing and connecting motors, generators and associated controllers.

186 INDUSTRIAL ELECTRICAL PRINCIPLES AND PRACTICES (3)*Lecture, 1.5 hours; Laboratory, 4.5 hours*

Topics such as use of measuring instruments, connecting and testing transformer banks, and connecting and testing industrial electronic control devices are explored in this course.

187 ADVANCED PROGRAMMABLE CONTROLLERS (4)*Recommended Preparation: ECONMT 142 or 159 with a grade of "C" or better.**Lecture, 2.5 hours; Laboratory, 4.5 hours*

This course focuses on advanced programmable controller techniques including ladder logic and Boolean algebra in a hands-on laboratory environment.

188 OFFLINE PLC PROGRAMMING (3)*Recommended Preparation: ECONMT 142**Lecture, 1.5 hours; Laboratory, 4.5 hours*

This course is a study of programmable controller laboratory for off line programming in a computer environment.

190 ELECTRICAL CODE CALCULATIONS (3)*Recommended Preparation: ECONMT 115**Lecture, 3 hours*

This course covers calculation of wire sizes, outlet boxes, conduit fill, ampacities, voltage drop, motor circuit components, and service loads based on National Electrical Code standards.

191 ELECTRICAL WIRING SYSTEMS (2)*Recommended Preparation: ECONMT 173 with a grade of "C" or better.**Lecture, 1 hour; Laboratory, 3 hours*

Instruction is given in installation of wiring systems such as non-metallic sheathed cable, armored cable, flexible metal conduit, electrical metallic tubing, and PVC. Emphasis is given on National Electric Code standards.

192 RESIDENTIAL WIRING AND PRACTICES (2)

*Recommended Preparation: ECONMT 181 with a grade of "C" or better.
Lecture, 1 hour; Laboratory, 3 hours*

Instruction is given in residential wiring methods including non-metallic sheathed cable, armor cable and flexible metal conduit for outlet, appliances and lighting.

193 CONDUIT BENDING AND CALCULATIONS (3)

*Recommended Preparation: ECONMT 173 with a grade of "C" or better.
Lecture, 1.5 hours; Laboratory, 4.5 hours*

This course studies calculations involved in bending, cutting, and threading conduit operations. IMC, EMT, and rigid conduit will be bent with hand benders and hydraulic benders.

193A CONDUIT BENDING LABORATORY (1)

*Recommended Preparation: ECONMT 173 with a grade of "C" or better.
Laboratory, 3 hours*

This course involves the bending, cutting, and threading of conduit. IMC, EMT, and rigid conduit will be bent with hand, electric, and hydraulic benders.

194 DOCUMENTATION CONTROL IN CONSTRUCTION PROJECTS (2)

Lecture: 2 hours

This course presents an in-depth and hands on understanding of the documentation that controls, maintains and implements a construction project. Communication through proper paperwork enables the builder to efficiently manage and control the project.

195 GROUNDING: FUNDAMENTALS, APPLICATIONS AND PRACTICES (3)

*Recommended Preparation: ECONMT 115 & 129 with a grade of "C" or better.
Lecture: 3 hours*

This course will cover the fundamentals of electrical system grounding principles of reviewing definitions, theory, and equipment installations. Application to accepted industry practices, compliance to the National Electrical Code, review of lightning protection and electronic equipment grounding will be covered.

196 INFRASTRUCTURE WIRING PRACTICES (4)

Lecture: 1 hour; Lab: 6 hours

This course offers instruction in the installation, termination, testing and documentations of infrastructure wiring as used in the industry today, including the following. Coaxial cable, category 3, 5, 5E (UTP) and fiber optics.

197 LOW VOLTAGE ELECTRICAL PRACTICES (3)

Lecture: 1.5 hours; Lab: 4.5 hours

This course offers instruction in the installation, termination, testing and documentation of low voltage systems, such as lighting, communication, telephone, data, control systems, and similar low voltage applications.

199 JOURNEY ELECTRICIAN EXAM PREPARATION (3)

Lecture: 1.5 hours; Lab: 4.5 hours

This course will prepare the student for the State of California Electricians' Certification Examination. The distance education version of the class uses the Internet, World Wide Web and personal mail.

200 ELECTRICAL CONSTRUCTION INSPECTION (3)

Lecture: 3 hours

This class provides specific inspector training in inspecting electrical construction with an intense study of the National Electrical Code (NEC). This course will prepare the student to take the voluntary Electrical Inspector voluntary certification exam given by the International Conference of Building Officials (ICBO).

205 FUNDAMENTALS OF SOLAR ENERGY (2)

Lab: 6 hours

This course is designed for individuals that have the basic electrical and mechanical skills of an energy technician or electrician and are looking to expand into the renewable energy field. This is a hands on class to develop the fundamental principles and practices for installation and maintenance of solar, wind, and similar renewable energy systems. This course covers basic planning, installation, and maintenance of the necessary components for various renewable energy systems

210 FUNDAMENTALS OF PROCESS INSTRUMENTATION (3)

Lecture: 3 hours

This class provides a study of the measurement and control of temperature, pressure, level, flow, humidity and other factors that can be analyzed and controlled. It includes a study of instrumentation symbols, Process and Instrumentation Diagrams, and the use of pneumatic and electric sensors, transmitters, controllers, valves, actuators, positioners, Programmable Logic Controllers, and computers to implement control strategy.

CONSTRUCTION ENGINEERING**■ COURSE DESCRIPTIONS****113 CONSTRUCTION CONTRACT LAW (3)**

Lecture: 3 hours

The principles of construction contracts and subcontracts; terms and conditions of construction contracts and subcontracts; public works projects in the state of California; management of the construction work; liens and stop notices; and disputes, claims and arbitration.

ELECTRICAL LINEMAN**■ COURSE DESCRIPTIONS****600 ELECTRICAL UTILITY LINE WORKER (15)**

Lecture: 6 hours Laboratory: 27 hours

The goal of this course is to produce candidates for an Electrical Distribution Mechanic (EDM) training program. Development of basic skills needed to be successful trainees will be emphasized. These skills include: overall safety considerations, power pole climbing skills, knowledge of the basic tools and materials involved with the electrical line crafts, general construction standards, basic rigging principles, and basic electrical theory that is specific to this trade. A 175 hour power pole-climbing certificate of completion is granted to students who successfully complete this course. A component of this course includes preparation for Civil Service Examination.

Special Note: Students during the course of instruction will be required to lift up to 60 lbs with repetition and will be required to climb and perform installation and maintenance operations at the top of 30 foot power poles. Physical or psychological limitations should be taken into account when enrolling in the class.

MACHINE SHOP-CNC

PROGRAM OVERVIEW

Machinists use machine tools, such as lathes, milling machines, and machining centers, to produce precision metal parts. They use their knowledge of the working properties of metals and their skill with machine tools to plan and carry out the operations needed to make machined products that meet precise specifications. Many modern machine tools are computer numerically controlled (CNC). CNC machines, following a computer program, control the cutting tool speed, change dull tools, and perform all of the necessary cuts to create a part. Frequently, machinists work with computer control programmers to determine how the automated equipment will cut a part. The programmer may determine the path of the cut, but the machinist determines the type of cutting tool, the speed of the cutting tool, and the feed rate. Because most machinists train in CNC programming, they write basic programs and often set offsets (modify programs) in response to problems encountered during test runs.

Because the technology of machining is changing rapidly, machinists must learn to operate a wide range of machines. Along with operating machines that use metal cutting tools to shape work pieces, machinists operate machines that cut with lasers, water jets, or electrified wires. As engineers create new types of machine tools and new materials to machine, machinists must constantly learn new machining properties and techniques.

Los Angeles Trade Technical College offers an Associate in Science degree in Machine Shop CNC (Core major plus general education classes) or a Certificate of Completion (Core major classes only). In addition, we offer a Certificate of Completion - Adjunct in Machine Shop CNC.

The Associate in Science degree, or equivalent Certificate of Completion, is designed for individuals seeking entry level positions in the field. Students enrolling in this program should be able to commit to full-time student status, which is approximately 21 hours per week. This time commitment is necessary to allow for hands-on training in the lab applications used during the course of instruction.

The Certificate of Completion- Adjunct is an evenings-only course of study designed for individuals currently in the field who want to improve their skills or learn new ones. Due to limitations on available evening hours, the utilization of hands-on lab application is assumed to be provided at the students place of employment.

Machinists held about 370,000 jobs in the United States in 2006. Most machinists work in small machining shops or in manufacturing industries, such as machinery manufacturing and transportation equipment manufacturing (motor vehicle parts and aerospace products and parts). Maintenance machinists work in most industries that use production machinery.

Despite relatively slow growth, job opportunities for machinists should continue to be good. Many young people with the necessary educational and personal qualifications needed to obtain machining skills are not currently entering production occupations, therefore, therefore, the number of workers obtaining the skills and knowledge necessary to fill machinist jobs is expected to be less than the number of job openings arising each year from the need to replace experienced machinists who transfer to other occupations or retire, and from job growth.

According to the State of California EDD, median hourly earnings of machinists May 2006.

Aerospace product and parts manufacturing	\$21.78
Motor vehicle parts manufacturing	\$19.46
Metalworking machinery manufacturing	\$19.06
Machine shops; turned product; and screw, nut, and bolt manufacturing	\$18.87

MACHINE SHOP-CNC

■ Associate in Science Degree

The Associate in Science degree in Machine Shop - CNC requirements may be met by completing 48 units of required courses listed below plus 18 units of Plan "B" general education courses. Or it may be awarded for the completion of a minimum of 62 units, including the 32 units listed under the Certificate of Completion-Adjunct, and 30 units of Plan "A" general education courses. Plan "A" and "B" are listed in the catalog under Graduation/Transfer Requirements.

Upon successful completion of this program the student will have the necessary knowledge and skills for a career in the Machining Industry. Students will properly use related terminology, Safely set-up and operate numerous conventional and CNC machine tools, use computers to program various CNC machines directly or with CAM, and interpret most related parts and assembly drawings. The general education component classes will give the student a well rounded education and provide knowledge and skills to assist in successful participation in all aspects of society.

FIRST SEMESTER		UNITS
MSCNC 111	Principles of Machine Tools I	2
MSCNC 112A	Technology and Application of Machining IA	3
MSCNC 112B	Technology and Application of Machining (CAD) IB	1
MSCNC 114	Print Interpretation and Sketching (Blueprint I)	3
MSCNC 115	Basic Applied Mathematical Calculations	3
TOTAL UNITS		12

SECOND SEMESTER		UNITS
MSCNC 121	Principles of Machine Tools I	2
MSCNC 122A	Technology and Application of Machining IIA	3
MSCNC 122B	Technology and Application of Machining (CAD/CAM) IIB	1
MSCNC 124	Print Interpretation and Inspection (Blueprint II)	3
MSCNC 125	Intermediate Applied Mathematical Calculations	3
UNITS		12

THIRD SEMESTER		UNITS
MSCNC 131A	Principles of Machine Tools IIIA	2
MSCNC 131B	Principles of Machine Tools (CNC) IIIB	3
MSCNC 132A	Technology and Application of Machining IIIA	3
MSCNC 132B	Technology and Application of Machining (CAM) IIIB	1
MSCNC 135	Advanced Applied Mathematical Calculations	3
UNITS		12

FOURTH SEMESTER		UNITS
MSCNC 141	Principles of Machine Tools (CNC) IV	2
MSCNC 142A	Technology and Application of Machining IVA	3
MSCNC 142B	Technology and Application of Machining IVB	1

MSCNC 161A	Computer Assisted Machine Programming (CAM) IA	3
MSCNC 161B	Computer Assisted Machine Programming (CAM) IB	3
UNITS		12
TOTAL UNITS		48

MACHINE SHOP-CNC

■ Certificate of Accomplishment

A Certificate of Accomplishment is awarded for the completion of the 48 units in the required courses listed above. A grade of "C" or better is required in each course.

Upon successful completion of this program the student will have the necessary knowledge and skills for a career in the machining industry. Students will properly use related terminology, safely set-up and operate numerous conventional and CNC machine tools, use computers to program various CNC machines directly or with CAM, and interpret most related parts and assembly drawings.

MACHINE SHOP-CNC

■ Certificate of Accomplishment – Adjunct

A Certificate of Accomplishment - Adjunct is awarded for the completion of 32 units in the courses listed below. A grade of "C" or better is required in each course.

Upon successful completion of this program the student will have the necessary knowledge and skills for a career in the machining industry. Students will properly use related terminology, safely set-up and operate numerous conventional and CNC machine tools, use computers to program various CNC machines directly or with CAM, and interpret most related parts and assembly drawings.

REQUIRED COURSES

		UNITS
MSCNC 111	Principles of Machine Tools	3
MSCNC 114	Print Interpretation and Sketching (Blueprint I)	3
MSCNC 121	Principles of Machine Tools I	3
MSCNC 124	Print Interpretation and Inspection (Blueprint II)	3
MSCNC 125	Intermediate Applied Mathematical Calculations	3
MSCNC 135	Advanced Applied Mathematical Calculations	3
MSCNC 151A	Programming and Operation of CNC Machine Tools IA	1
MSCNC 151B	Programming and Operation of CNC Machine Tools IB	1
MSCNC 161A	Computer Assisted Machine Programming (CAM) IA	3
MSCNC 161B	Computer Assisted Machine Programming (CAM) IB	3
MSCNC 250A	Selected Topics Machine Shop CNC	3
MSCNC 250B	Selected Topics Machine Shop CAD/CAM	3
TOTAL UNITS		32

ELECTIVES

		UNITS
MSCNC 112B	Technology and Application of Machining (CAD) IB	1
MSCNC 122B	Technology and Application of Machining (CAD/CAM) IIB	1
MSCNC 152	Programming and Operation of CNC Machine Tools II	6
MSCNC 152A	Programming and Operation of CNC Machine Tools IIA	1
MSCNC 152B	Programming and Operation of CNC Machine Tools IIB	1
MSCNC 152C	Programming and Operation of CNC Machine Tools IIC	1
MSCNC 152D	Programming and Operation of CNC Machine Tools IID	3
MSCNC 155	Programming and Operation of CNC Machine Tools III	6
MSCNC 155A	Programming and Operation of CNC Machine Tools IIIA	1
MSCNC 155B	Programming and Operation of CNC Machine Tools IIIB	1
MSCNC 155C	Programming and Operation of CNC Machine Tools IIIC	1
MSCNC 155D	Programming and Operation of CNC Machine Tools IIID	3
MSCNC 251A	Operation of Machine Tools IIA	1
MSCNC 251B	Operation of Machine Tools IIB	1
MSCNC 252A	Operation of Machine Tools IIIA	1
MSCNC 252B	Operation of Machine Tools IIIB	1
MSCNC 941	Cooperative Education-Work Experience	4

MACHINE SHOP-CNC

■ COURSE DESCRIPTIONS

10 ROBOTICS LAB (2)

Lab: 6 hours

This is an introductory course to basic robotics construction. A hands-on experience in designing and building of a basic robot is provided in this course.

10A ROBOTICS LAB (1)

Lab: 3 hours

This is an introductory course to basic robotics construction. A hands-on experience in designing and building of a basic robot is provided in this course.

10B ROBOTICS LAB (1)

Lab: 3 hours

This is a continuation of the introductory course to basic robotics construction. A hands-on experience in designing and building of a basic robot is provided in this course.

20 INTRODUCTION TO ROBOTIC THEORY (3)

Lecture: 3 hours

This course covers the basic principles of robotic terminology, application and operational theory will be discussed.

20A INTRODUCTION TO ROBOTIC THEORY (1)

Lecture: 1 hour

This is the continuation of the introduction course which covers the basic principles of robotic terminology, application and operational theory.

20B INTRODUCTION TO ROBOTIC THEORY (1) CSU

Lecture: 1 hour

This is the continuation of the introduction course which covers the basic principles of robotic terminology, application and operational theory.

20C INTRODUCTION TO ROBOTIC THEORY (1) CSU*Lecture: 3 hours*

This is a continuation of the introduction course which covers the basic principles of robotic terminology, application and operational theory.

111 PRINCIPLES OF MACHINE TOOLS I (2) CSU*Lecture, 1.5 hours; Laboratory, 1.5 hours*

Basic principles of Safety, hand and precision measuring tools, set-up and operation of band saws, drill presses, lathes, mills, pedestal grinders, power saws, and CNC machines.

112 TECHNOLOGY AND APPLICATION OF MACHINING I (4) CSU*Lab: 12 hours*

This is an introductory course to safety, speed, feed, set-up, operation and terminology of basic machine tools such as band saws, drill presses, lathes, mills, pedestal grinders, power saws, and CNC machines. Topics covered include application of basic hand tools and measuring tools.

112A TECHNOLOGY AND APPLICATION OF MACHINING IA (3) CSU*Lab: 9 hours*

This is an introductory course to safety, speed, feed, set-up, operation and terminology of basic machine tools such as band saws, drill presses, lathes, mills, pedestal grinders, power saws, and CNC machines. Topics covered include application of basic hand tools and measuring tools.

112B TECHNOLOGY AND APPLICATION OF MACHINING IB (1) CSU*Lab: 3 hours*

This is an introductory course to CAD/CAM as related to machine shop-CNC.

114 PRINT INTERPRETATION AND SKETCHING (BLUEPRINT I)(3) CSU*Lecture: 3 hours*

This course covers the basic principles of interpreting the information located on engineering drawings related to machine shop-CNC operations. Basic shop sketching is introduced.

115 BASIC APPLIED MATHEMATICAL CALCULATIONS (3) CSU*Lecture: 3 hours*

This course emphasizes on mathematical calculations related to machine shop-CNC problems. Topics include introduction and application of hand held electronic calculators.

121 PRINCIPLES OF MACHINE TOOLS II (2) CSU*Lecture: 1.5 hours; Lab: 1.5 hours*

Principles of lathes, milling machines, including attachments, accessories, and special lathe and milling operations are covered in this course, as well as an introduction to other special machinery and basic CNC programming.

122 TECHNOLOGY AND APPLICATION OF MACHINING II (4) CSU*Lab: 12 hours*

This course addresses implementation of safety, speeds, feeds, form tools, set-ups including related attachments and accessories for lathe and milling machine operations. Topics include inspection, and CNC machine operation.

122A TECHNOLOGY AND APPLICATION OF MACHINING IIA (3) CSU*Lab: 9 hours*

This course addresses implementation of safety, speeds, feeds, form- tools, set-ups including related attachments and accessories for lathe and milling machine operations. Topics include inspection, and CNC machine operation.

122B TECHNOLOGY AND APPLICATION OF MACHINING (CAD/CAM) IIB (1) CSU*Lab: 3 hours*

This is an introductory course to CAD/CAM as related to machine shop-CNC. CSU

124 PRINT INTERPRETATION AND INSPECTION (BLUEPRINT II) (3) CSU*Lecture: 3 hours*

This course studies advanced interpretation of machine shop-CNC related drawings with introduction to inspection, geometric tolerancing, and SPC.

125 INTERMEDIATE APPLIED MATHEMATICAL CALCULATIONS (3) CSU*Lecture: 3 hours*

This course emphasizes algebra and geometry problems that apply to machine tools, and basic machining calculations for CNC programs.

131 PRINCIPLES OF MACHINE TOOLS III (5) CSU*Lecture: 4.5 hours; Lab: 1.5 hours*

Theory of precision and specialized machines including related accessories, attachments and operations is introduced. Information on materials and heat treating methods is covered.

131A PRINCIPLES OF MACHINE TOOLS IIIA (2) CSU*Lecture: 1.5 hours; Lab: 1.5 hours*

This course studies precision and specialized machines including related accessories, attachments and operations is introduced. Information on materials and heat treating methods is covered.

131B PRINCIPLES OF MACHINE TOOLS (CNC) IIIB (3) CSU*Lecture: 3 hours*

This course studies intermediate theory related to programming, set-up and operation of CNC machine tools.

132 TECHNOLOGY AND APPLICATION OF MACHINING III (4) CSU*Lab: 12 hours*

This course covers safely set-up and operate precision and specialized machines such as, surface grinders, jig borers, jig grinders, cylindrical grinders, tool and cutter grinders, sinker EDM, wire EDM, and CNC machines. Topics include inspection principles.

132A TECHNOLOGY AND APPLICATION OF MACHINING IIIA (3) CSU*Lab: 9 hours*

This course studies safely set-up and operate precision and specialized machines; such as, surface grinders, jig borers, jig grinders, cylindrical grinders, tool and cutter grinders, sinker EDM, wire EDM, and CNC machines. Inspection principles are also covered in this course.

132B TECHNOLOGY AND APPLICATION OF MACHINING (CAM) IIIB (1) CSU*Lab: 3 hours*

This lab provides practical training on intermediate CAD/CAM as applied to CNC programming and machining.

135 ADVANCED APPLIED MATHEMATICAL CALCULATIONS (3) CSU*Lecture: 3 hours*

Trigonometry and right triangle problems that apply to machine tools and machining calculations for CNC cutter compensation are emphasized in this course. The sine bar theory and use is also studied in this course.

141 PRINCIPLES OF MACHINE TOOLS (CNC) IV (2) CSU*Lecture: 1.5 hours; Lab: 1.5 hours*

This course covers advanced theory related to safety, programming, set-up and operation of CNC machine tools. Introduction to specialized machining for intricate parts, and/or tool and die, and/or mold making is also addressed.

142 TECHNOLOGY AND APPLICATION OF MACHINING IV (4) CSU*Lab: 12 hours*

Advanced safety, application, programming, set-up, and operation of CNC lathes and milling machines are covered in this course. Set-up and operation of precision machine tools for intricate parts, and/or tool and die, and/or plastic mold fabrication is also addressed.

142A TECHNOLOGY AND APPLICATION OF MACHINING IV A (3) CSU*Lab: 9 hours*

Advanced safety, application, programming, set-up, and operation of CNC lathes and milling machines are covered in this course. Set-up and operation of precision machine tools for intricate parts, and/or tool and die, and/or plastic mold fabrication is also addressed.

142B TECHNOLOGY AND APPLICATION OF MACHINING IVB (1) CSU*Lab: 3 hours*

This course focuses on the practical training on advanced safety, application, programming, set-up, and operation of CNC lathes and milling machines are covered in this course. Set-up and operation of precision machine tools for intricate parts, and/or tool and die, and/or plastic mold fabrication as related to CAD/CAM are covered.

151 PROGRAMMING AND OPERATION OF CNC MACHINE TOOLS I (3) CSU*Lecture: 1 hour; Lab: 6 hours*

In this course basic programming, safe set-up and operation of CNC machines are studied in detail. Also, history, terminology and related calculations of CNC machines are introduced.

151A PROGRAMMING AND OPERATION OF CNC MACHINE TOOLS IA (1) CSU*Lab: 3 hours*

In this course basic programming, safe set-up and operation of CNC machines are studied in detail. Also, history, terminology and related calculations of CNC machines are introduced.

151B PROGRAMMING AND OPERATION OF CNC MACHINE TOOLS IB (1) CSU*Lab: 3 hours*

Continuation of the in the basic programming, safe set-up and operation of CNC machines class.

151C PROGRAMMING AND OPERATION OF CNC MACHINE TOOLS IC (1) CSU*Lecture: 1 hour*

Continuation of the in the basic programming, safe set-up and operation of CNC machines class lecture.

152 PROGRAMMING AND OPERATION OF CNC MACHINE TOOLS II (6) CSU*Lecture: 2 hour; Lab: 12 hours*

This is an introductory course to intermediate programming, safe set-up and operation of CNC machines. Development, terminology and related calculations are reviewed in this course.

152A PROGRAMMING AND OPERATION OF CNC MACHINE TOOLS IIA (1) CSU*Lab: 3 hours*

This is one of four modules in the introductory course to intermediate programming, safe set-up and operation of CNC machines. Development, terminology and related calculations are reviewed in this course.

152B PROGRAMMING AND OPERATION OF CNC MACHINE TOOLS IIB (1) CSU*Lab: 3 hours*

This is the second of four modules in the introductory course to intermediate programming, safe set-up and operation of CNC machines. Development, terminology and related calculations are reviewed in this course.

152C PROGRAMMING AND OPERATION OF CNC MACHINE TOOLS IIC (1) CSU*Lecture: 1 hour*

This is the third of four modules in the introductory course to intermediate programming, safe set-up and operation of CNC machines. Development, terminology and related calculations are reviewed in this course.

152D PROGRAMMING AND OPERATION OF CNC MACHINE TOOLS IID (6) CSU*Lecture: 1 hour; Lab: 6 hours*

This is last of four modules in the introductory course to intermediate programming, safe set-up and operation of CNC machines. Development, terminology and related calculations are reviewed in this course.

155 PROGRAMMING AND OPERATION OF CNC MACHINE TOOLS III (6) CSU*Lecture: 2 hours, Lab: 12 hours*

This course studies advanced programming, safe set-up and operation of CNC machines. Advancements, applications and related calculations are covered in this course.

155A PROGRAMMING AND OPERATION OF CNC MACHINE TOOLS IIIA (1) CSU*Lab: 3 hours*

This is first of four modules in the advanced programming, safe set-up and operation of CNC machines. Advancements, applications and related calculations are covered in this course.

155B PROGRAMMING AND OPERATION OF CNC MACHINE TOOLS IIIB (1) CSU*Lab: 3 hours*

This is second of four modules in the advanced programming, safe set-up and operation of CNC machines. Advancements, applications and related calculations are covered in this course.

155C PROGRAMMING AND OPERATION OF CNC MACHINE TOOLS IIIC (1) CSU*Lecture: 1 hour*

This is third of four modules in the advanced programming, safe set-up and operation of CNC machines. Advancements, applications and related calculations are covered in this course.

155D PROGRAMMING AND OPERATION OF CNC MACHINE TOOLS IIID (3) CSU*Lecture: 1 hour; Lab: 6 hours*

This is last of four modules in the advanced programming, safe set-up and operation of CNC machines. Advancements, applications and related calculations are covered in this course.

161 COMPUTER ASSISTED MACHINE PROGRAMMING (CAM) I (4) CSU*Lecture: 3 hours, Lab: 3 hours*

This course is a practical study of application of Computer Aided Manufacturing (CAM) systems for development of computer numerical control (CNC) programs for complex two and three axis machined parts. Topics include Use 3-D graphics and part verification software systems.

161A COMPUTER ASSISTED MACHINE PROGRAMMING (CAM) 1A (3) CSU*Lecture: 3 hours*

Application of Computer Aided Manufacturing (CAM) systems for development of computer numerical control (CNC) programs for complex two and three axis machined parts are studied in this course. Topics include Use 3-D graphics and part verification software systems.

161B COMPUTER ASSISTED MACHINE PROGRAMMING (CAM) 1B (1) CSU*Lab: 3 hours*

This course focuses on practical study of application of conventional CNC systems for Numerical Control (CNC) programs for complex two and three axis machined parts. Topics include Use 3-D graphics and part verification software systems.

162 COMPUTER ASSISTED MACHINE PROGRAMMING (CAM) II (4) CSU*Lab: 12 hours*

This course is practical study of intermediate and advanced application of CAM system related to CNC programming and machining operations.

162A COMPUTER ASSISTED MACHINE PROGRAMMING (CAM) IIA (2) CSU*Lab: 6 hours*

This course is practical study of intermediate and advanced application of CAM system related to CNC programming and machining operations.

162B COMPUTER ASSISTED MACHINE PROGRAMMING (CAM) IIB (2) CSU*Lab: 6 hours*

This course is an intense practical study of intermediate and advanced application of CAM system related to CNC programming and machining operations.

184 INSPECTION PROCEDURES I (3) CSU*Lecture: 3 hours*

This course reviews principles, application, nomenclature and applied technology of precision measuring instruments. An introduction to CMM and hands-on use of instruments including safe, and proper care are studied in this course.

186 INSPECTION PROCEDURES II (3) CSU*Lecture: 3 hours*

This course covers statistical control procedures for inspectors and other manufacturing personnel. Topics include data collection, chart construction, random sampling, limits, standard practices and use of CMM.

250 SELECTED TOPICS MACHINE SHOP CONVENTIONAL, CNC AND CAD/CAM (6) RPT3 CSU*Lecture: 6 hours*

This course is a practical study of conventional machine shop. Topics such as CNC and Computer applications with an introduction to safety, set-up, operation and terminology of basic machine tools such as band saws, drill presses, lathes, mills, pedestal grinders, power saws, and CNC machines are studied in this course.

250A SELECTED TOPICS MACHINE SHOP CONVENTIONAL & CNC (3) RPT3 CSU*Lecture: 3 hours*

This course focuses on conventional machine shop. Topics such as CNC and Computer applications with an introduction to safety, set-up, operation and terminology of basic machine tools such as band saws, drill presses, lathes, mills, pedestal grinders, power saws, and CNC machines are studied in this course.

250B SELECTED TOPICS MACHINE SHOP CAD/CAM (3) RPT3 CSU*Lecture: 3 hours*

This course covers computer applications and introduction to safety, set-up, operation and terminology of basic machine and application of basic CAD/CAM.

251 SELECTED APPLICATIONS MACHINE SHOP; CONVENTIONAL AND CNC (2) RPT3 CSU*Lab: 6 hours*

This course is a practical study of conventional machine shop, CNC applications with an intermediate presentation of safety, set-up, operation and terminology of machine tools such as band saws, grinders, lathes, mills, pedestal grinders, power saws and CNC machines, and their attachments. Application of hand tools and measuring tools are also covered with an introduction to intermediate specialized machining.

251A SELECTED APPLICATIONS MACHINE SHOP; CONVENTIONAL AND CNC (1) RPT3 CSU*Lab: 3 hours*

This is module one of two for the course covering the practical study of conventional machine shop, CNC applications with an intermediate presentation of safety, set-up, operation and terminology of machine tools such as band saws, grinders, lathes, mills, pedestal grinders, power saws and CNC machines, and their attachments. Application of hand tools and measuring tools are also covered with an introduction to intermediate specialized machining.

251B SELECTED APPLICATIONS MACHINE SHOP / CNC (1) RPT3 CSU*Lab: 3 hours*

This is module two of two for the course covering the practical study of conventional machine shop, CNC applications with an intermediate presentation of safety, set-up, operation and terminology of machine tools such as band saws, grinders, lathes, mills, pedestal grinders, power saws and CNC machines, and their attachments. Application of hand tools and measuring tools are also covered with an introduction to intermediate specialized machining.

252 SELECTED APPLICATIONS MACHINE SHOP CAD/CAM (2) RPT3 CSU*Lab: 6 hours*

This course is a practical study on computer topics on advanced presentation of safety, set-up, operation and terminology of machine tools such as boring machines, EDM machines, grinders, lathes, mills and CNC machines, including accessories, attachments, hand tools and measuring tools. An introduction to advanced specialized machining is also covered in this course.

252A SELECTED APPLICATIONS MACHINE SHOP CAD (1) RPT3 CSU*Lab: 3 hours*

This is the CAD portion of the course covering the practical study on computer topics on advanced presentation of safety, set-up, operation and terminology of machine tools such as boring machines, EDM machines, grinders, lathes, mills and CNC machines, including accessories, attachments, hand tools and measuring tools. An introduction to advanced specialized machining is also covered in this course.

252B SELECTED TOPICS MACHINE SHOP CAM (1) RPT3 CSU*Lab: 3 hours*

This is the CAM portion of the course covering the practical study on computer topics on advanced presentation of safety, set-up, operation and terminology of machine tools such as boring machines, EDM machines, grinders, lathes, mills and CNC machines, including accessories, attachments, hand tools and measuring tools. An introduction to advanced specialized machining is also covered in this course.

OPERATION AND MAINTENANCE ENGINEERING

PROGRAM OVERVIEW

Most craft workers specialize in one kind of work, such as plumbing or carpentry. General maintenance and repair workers, however, have skills in many different crafts. They repair and maintain machines, mechanical equipment, and buildings and work on plumbing, electrical, and air-conditioning and heating systems. They build partitions, make plaster or drywall repairs, and fix or paint roofs, windows, doors, floors, woodwork, and other parts of building structures. They also maintain and repair specialized equipment and machinery found in cafeterias, laundries, hospitals, stores, offices, and factories.

A general maintenance worker's typical duties include troubleshooting and fixing faulty electrical switches, repairing air-conditioning motors, and unclogging drains. In addition, newer buildings sometimes have computer-controlled systems that allow maintenance workers to make adjustments in building settings and monitor for problems from a central location; for example, they can remotely control light sensors that turn off lights automatically after a set amount of time or identify a broken ventilation fan that needs to be replaced.

General maintenance and repair workers inspect and diagnose problems and determine the best way to correct them, frequently checking blueprints, repair manuals, and parts catalogs. They obtain supplies and repair parts from distributors or storerooms. Using common hand and power tools such as screwdrivers, saws, drills, wrenches, and hammers, as well as specialized equipment and electronic testing devices, these workers replace or fix worn or broken parts, where necessary, or make adjustments to correct malfunctioning equipment and machines.

General maintenance and repair workers also perform routine preventive maintenance tasks to ensure that machines continue to run smoothly, building systems operate efficiently, and the physical condition of buildings does not deteriorate. Following a checklist, they may inspect drives, motors, and belts, check fluid levels, replace filters, and perform other maintenance actions. Maintenance and repair workers keep records of their work.

The "Certified Steam Boiler License" is a specialized certification required for many maintenance workers. Los Angeles Trade Technical College offers a Certificate of Completion-Steam Plant to address this need. The core of the program is designed to prepare students to take the Boiler/Steam Plant certification exam, while the remainder is structured to create students who possess an array of skills which would be transferable to a variety of job settings, creating a highly capable general maintenance worker.

General maintenance and repair workers held 1.3 million jobs in 2006. They were employed in almost every industry. Around 1 in 5 worked in manufacturing industries, almost evenly distributed through all sectors, while about 1 in 6 worked for different government bodies. Others worked for wholesale and retail firms and for real estate firms that operate office and apartment buildings.

Employment of general maintenance and repair workers is expected to grow about as fast as average for all occupations through 2014. Employment is related to the number of buildings—for example, office and apartment buildings, stores, schools, hospitals, hotels, and factories—and the amount of equipment needing maintenance and repair.

Job opportunities should be favorable, especially for those with experience in maintenance or related fields. General maintenance and repair is a large occupation with significant turnover. Additionally, many job openings are expected to result from the retirement of many experienced maintenance workers over the next decade.

OPERATION AND MAINTENANCE ENGINEERING

■ Certificate of Accomplishment - Steam Plant

A Certificate of Accomplishment in Operation and Maintenance Engineering-Steam Plant may be earned by successfully completing a minimum of 36 units, 12 of which must be the required courses listed below, and 24 units of core electives with a "C" or better grade in each course.

Upon successful completion of this program the student will have the necessary skills for entry and mid level jobs in the general maintenance industry. This program prepares the student for basic electrical, heating and refrigeration, plumbing, and carpentry work, and to pass the "Certified Boiler/Steam Plant" License exam.

REQUIRED COURSES

	UNITS
OPMAINT 228 Steam Plant Operation I	6
OPMAINT 229 Steam Plant Operation II	6
ELECTIVES	24
TOTAL UNITS	36

ELECTIVES

	UNITS
ECONMT 100 (OSHA) Safety Standards	2
REF A/C 159 Principles and Practices of Electric Circuits and Controls	4
REF A/C 160 Refrigeration System Principles and Practices	4
REF A/C 161 Air Conditioning System Principles and Practices	4
REF A/C 162 Piping Principles and Practices	4
REF A/C 164 Gas Heating Systems	4
REF A/C 176 Heating and Air Conditioning I	3
REF A/C 177 heating and Air Conditioning II	3
REF A/C 187 Servicing I	3
REF A/C 188 Servicing II	3
REF A/C 202 Fundamentals of Refrigeration	3
REF A/C 203 Compression Systems of Refrigeration	3
REF A/C 204 Functions of Compression Systems Components	3

REF A/C 208	Refrigerant Management – EPA Section 608 Certification	4
CRPNTRY 111A	Construction IA	3
CRPNTRY 241	Blueprint Reading	3
ECONMT 181	Basic Wiring Practices	3
ECONMT 182	Basic Diagrams and Circuit Practices	1
ECONMT 171	Electrical Codes and Ordinances I	3
PLUMBING 28	Plumbing Code I	3
PLUMBNG 31	Backflow Prevention Devices	1
PLUMBNG 145	Plumbing Installation and Service	3
ECONMT 105	Fundamentals of Solar Energy	3
ECONMT 110	Renewable Energy Systems	3
REF A/C 199	Mechanical Code I - HVACR	3

OPERATION AND MAINTENANCE ENGINEER

■ COURSE DESCRIPTIONS

228 STEAM PLANT OPERATION I (6)

Lecture: 6 hours

Related engineering information concerning high pressure steam plants in office buildings and industrial establishments are studied in this course. Emphasis is given to steam power plant, use of steam tables, types of boilers, construction of boilers, boiler accessories, settings for combustion equipment and heating surfaces; operation of steam boilers and the combustion of fuels.

229 STEAM PLANT OPERATION II (6)

Lecture: 6 hours

Instruction is given in steam engines, valve operating mechanisms and governors, and operating characteristics of steam engines. Course covers steam turbines, pumps, and auxiliary power plant equipment, steam plant efficiencies, boiler water treatment, troubleshooting, and power transmission. Completion of this second course prepares trainee to take Los Angeles City examination for steam engineer's license.

Plumbers must be able to follow building plans or blueprints and instructions, lay out the job, and work efficiently with the materials and tools of their trade. Computers and specialized software are used to create blueprints and plan layouts. To meet the training needs of persons interested in becoming a service and repair plumber or a commercial construction plumber, Los Angeles Trade Technical College offers a Plumbing Associate in Science degree and a Plumbing Construction Technologies Associate in Arts degree, as well as their equivalent Certificates of Completion.

The Associate in Science degree is designed for individuals seeking entry level positions in the field. Students enrolling in this program should be able to commit to full-time student status, which is approximately 24 hours per week. This time commitment is necessary to allow for hands-on training with the laboratory applications used during the course of instruction.

The Associate in Arts degree is an evenings-only course of study designed for individuals currently in the field who want to improve or expand their skills. Due to limitations on available evening hours, the utilization of hands-on laboratory application is assumed to be provided at the student's place of employment. Depending on availability, the Associate in Arts degree may require slightly longer time to complete due to limited hours available. Check with the Department Chair for more details prior to enrolling

Plumbers work in commercial and residential settings where water and septic systems need to be installed and maintained. They also work outdoors, sometime in remote areas, as they build the pipelines that connect sources of oil, gas, and chemicals with the users of these materials. Because plumbers frequently must lift heavy pipes, stand for long periods, and sometimes work in uncomfortable or cramped positions, they need physical strength as well as stamina.

Job opportunities are expected to be excellent, as demand for skilled plumbers is expected to outpace the supply of workers trained in this craft. Many employers report difficulty finding potential workers with the right qualifications. In addition, many people currently working in these trades are expected to retire over the next 10 years, which will create additional job openings.

Employment of plumbers is expected to grow about as fast as average for all occupations through the year 2014. Demand for plumbers will stem from new construction and building renovation. Bath remodeling, in particular, is expected to continue to grow and create more jobs for plumbers. In addition, repair and maintenance of existing residential systems will keep plumbers employed. Plumbers are generally less sensitive to changes in economic conditions than jobs in other construction trades: even when construction activity declines, maintenance, rehabilitation, and replacement of existing piping systems, as well as the increasing installation of fire sprinkler systems, provide many jobs for plumbers.

Plumbers are among the highest paid construction occupations. In May 2006, median hourly earnings were \$22.68. The middle 50 percent earned between \$16.05 and \$24.69. The lowest 10 percent earned less than \$12.19, and the highest 10 percent earned more than \$31.07.

PLUMBING

PROGRAM OVERVIEW

Most people are familiar with plumbers, those individuals who come to their home to unclog a drain or install an appliance. Plumbers install, maintain, and repair many different types of pipe systems. Some systems move water to a municipal water treatment plant and then to residential, commercial, and public buildings. Other systems dispose of waste, provide gas to stoves and furnaces, or provide for heating and cooling needs. Pipe systems in power plants carry the steam that powers huge turbines, while pipes also are used in manufacturing plants to move material through the production process. Specialized piping systems are critical in both pharmaceutical and computer-chip manufacturing. The existence of such various pipe systems generate the need for trained plumbers.

PLUMBING

■ Associate in Science Degree

Requirements for the Plumbing Associate in Science degree may be satisfied by completing a minimum of 48 units in the required courses listed below and an additional 18 units in general education courses (Plan B).

Upon successful completion of this program the student will have the necessary knowledge and skills for a career in residential, commercial, and industrial service and repair or construction plumbing. Reading of blueprints, layout, estimating, installation of piping systems and fixtures, repair of supply and waste water systems are just some of the skills that will be mastered during this program.

REQUIRED COURSES

FIRST SEMESTER	UNITS
PLUMBNG 111 Introduction to Plumbing	3
PLUMBNG 112 Fundamentals of Plumbing	3
PLUMBNG 113 Basic Plumbing principles and Practices	6
UNITS	12

SECOND SEMESTER	UNITS
PLUMBNG 121 Working Drawing and Layout I	3
PLUMBNG 122 Plumbing Mathematics and Procedures	3
PLUMBNG 123 Plumbing Practices and Installation	6
UNITS	12

THIRD SEMESTER	UNITS
PLUMBNG 131 Working Drawing II	3
PLUMBNG 132 Plumbing Mathematics and Procedures II	3
PLUMBNG 133 Installation and Plumbing Fixtures	6
UNITS	12

FOURTH SEMESTER	UNITS
PLUMBNG 141 Advanced Layout and Procedures	3
PLUMBNG 142 Servicing of Plumbing Fixtures and Appliances	3
PLUMBNG 143 Plumbing Code I	3
PLUMBNG 144 Special Purpose Installation	3
UNITS	12
TOTAL UNITS	48

RECOMMENDED ELECTIVES

	UNITS
PLUMBNG 26 Plumbing Layout and Estimating I	3
PLUMBNG 27 Plumbing Layout and Estimating II	3
PLUMBNG 28 Plumbing Code I	3
PLUMBNG 29 Plumbing Code II	3
PLUMBNG 31 Backflow Prevention Devices	3
PLUMBNG 33 Plumbing Code III	3
PLUMBNG 145 Plumbing Installation and Service	3
PLUMBNG 941 Cooperative Education	4
ECONMT 100 (O.S.H.A.) Safety Standards	2
BLDGCTQ 101 Contractor's License Law	3

PLUMBING

■ Certificate of Accomplishment

A Certificate of Accomplishment is awarded for successful completion of 48 units minimum in the required courses listed for the Associate in Science degree above with a "C" or better grade in each course.

Upon successful completion of this program the student will have the necessary knowledge and skills for a career in Residential, Commercial, and Industrial service and repair or construction plumbing.

PLUMBING: CONSTRUCTION TECHNOLOGIES

■ Associate in Arts Degree

Requirements for the Plumbing-Construction Technologies Associate in Art degree may be satisfied by completing a minimum of 45 units in the required courses listed below and an additional 18 units in general education courses (Plan B).

Upon successful completion of this program the student will have the necessary knowledge and skills for a career in Residential, Commercial, and Industrial Service and Repair or Construction Plumbing.

REQUIRED COURSES

LEVEL I	UNITS
PLUMBNG 28 Plumbing Code I	3
PLUMBNG 112 Fundamentals of Plumbing	3
WELDG/E 201A Welding Gas and Electric IA	1
ELECTIVE	3

LEVEL II	UNITS
PLUMBNG 26 Plumbing Layout and Estimating I	3
PLUMBNG 29 Plumbing Code II	3
WELDG/E 202B Welding – Gas and Electric IIB	1
ELECTIVE	2

LEVEL III	UNITS
OPMAINT 228 Steam Plant Operations I	6
PLUMBNG 27 Plumbing Layout and Estimating II	3
PLUMBNG 33 Plumbing Code III	3
ELECTIVE	3

LEVEL IV	UNITS
OPMAINT 229 Steam Plant Operations II	6
PLUMBNG 31 Back flow Prevention Devices	1
PLUMBNG 246 Principles and Practices of Plumbing Design and Layout	4
TOTAL UNITS	45

ELECTIVE COURSES

		UNITS
ECONMT 181	Basic Wiring Practices	3
ENGLISH 101	Reading and Composition I	3
LABR ST 115	Issues in Workplace Health and Safety	1
LABR ST 127	Workers' Compensation	1
MARKET 21	Principles of Marketing	1
MATH 115	Elementary Algebra	3
MATH 245	College Algebra	3
PLUMBNG 30	Plumbing-Silver Brazing	1
PLUMBNG 145	Plumbing Installation and Service	3
PLUMBNG 250	Design and Construction Specialties	4
PLUMBNG 941	Cooperative Education	4
ECONMT 100	(O.S.H.A.) Safety Standards	2
BLDGCTQ 101	Contractor's License Law	3

PLUMBING: CONSTRUCTION TECHNOLOGIES

■ Certificate of Completion

A Certificate of Completion is awarded for successful completion of 45 units minimum in the required courses listed for the Associate in Arts degree above with a "C" or better grade in each course.

Upon successful completion of this program the student will have the necessary knowledge and skills for a career in Residential, Commercial, and Industrial Service and Repair or Construction Plumbing.

PLUMBING

■ COURSE DESCRIPTIONS

26 PLUMBING LAYOUT AND ESTIMATING I (3)

Lecture: 3 hours

Instruction is given in symbols and abbreviations, pipe fittings and pipe measurement, orthographic, isometric and freehand drawing, blueprint reading and fundamentals of piping layout.

27 PLUMBING LAYOUT AND ESTIMATING II (3)

Lecture: 3 hours

This course emphasizes on layout procedures for one- and two-story residential, commercial and industrial units. Topics such as estimating procedures for each of these unit, such as pricing methods and bidding practices are covered.

28 PLUMBING CODE I (3) RPT1

Lecture: 3 hours

Instruction is given in plumbing codes and ordinances that affect rough-in work, in city and county areas. Installation of wastes, vents, cleanouts, traps, gas fittings and gas vents, and water pipe requirements are reviewed.

31 BACKFLOW PREVENTION DEVICES (3)

Lecture: 1.5 hours; Lab: 4.5 hours

Fundamentals of cross-connection controls including state and municipal codes, rules and regulations are reviewed in this course. Emphasis is given to laboratory work in operating, testing and maintaining vacuum breakers, double check valves and reduced pressure devices.

33 PLUMBING CODE III (3)

Recommended Preparation: Plumbing 28 and 29 with a grade of "C" or better.

Lab: 3 hours

This course presents in-depth coverage of plumbing standards, including acceptable installation practices and acceptable materials. All standards are based on the current IAPMO uniform plumbing code.

111 INTRODUCTION TO PLUMBING (3)

Lecture: 1 hour; Lab: 6 hours

This is a study of survey of the history of the industry, occupational information, job ethics and career information. Occupational hazards, health and safety practices are reviewed.

112 FUNDAMENTALS OF PLUMBING (3)

Lecture: 3 hours

This course studies fundamentals of plumbing, mathematics and elementary drawings for beginners. Instruction is given in the principles and design of water supply and distribution.

113 BASIC PLUMBING PRINCIPLES AND PRACTICES (6)

Lecture: 3.5 hours; Lab: 7.5 hours

Fundamentals of plumbing are explored in this course. Topics include pipe sizes and calculations, flow in pipe, friction, design, application and general specification of pipes and fittings

121 WORKING DRAWINGS AND LAYOUT I (3)

Recommended Preparation: Plumbing 111, 112 and 113 with a grade of "C" or better.

Lecture: 3 hours

Instruction is provided in applied drafting as related to the plumbing industry. The proper methods and procedures of plan interpretation and application with emphasis on plumbing specifications are reviewed.

122 PLUMBING MEASUREMENTS AND CALCULATIONS II (3)

Recommended Preparation: Plumbing 111, 112 and 113 with a grade of "C" or better.

Lecture: 3 hours

This course studies mathematics as applied to the plumbing industry with emphasis on formulas peculiar to the industry.

123 PLUMBING PRACTICES AND INSTALLATION (6)

Recommended Preparation: Plumbing 111, 112 and 113 with a grade of "C" or better.

Lecture: 1.5 hours; Lab: 13.5 hours

The study and practice of the proper methods and procedures used in installing plumbing fixtures and accessories are explored in this course. Installing, fabricating, and testing fixtures applicable to residential and commercial plumbing are covered.

131 WORKING DRAWINGS II (3)

Recommended Preparation: Plumbing 121, 122, and 123 with a grade of "C" or better.

Lecture: 3 hours

This course is a study of blueprints, plans, and drawings as related to the plumbing trade skills, including the interpretation of applicable code and standards. Basic principles of estimating, including materials and their quantities are reviewed.

132 PLUMBING MATHEMATICS AND PROCEDURES II (3)

Recommended Preparation: Plumbing 121, 122, and 123 with a grade of "C" or better.

Lecture: 1 hour; Lab: 6 hours

Instruction is given in layout procedures involving applied mathematics concerning the plumbing trades. Instruction is given in both layout and design criteria.

133 INSTALLATION AND PLUMBING FIXTURES (6)

Recommended Preparation: Plumbing 121, 122, and 123 with a grade of "C" or better.

Lecture: 3.5 hours; Lab: 7.5 hours

This course covers fabrication and erection of plumbing systems, including the finished plumbing fixture installed and test as per UPC data.

141 ADVANCED LAYOUT AND PROCEDURES (3)

Recommended Preparation: Plumbing 121, 122, and 123 with a grade of "C" or better.

Lecture: 3 hours

Proper methods of layout and installation procedures in fabrication and erection of piping in commercial buildings are reviewed in this course. Local and national codes are also studied.

142 SERVICING OF PLUMBING FIXTURES AND APPLIANCES (3)

Recommended Preparation: Plumbing 121, 122, and 123 with a grade of "C" or better.

Lecture: 1.5 hours; Lab: 4.5 hours

This course focuses on proper methods of repairing plumbing fixtures and appliances. Students are trained in preparing for the repair job and costing the job.

143 PLUMBING CODE I (3)

Recommended Preparation: Plumbing 121, 122, and 123 with a grade of "C" or better.

Lecture: 1.5 hours; Lab: 4.5 hours

This course is a study of the plumbing code as it relates to building with emphasis on the effective use of the code.

144 SPECIAL PURPOSES INSTALLATION (3)

Recommended Preparation: Plumbing 121, 122, and 123 with a grade of "C" or better.

Lecture: 1.5 hours; Lab: 4.5 hours

Fabrication and erection of piping for the proper installation of special appliances and fixtures are studied in this course. Special methods used in the construction of these fixtures as well as special testing procedures are also reviewed.

145 PLUMBING INSTALLATION AND SERVICE (3)

Recommended Preparation: Plumbing 112 with a grade of "C" or better.

Lecture: 1.5 hours; Lab: 4.5 hours

This course is an introduction to plumbing system that involves both design and the installation of small segments of water, gas. Plumbing service work is assessed and practical application experience is provided.

246 PRINCIPLES AND PRACTICES OF PLUMBING DESIGN AND LAYOUT (4)

Lecture: 2.5 hours; Lab: 4.5 hours

Students are trained on skills such as measuring with an architect's scale, construction drawings that include piping layout, fixture layout, disability requirements, orthographic drawings, and basic isometric drawings.

250 DESIGN AND CONSTRUCTION SPECIALTIES (4)

Lecture: 2.5 hours; Lab: 4.5 hours

Instruction is given in plumbing layout drawing, blueprint reading, principles and practices of water supply and distribution, special waste piping practices, use of elementary backflow prevention devices, plumbing installation techniques, introductory principles and practices of solar domestic water heating.

PIPING TECHNOLOGY**■ COURSE DESCRIPTIONS****174 PLUMBING DRAFTING AND DESIGN (4)**

Lecture: 2.5 hours; Lab: 4.5 hours

This course emphasizes on principles, sizing and layout of sanitary waste and vent systems, hot and cold water systems and gas distribution systems, selection and specification of fixtures and plumbing system accessory devices.

REFRIGERATION AND AIR CONDITIONING MECHANICS**PROGRAM OVERVIEW**

The need for heating and air-conditioning exists everywhere, as residents in Tucson, without air-conditioning, would suffer from heat exhaustion in the summer while those in Buffalo in the winter would freeze without heating. Cooling and heating devices help regulate the temperature, humidity, and air quality in residential homes, commercial locations, and industrial facilities. Critical items like food and medicine require refrigeration to keep them from spoiling. Technicians repair, maintain, and install heating, air-conditioning, and refrigeration systems. Our program trains these technicians. Los Angeles Trade Technical College offers an Associate in Science (A.S.) degree and Associates in Arts (A.A.) degree in Refrigeration and Air Conditioning Mechanics, as well as their equivalent Certificates of Completion.

The Associate in Science degree is designed for individuals seeking entry level positions in the field. Students enrolling in this program should be able to commit to full-time student status, which is approximately 24 hours per week. This time commitment is necessary to allow for hands-on training with the laboratory applications used during the course of instruction.

The Associate in Arts degree is an evenings-only course of study designed for individuals currently in the field who want to improve their skills or learn new ones. Due to limitations on available evening hours, the utilization of hands-on application is assumed to be provided at the student's place of employment.

A Fundamentals of Refrigeration and Air Conditioning Skills Certificate is also offered. This is a valuable certificate to show proof of continuing education and skills improvement to aid in job advancement. The classes that are part of the skills certificate can also be utilized for the degrees and certificates.

More than 249,000 positions were held by heating, air-conditioning, and refrigeration technicians in 2002. Close to 50 percent of the technicians were employed by cooling and heating contractors. The rest worked for various industries, including fuel oil dealers, refrigeration and air-conditioning service and repair shops, schools, and stores that sell heating and air-conditioning systems.

Local and federal governments, hospitals, offices, and other organizations that utilize huge climate controlling systems also employ refrigeration technician professionals. Approximately 15 percent of technicians are self-employed. Due to the increasing sophistication of heating, air-conditioning, and refrigeration systems, employers prefer to hire those with technical school or apprenticeship training.

REFRIGERATION AND AIR CONDITIONING MECHANICS

■ Associate in Science Degree

The Associate in Science degree may be earned by completing 48 units of required courses and 18 units of general education courses to meet the Plan "B" graduation requirements.

Upon successful completion of this program, the student will have the necessary knowledge and skills for a career in residential, commercial, and industrial service and repair of air conditioning, heating and refrigeration systems. EPA refrigerant certification will be received. Electrical controls, piping installation, compressor installation and repair are just some of the skills that would be mastered during this program.

REQUIRED COURSES

FIRST SEMESTER		UNITS
REF A/C 111	Fundamentals of Refrigeration	3
REF A/C 113	Refrigeration Component Construction	3
REF A/C 114	Refrigeration Maintenance Procedures	3
ECONMT 119	Applied Electrical Calculations and Measurements	3
– or –		
ECONMT 173	Electrical Mathematics I	3
UNITS		12

SECOND SEMESTER		UNITS
REF A/C 123	Pipe and Tube Joining Processes	3
REF A/C 124	Refrigeration Electrical Circuits and Controls	3
REF A/C 125	Refrigeration System Components	3
ECONMT 174	Electrical Mathematics II	3
UNITS		12

THIRD SEMESTER		UNITS
REF A/C 133	Refrigeration Service Procedures I	3
REF A/C 134	Service for Air Conditioning Equipment I	3
REF A/C 135	Air Conditioning and Refrigeration	3
Elective		3
UNITS		12

FOURTH SEMESTER		UNITS
REF A/C 141	Applied Refrigeration and Air Conditioning Principles	3
REF A/C 143	Refrigeration Service Procedures II	3
REF A/C 145	Air Conditioning and Refrigeration Mechanics I	3
Elective		3
UNITS		12
TOTAL UNITS		48

ELECTIVES

		UNITS
REF A/C 100	Air Conditioning Project Management	3
REF A/C 161	Air Conditioning Systems Principles and Practices	3
REF A/C 162	Piping Principles and Practices	4
REF A/C 164	Gas Heating Systems	3
REF A/C 165	Thermal Energy Storage and Heat Recovery	4
REF A/C 174	Refrigeration and Air Conditioning Controls	3
REF A/C 176	Heating and Air Conditioning I	3
REF A/C 177	Heating and Air Conditioning II	3
REF A/C 178	Refrigeration and Air Conditioning Electricity	3
REF A/C 187	Servicing I	3
REF A/C 188	Servicing II	3
REF A/C 250	Indoor Air Quality	3
PHYSICS 12	Physics Fundamentals	3
ECONMT 100	(OSHA) Safety Standards	2
BLDGCTQ 101	Contractor's License Law	3
REF A/C 199	Mechanical Code I - HVCR	3
REF A/C 208	Refrigerant Management-EPA 608 Certification	4
REF A/C 209	NATE Certification Prep	3
REF A/C 210	Refrigeration System Efficiency Factors	3
REF A/C 941	Cooperative Education	4

REFRIGERATION AND AIR CONDITIONING MECHANICS

■ Certificate of Completion

A Certificate of Completion may be earned by completing the 48 units of required courses listed above in the Associate in Science degree curriculum with a "C" or better grade in each course.

REFRIGERATION AND AIR CONDITIONING MECHANICS

■ Associate in Arts Degree

The Associate in Arts degree may be earned by completing 48 units of the listed required courses and 18 units of general education courses to meet the Plan B graduation requirements.

Upon successful completion of this program the student will have the necessary knowledge for a career in Residential, Commercial, and Industrial service and repair of Air conditioning Heating and Refrigeration systems. EPA refrigerant certification will be received. Electrical controls, piping installation, compressor installation and repair are just some of the areas that would be mastered during this program.

REQUIRED COURSES

LEVEL I	UNITS
REF A/C 161 Air Conditioning Systems Principles and Practices	3
REF A/C 202 Refrigeration Fundamentals	3
ECONMT 115 Fundamentals of D.C. Electricity	3
ECONMT 173 Electrical Mathematics I	3

LEVEL II	UNITS
REF A/C 159 Refrigeration and Air Conditioning Electricity	4
REF A/C 203 Compression System of Refrigeration	3
REF A/C 204 Functions of Compression Systems	3
ECONMT 129 Fundamentals of Alternating Current	3

LEVEL III	UNITS
REF A/C 187 Servicing I	3
REF A/C 188 Servicing II	3
REF A/C 208 Refrigerant Management-EPA 608 Certification	4
Elective	2

LEVEL IV	UNITS
REF A/C 160 Refrigeration System Principles and Practices	4
REF A/C 164 Gas Heating Systems	4
Elective	3
TOTAL UNITS	48

ELECTIVES

	UNITS
REF A/C 100 Air- Project Management	3
REF A/C 162 Piping Principles and Practices	4
REF A/C 165 Thermal Energy Storage and Heat Recovery	4
REF A/C 174 Refrigeration and Air Conditioning Controls	3
REF A/C 176 Heating and Air Conditioning I	3
REF A/C 177 Heating and Air Conditioning II	3
REF A/C 178 Refrigeration and Air Conditioning Electricity	3
REF A/C 250 Indoor Air Quality	3
PHYSICS 12 Physics Fundamentals	3
ECONMT 100 (OSHA) Safety Standards	2
BLDGCTQ 101 Contractor's License Law	3
REF A/C 199 Mechanical Code I - HVCR	3
REF A/C 209 NATE Certification Prep	3
REF A/C 210 Refrigeration System Efficiency Factors	3
REF A/C 941 Cooperative Education	4

REFRIGERATION AND AIR CONDITIONING MECHANICS

■ Certificate of Accomplishment

A Certificate of Accomplishment may be earned by completing 48 units of required courses listed above in the Associate in Arts degree curriculum with a "C" or better grade in each course.

REFRIGERATION AND AIR CONDITIONING MECHANICS

■ COURSE DESCRIPTIONS

100 AIR CONDITIONING PROJECT MANAGEMENT (3)

Lecture: 3 hours

This course provides HVAC Industry Project Manager instruction. Topics covered will include blueprint reading, Microsoft spreadsheets, Microsoft Word documents, Microsoft Project, design build criteria, estimating, change orders, request for information, GANTT Charts, scheduling, schedule of values, purchase orders, submittals, transmittals, reading of air balance reports, warranty letters and close out packages.

111 FUNDAMENTALS OF REFRIGERATION (3)

Lecture: 3 hours

The physical and thermodynamic properties of refrigerants as applied to the compression cycle of refrigeration are studied in this course. Basic orientation to the refrigeration industry is given.

113 REFRIGERATION COMPONENT CONSTRUCTION (3)

Lab: 9 hours

Instruction is given on the construction of the basic components of the refrigeration system.

114 REFRIGERATION MAINTENANCE PROCEDURES (3)

Lab: 9 hours

This course focuses on preventive maintenance and housekeeping routines including record keeping and safety procedures.

123 PIPE AND TUBE JOINING PROCESSES (3)

Recommended Preparation: REF A/C 111, 113, 114, and ECONMT 119 or 173 with a grade of "C" or better.

Lab: 9 hours

This course assesses assembly of components into operating systems using techniques employed by the industry.

124 REFRIGERATION ELECTRICAL CIRCUITS AND CONTROLS (3)

Recommended Preparation: REF A/C 111, 113, 114, and ECONMT 119 or 173 with a grade of "C" or better.

Lab: 9 hours

Students are trained in practical electrical installation for operation as well as safety.

125 REFRIGERATION SYSTEM COMPONENTS (3)

Recommended Preparation: REF A/C 111, 113, 114, and ECONMT 119 or 173 with a grade of "C" or better.

Lecture: 3 hours

Instruction is given in basic electricity and electrical components. Compression system components and their functions and inter-relationships are reviewed.

133 REFRIGERATION SERVICE PROCEDURES I (3)

Recommended Preparation: REF A/C 123, 124, 125, and ECONMT 174 with a grade of "C" or better.

Lab: 9 hours

Servicing procedures as applied to domestic and commercial refrigeration systems are studied in this course. Topics covered include check, test, and start procedures.

134 SERVICE FOR AIR CONDITIONING EQUIPMENT I (3)

Lab: 9 hours

Practical instruction is given on typical air conditioning units including heat pumps with emphasis on recommended service and diagnosis procedures.

135 AIR CONDITIONING AND REFRIGERATION (3)

Recommended Preparation: REF A/C 123, 124, 125, and ECONMT 174 with a grade of "C" or better.

Lecture: 3 hours

Basic air conditioning principles including psychometrics, heat pumps, gas heating; absorption refrigeration, industrial refrigeration, food storage, and controls are reviewed in this course.

141 APPLIED REFRIGERATION AND AIR CONDITIONING PRINCIPLES (3)

Recommended Preparation: REF A/C 123, 124, 125, and ECONMT 174 with a grade of "C" or better.

Lecture: 3 hours

This course focuses on Chemistry as applied to the HVAC and R industry. Areas covered include hydronics, heating and cooling load calculations, control wiring, introduction to the uniform mechanical code, pneumatic controls, troubleshooting approaches, and employment.

143 REFRIGERATION SERVICING PROCEDURES II (3)

Recommended Preparation: REF A/C 123, 124, 125, and ECONMT 174 with a grade of "C" or better.

Lab: 9 hours

Troubleshooting procedures in diagnosing and repairing malfunctions in refrigeration systems are studied in this course with emphasis on mechanical problems.

145 AIR CONDITIONING AND REFRIGERATION MECHANICS (3)

Recommended Preparation: REF A/C 123, 124, 125, and ECONMT 174 with a grade of "C" or better.

Lab: 9 hours

This is a study on diagnosis and repair of refrigeration, air conditioning, and gas heating systems with emphasis on the correct application of electrical theory.

159 PRINCIPLES AND PRACTICES OF ELECTRICAL CIRCUITS AND CONTROLS (4)

Lecture: 2.5 hours; Lab: 4.5 hours

This course covers Basic electricity, magnetic starters, contactors and relays. Pressure and temperature controls, millivolt and low voltage systems, modulating controls, time clocks and defrost systems are studied.

160 REFRIGERATION SYSTEM PRINCIPLES AND PRACTICES (4)

Lecture: 2.5 hours; Lab: 4.5 hours

Students learn fundamental refrigeration system principles, system components and refrigerants, basic electricity, motors and controls, and test equipment in domestic and commercial refrigeration.

161 AIR CONDITIONING SYSTEM PRINCIPLES AND PRACTICES (4)

Lecture: 2.5 hours; Lab: 4.5 hours

This is a study of human comfort, psychometrics and heat loads. Air distribution and duct sizing, air conditioning equipment, test instruments and measurements and servicing are explored.

162 PIPING PRINCIPLES AND PRACTICES (4)

Lecture: 2.5 hours; Lab: 4.5 hours

Instruction is given on refrigerant tubing and fittings, water piping and fittings, pipe sizing, soft soldering, silver brazing and schematic drawings.

164 GAS HEATING SYSTEMS (4)

Lecture: 1.5 hours; Lab: 4.5 hours

This course will develop the necessary skills needed for proper installation, servicing and troubleshooting of natural gas furnaces. Topics include principles of gas combustion, gas ignition, controls, installation and ventilation.

165 THERMAL ENERGY STORAGE AND HEAT RECOVERY (4)

Lecture: 1.5 hours; Lab: 4.5 hours

Thermal energy storage and heat recovery principles of TES and basic definitions are the focus of study in this course. Load profile and electric cost are introduced and system design including space requirements and component selection based on load profiles and costs are covered.

176 HEATING AND AIR CONDITIONING I (3)

Lecture: 3 hours

Instruction is given in heating for workers in the heating and air conditioning field. Fundamentals of fuels, venting, heat transfer and calculation, equipment selection, distribution systems, and necessary controls are studied.

177 HEATING AND AIR CONDITIONING II (3)

Lecture: 3 hours

The cooling portion of the air conditioning field for employed mechanics is explored in this course. Types of system, refrigeration cycle, heat gain and calculation, air distribution equipment, selection of controls, and sales procedures are reviewed.

187 SERVICING I (3)

Lecture: 3 hours

This course reviews servicing procedures, manufacturers' recommendations, installation and service of commercial and industrial refrigeration and air conditioning systems.

188 SERVICING II (3)

Recommended Preparation: REF A/C 187 or equivalent with a grade of "C" or better.

Lecture: 3 hours

Topics covered in this course include electrical diagrams for testing control circuits, the total electrical system and protection devices on package units, analysis of failure and compressor motor burnout cleanup procedures.

199 MECHANICAL CODE I - HVACR(3)

Recommended Preparation: REF A/C 187 or equivalent with a grade of "C" or better.

Lecture: 3 hours

An introduction to the California Mechanical Code for the installation and maintenance of heating, ventilating, cooling, and refrigeration systems

202 REFRIGERATION FUNDAMENTALS (3) CSU

Lecture: 3 hours

This course covers applied thermodynamics and laws of mechanics with laws of gases and change of state in substances and heat transfer.

203 COMPRESSION SYSTEMS OF REFRIGERATION (3) CSU

Lecture: 3 hours

Instruction is given in vapor cycle in refrigeration systems including the study of refrigerants and their behavior in the system.

204 FUNCTIONS OF COMPRESSION SYSTEM COMPONENTS (3)

Lecture: 3 hours

This course is a study of application of the Mollier Diagram to system analysis reciprocating and Centrifugal Chiller Theory and Operation. Areas covered include compressor failure, rotary, helical screw, and scroll compressors, capacity control, and use of the gauge manifold latest developments in the industry.

208 REFRIGERANT MANAGEMENT – EPA 608 CERTIFICATION (4)

Lecture: 4 hours

This course is a preparatory course for the EPA Section 608 Technician Certification Type I, II, III, and the Universal Certification. Students are trained in refrigerant management including the EPA Section 608 ruling, the Montreal Protocol, Ozone Depletion and Global Warming. Note: Certification testing is will be available at the end of the semester for an additional fee.

209 NORTH AMERICAN TECHNICIAN EXCELLENCE (NATE) - AIR CONDITIONING SPECIALIST - CERTIFICATION PREPARATION (4)

Lecture: 4 hours

Preparatory course for the industry standard NATE A/C Specialist certification examination. Includes safety, thermodynamics, electrical system diagnostics, airflow measurements, mechanical code, installation, service, tools, and more!

210 REFRIGERATION SYSTEM EFFICIENCY FACTORS (4)

Lecture: 4 hours

This course will cover refrigerants, pressure enthalpy diagram, refrigeration piping, system evacuation and charging and maintenance. The beginning of the class will include a review of terminology and the refrigeration cycle.

250 INDOOR AIR QUALITY (3)

Lecture: 3 hours

This course emphasizes on operation of systems to provide quality air to indoor environments. AQMD requirements and pending regulations are reviewed. Organizing and implementing maintenance programs that include indoor air quality assessment and air balancing HVAC systems are covered.

AIR CONDITIONING AND REFRIGERATION TECHNOLOGY**■ COURSE DESCRIPTIONS****161 AUTOMATIC CONTROLS PRINCIPLES AND PRACTICES (4)**

Lecture: 3 hours; Lab: 3 hours

This course is a study of the fundamental principles and practices on pneumatic, and electric and electrical controls as applied to air conditioning and refrigeration. Emphasis is given on both theory and practice.

183 CONTROL THEORY AS APPLIED TO AIR CONDITIONING (3)

Lecture: 3 hours

Instruction is given on fundamentals of pneumatic, electric and electrical controls as applied to air conditioning and refrigeration. Emphasis is given on both theory and practice.

188 SOLAR ENERGY (3)

Lecture: 3 hours

Students learn the fundamental theory and application of solar energy. Water, wind, and direct electric panel theory and application, will be discussed.

STREET MAINTENANCE TECHNOLOGY**PROGRAM OVERVIEW**

The Street Maintenance Technology program is designed primarily for those involved in public works maintenance operations. Asphaltic and concrete pavement, construction, plan reading, calculation of materials, state and municipal codes, report writing, and heavy equipment operation and maintenance are some of the skills required in this field. To meet the training needs of persons interested in becoming a street maintenance worker, Los Angeles Trade Technical College offers a Street Maintenance Associate degree and it's equivalent Certificates of Completion.

The street maintenance field has evolved into a broader category of workers. A better name for the industry would be Street Services. Workers in this arena are primarily employed by governmental agency that perform maintenance operations on public highways and streets. Professionals in this field are involved at the ground level through upper level management. Job are generally 40 hours per week with benefits and overtime. Average salary ranges from \$19 to \$36 per hour.

STREET MAINTENANCE TECHNOLOGY**■ Associate in Arts Degree**

Requirements for the Street Maintenance Technology Associate in Arts degree may be satisfied by completing 30 units in the required courses listed below and an additional 30 units in general education courses (Plan A).

Upon successful completion of this program the student will have the necessary knowledge and skills for a career as a street services worker. Knowledge and skills will be mastered in the area of installation and maintenance of various types of street construction and material including asphalt and concrete. Students will also gain the supervisory skills needed to promote into management.

REQUIRED COURSES

		UNITS
ST MAIN 103	Applied Calculations in Public Works	3
ST MAIN 200	Survey of Street Services	3
ST MAIN 201	Street Maintenance I: (Intro to Street Maintenance)	3
ST MAIN 202	Street Maintenance II	3
ST MAIN 203	Street Maintenance III	3
ST MAIN 204	Street Maintenance IV	3
ST MAIN 205	Street Maintenance V	3
ST MAIN 206	Street Maintenance VI	3
ST MAIN 207	Street Maintenance VII	3
ST MAIN 208	Street Maintenance VIII (Supervision)	3
TOTAL UNITS		30

ELECTIVES:

ST MAIN 209	Class "B" Drivers License Prep.	3
ST MAIN 210	Motor Sweeper Operator	3

STREET MAINTENANCE TECHNOLOGY

■ Certificate of Accomplishment

Requirements for the Street Maintenance Technology Certificate of Completion may be satisfied by completing a minimum of 30 units in the required courses listed above in the Associate in Arts degree program.

STREET MAINTENANCE TECHNOLOGY

■ COURSE DESCRIPTIONS

103 APPLIED CALCULATION IN PUBLIC WORKS (3)

Lecture: 3 hours

This course is a practical mathematics exploration with an emphasis on application problems encountered in street maintenance, street services, and other areas of public works.

200 SURVEY OF STREET SERVICES (3)

Lecture, 3 hours

This is a survey course for the street services career path, providing an overview of the area and the day-to-day requirements of the job. Opportunities and career development will be discussed.

201 STREET MAINTENANCE I: INTRO TO STREET MAINTENANCE (3)

Lecture, 3 hours

This is a basic course on history and current practices in street maintenance techniques and programs. Study includes general theory covering concrete and cleaning.

202 STREET MAINTENANCE II (3)

Lecture, 3 hours

This course is an in-depth study of asphalt, preventative maintenance of asphaltic and concrete pavements, and applicable codes for improvement and repair.

203 STREET MAINTENANCE III (3)

Lecture, 3 hours

This course covers engineering plan reading, and the math concepts necessary for the calculation of amounts of material required for public works maintenance operations. Emphasis is given on solving practical math problems in estimating concrete, asphalt, and other material necessary for the completion of street, sidewalk and other types of maintenance work.

204 STREET MAINTENANCE IV: REPORT WRITING FOR PUBLIC WORKS (3)

Lecture, 3 hours

Students are trained on report writing in the public works arena. English mechanics as well as the analysis and preparation of reports for public works is emphasized.

205 STREET MAINTENANCE V: ISSUE AND PRACTICES IN PUBLIC WORKS (3)

Lecture, 3 hours

This course covers street use, street lighting, street tree, lot cleaning, sanitation, engineering and personnel management. Also covered are State and municipal codes, property descriptions and public relations.

206 STREET MAINTENANCE VI: HEAVY DUTY EQUIPMENT OPERATIONS AND MAINTENANCE (3)

Lecture, 3 hours

This course is an overview and hands on experiences with heavy equipment used in street maintenance. Safety and preventative maintenance are included.

207 STREET MAINTENANCE VII: HAZARDOUS MATERIALS EMERGENCY MANAGEMENT FOR FIRST RESPONSE (3)

Lecture, 3 hours

This course covers the prescribed responses in the first hour of a hazardous materials incident and satisfies OSHA "Standards in Hazardous Waste Operations Code 29 CFR 1910.120". The course includes specific training requirements of hazardous waste workers and emergency responders.

208 STREET MAINTENANCE VIII: SUPERVISION IN PUBLIC WORKS (3)

Lecture, 3 hours

The basic concepts of management and supervision in the area of public works are introduced. Topics include motivating employees, effective communication, problem solving, leadership skills and current practices.

209 DRIVERS LICENSE PREPARATION CLASS "B" (2)

Lecture, 1.5 hours, Laboratory, 1.5 hours

This class prepares the student to successfully obtain a California Class B Drivers License. Information is provided to prepare the student for the written portion of the exam and laboratory/field driving is provided to prepare the student for the driving portion of the exam.

210 MOTOR SWEEPER OPERATOR (3)

Lecture, 1.5 hours, Laboratory, 4.5 hours

Motor Sweeper Operator School is to serve as the focal point for the development and training of Street Services personnel to enhance the capability and effectiveness of street cleaning operations. This course spans the entire spectrum of safety, maintenance, and operations.

WELDING GAS AND ELECTRIC

PROGRAM OVERVIEW

Some 600,000 to 700,000 welding professionals currently work in the United States. Many are engaged in work critical to the nation's well-being, such as energy production, highway transportation, manufacturing, and military applications. The artistic community also utilizes welding in the creation of sculpture and other forms of expression. Our program trains these craftsmen.

Los Angeles Trade Technical College offers an Associate in Science degree and a Certificate of Completion in Welding Gas and Electric. Additionally we offer a Certificate of Completion in Welding Gas and Electric Technologies.

The Associate in Science degree or Certificate of Completion in Welding Gas and Electric is a full-time program designed for individuals seeking entry level positions in the field. Students enrolling in this program should be able to commit to full-time student status, which is approximately 21 hours per week. This time commitment is necessary to allow for hands-on training with the lab applications used during the course of instruction.

The Certificate of Completion, Welding Gas and Electric Technologies is an evenings-only course of study designed for individuals currently in the field who want to improve their skills or learn new ones.

Los Angeles Trade Technical Colleges welding program is also a Certified Welding Test Center. Individuals seeking certification as a welder can take the required certification exams on site.

The average age of welders in today's workforce is 54. Many of these people will retire within the next 10 years, creating a tremendous need for skilled and experienced workers to replace them. The U.S. Bureau of Labor predicts a shortage of 250,000 welding professionals by the year 2010.

- High-tech manufacturing applications using newly developed materials are creating a greater need than ever for a highly educated workforce, and nowhere is this truer than in the field of joining and cutting.
- A significant portion of the U.S. energy and transportation infrastructure was constructed in the 1950s and 1960s. Now, 40 to 50 years later, skilled welders are in demand to maintain and update these facilities and structures.
- Jobs that require significant technical skills, such as welding, are expected to increase 50 percent in the next ten years.
- Some 60 percent of the new jobs in the early 21st century will require skills that are currently held by only 20% of the current workforce. Welding is a prime example of such skills specialization; the Occupational Outlook Handbook refers to welding an "excellent job prospect" for 2007.
- Advanced technology is creating more uses for welding in the workplace, with a commensurate expansion in employment opportunities.

WELDING GAS AND ELECTRIC

■ Associate in Science Degree

The Associate in Science degree may be earned by completing 48 units of the listed required courses and a general education requirement that may be met by completing 18 units of general education to meet the Plan "B" requirements listed in this catalog under Graduation/Transfer requirements.

Upon successful completion of this program the student will have the necessary skills for all positions that are related to welding on plate. This program prepares the student for fabrication work, construction work, job shops and other entry-to-mid level related jobs.

REQUIRED COURSES

FIRST SEMESTER		UNITS
WELDG/E 111	Acetylene Welding, Cutting and Brazing	6
WELDG/E 112	Welding Related Technical Instruction I	3
WELDG/E 113	Applied Mathematics I	3
UNITS		12

SECOND SEMESTER		UNITS
WELDG/E 121	Electric Welding I	6
WELDG/E 124	Blueprint Reading I	3
WELDG/E 125	Applied Mathematics I	3
UNITS		12

THIRD SEMESTER		UNITS
WELDG/E 131	Electric Welding II	6
WELDG/E 132	Blueprint Reading II	3
WELDG/E 133	Welding Related Technical Instruction III	3
UNITS		12

FOURTH SEMESTER		UNITS
WELDG/E 141	Electric Welding III	6
WELDG/E 142	Inert Gas Welding (TIG and MIG)	3
WELDG/E 143	Welding Related Technical Instruction IV	3
UNITS		12
TOTAL UNITS		48

ELECTIVES

		UNITS
WELDG/E 201A	Welding-Gas and Electric IA	1
WELDG/E 201B	Welding-Gas and Electric IB	1
WELDG/E 202A	Welding-Gas and Electric IIA	1
WELDG/E 202B	Welding-Gas and Electric IIB	1
WELDG/E 203	Welding and Related Technical Information	2
WELDG/E 204	Introduction to Gas and Arc Welding	2
WELDG/E 251A	Tungsten Inert Gas Welding A	1
WELDG/E 251B	Tungsten Inert Gas Welding B	1
WELDG/E 112	Welding Related Technical Instruction I	3
WELDG/E 113	Applied Mathematics I	3
WELDG/E 124	Blueprint Reading I	3
WELDG/E 133	Welding Related Technical Instruction III	3
WELDG/E 150	AWSD 1.1 Certification	6
WELDG/E 252	Metallic Inert Gas Welding	1

WELDG/E 2	Manual Flame Cutting and Plasma Arc Cutting	2
WELDG/E 100	Metal Sculpture I	3
WELDG/E 200	Metal Sculpture II	3
WELDG/E 210	Metal Sculpting LAB	2

WELDING GAS AND ELECTRIC

■ Certificate of Accomplishment

A Certificate of Accomplishment is awarded for successful completion of 48 units minimum in the Degree required courses above with a "C" or better grade in each course. Upon successful completion of this program a student will have the necessary skills for all position welding on plate. This program prepares the student for fabrication work, construction work, job shops and other entry to mid level related jobs.

WELDING GAS AND ELECTRIC: CONSTRUCTION TECHNOLOGIES

■ Certificate of Accomplishment

A Certificate of Accomplishment in Welding-Gas and Electric Construction Technologies may be earned by completing the 24 units of required courses listed below with a "C" or better grade in each course.

Upon successful completion of this program a student will have the basic knowledge and skills for all position welding on plate. This program prepares the student for fabrication work, construction work, job shops at the entry level.

REQUIRED COURSES

	UNITS
WELDG/E 201A Welding-Gas and Electric IA	1
WELDG/E 201B Welding-Gas and Electric IB	1
WELDG/E 202A Welding-Gas and Electric IIA	1
WELDG/E 202B Welding-Gas and Electric IIB	1
WELDG/E 251A Tungsten Inert Gas Welding A	1
WELDG/E 251B Tungsten Inert Gas Welding B	1
WELDG/E 112 Welding Related Technical Instruction I	3
WELDG/E 113 Applied Mathematics I	3
WELDG/E 124 Blueprint Reading I	3
WELDG/E 133 Welding Related Technical Instruction III	3
WELDG/E 150 AWS 1.1 Certification	6
TOTAL UNITS	24

WELDING GAS AND ELECTRIC

■ COURSE DESCRIPTIONS

2 MANUAL FLAME CUTTING AND PLASMA ARC CUTTING (2)

Lecture: 1 hour; Lab: 2 hours

This is an introductory course to oxyacetylene flame cutting, plasma arc cutting and related cutting process.

100 METAL SCULPTURE I (3) RPT 2

Lecture: 1.5 hour; Lab: 4.5 hours

This course studies basic welding skills and metal working techniques used in the exploration of metal sculpture. Topics covered include hot and cold working of steel, shielded metal arc welding, oxy-fuel and plasma arc cutting, weld design and finishing techniques. Technical skills are emphasized through hands on instruction and practice with the opportunity for creative expression and practical application.

111 ACETYLENE WELDING, CUTTING AND BRAZING (6)

Lecture: 1.5 hours; Lab: 13.5 hours

This course focuses on basic applications in oxy-acetylene welding, brazing and cutting in all positions. Topics included are safety procedures and metal welding characteristics.

112 WELDING RELATED TECHNICAL INSTRUCTION I (3)

Lecture: 3 hours

This course emphasizes on principles of oxy-acetylene welding, brazing, and cutting. Safety, material selection, equipment assemble, fuels, torch adjustments, and movements are some of the topics covered in this course.

113 APPLIED MATHEMATICS I (3)

Lecture: 3 hours

This course covers elementary arithmetic problems related to welding technology and solutions in whole numbers, fractions, and decimals.

121 ELECTRIC WELDING I (6)

Recommended Preparation: Welding 111, 112, and 113 with a grade of "C" or better.

Lecture: 1.5 hours; Lab: 13.5 hours

This course focuses on basic manipulative exercises in electric welding using low alloy and mild steel materials in all positions, safety precautions and fire prevention.

124 BLUEPRINT READING I (3)

Recommended Preparation: Welding 111, 112, and 113 with a grade of "C" or better.

Lecture: 3 hours

This course studies the principles of reading and interpreting basic industrial blueprints as applied to the welding trade.

125 APPLIED MATHEMATICS II (3)

Recommended Preparation: Welding 111, 112, and 113 with a grade of "C" or better.

Lecture: 3 hours

This course covers related mathematical problems in welding, project design, and construction using the fundamental principles of algebra.

131 ELECTRIC WELDING II (6)

Recommended Preparation: Welding 121, 124, and 125 with a grade of "C" or better.

Lecture: 1.5 hours; Lab: 13.5 hours

This course studies horizontal, vertical, and overhead groove welding on different thickness of high and low alloy steel plates using different types of coated electrodes. Training for practical welding examinations is given by various civil service organizations in A.S.M.E., API and pipeline welding.

132 BLUEPRINT READING II (3)

Recommended Preparation: Welding 121, 124, and 125 with a grade of "C" or better.

Lecture: 3 hours

This course emphasizes on the principles of lines, views, size, descriptions, print formats, fasteners, and different types of fabrication drawings, and industrial welding prints.

133 WELDING RELATED TECHNICAL INSTRUCTION III (3)

Recommended Preparation: Welding 121, 124 and 125 with a grade of "C" or better.

Lecture: 3 hours

This course is designed to prepare the student for present day welding conditions. Emphasis is placed on materials, design, assembly procedures, electrode selection, equipment, weld joints and welding terminology. In addition, welding metallurgy is also covered.

141 ELECTRIC WELDING III (6)

Recommended Preparation: Welding 121, 124 and 125 with a grade of "C" or better.

Lecture: 1.5 hours; Lab: 13.5 hours (15 total)

This course explores applications in sheet metal welding, cast iron welding, inert gas welding (MIG and TIG) and semi-automatic gas shielded welding.

142 INERT GAS WELDING (TIG AND MIG) (3)

Recommended Preparation: Welding 121, 124, and 125 with a grade of "C" or better.

Lecture: 3 hours

Through this course, principles in welding aluminum, stainless steel, carbon steel, and the maintenance, and operation of welding equipment are explored.

143 WELDING RELATED TECHNICAL INSTRUCTION IV (3)

Recommended Preparation: Welding 121, 124 and 125 with a grade of "C" or better.

Lecture: 3 hours

This course reviews principles and theory of operating semi-automatic gas shielded welding equipment and the metallurgy of metals.

150 PREPARATION FOR ASW D1.1 CERTIFICATION (6)

Lecture: 3 hours Laboratory: 9 hours

This class provides both theoretical and practical laboratory exercises to improve one's welding techniques in preparation for the ASW D1.1 Certification exam.

151 SHIELDED METAL, FLUX CORE & GAS TUNGSTEN ARC WELDING LABORATORY (2)

Laboratory: 6 hours

Practical laboratory exercises to improve one's welding techniques in SMAW, FCAW & GTAW and to prepare for certification testing.

152 AWS D1.1 CERTIFICATION TEST PREPARATION (2)

Lecture: 3 hours

This course cover the welding terminology, theories and welding code references needed to pass the AWS D1.1 and the Los Angeles City Department of Building & Safety Certified Field Welder-Structural Steel written examinations. Both the mid-term and final examinations will be administered under the condition of the actual Los Angeles City written exam.

153 AWS D1.3 CERTIFICATION TEST PREPARATION (2)

Lecture: 3 hours

This course cover the welding terminology, theories and welding code references needed to pass the AWS D1.3 and the Los Angeles City Department of Building & Safety Certified Field Welder-Sheet Steel written examinations. Both the mid-term and final examinations will be administered under the condition of the actual Los Angeles City written exam.

200 METAL SCULPTURE II (3) RPT 2

Lecture: 1.5 hour; Lab: 4.5 hours

This course expands the beginning welding skills and metal working techniques into an exploration of metal sculpture. Topics covered include hot and cold working of steel, shielded metal arc welding, oxy-fuel and plasma arc cutting, weld design and finishing techniques. Technical skills are emphasized through hands on instruction and practice with the opportunity for creative expression and practical application.

201 WELDING - GAS AND ELECTRIC I (2)

Lab: 6 hours

This course covers applications in oxy-acetylene welding, brazing, and cutting processes, in all positions. Topics include practical methods of identifying, welding characteristics, safety and metal stress.

202 WELDING - GAS AND ELECTRIC II (2)

Lab: 6 hours

This course reviews applications in basic manipulation of electrical welding (arc) on low and mild steel materials in all positions. Topics covered include safety and fire prevention are stressed.

203 WELDING AND RELATED TECHNICAL INFORMATION (2)

Laboratory: 6 hours

Instruction is given in safety procedures, history of welding, identification of metals, and flame heat treatment. Principles of the use of welding equipment, process of oxy-acetylene, electrical, gas methods and cutting of metals.

204 INTRODUCTION TO ARC WELDING (2)

Lecture: 0.5 hour; Lab: 1.5 hours

This course is an introductory class for the beginning student seeking to learn welding skills.

210 METAL SCULPTING LAB (2) RPT 2

Lab: 6 hours

This course expands on beginning welding skills and metal working techniques into an exploration of metal sculpture.

251 TUNGSTEN INERT GAS WELDING A (1)

Lab: 3 hours

In this course instruction is given in applications of aluminum, stainless and carbon steel welding using TIG and MIG methods.

252 METALLIC INERT GAS WELDING (2)

Lecture: 1 hour; Lab: 2 hours

This course studies topics in aluminum, stainless carbon steel welding using inert gas systems.

COSMETOLOGY

COSMETOLOGY

PROGRAM OVERVIEW

Cosmetology is the study and practice of professional care of the hair, skin and nails. The Trade-Tech Cosmetology program offers training in hair styling, and cutting; chemical treatments, waving, straightening and coloring; skin care and make-up techniques; nail art, manicures, and pedicures. The Cosmetology occupation is governed by stringent state laws which stipulate that all who enter the field must complete 1600 hours of instruction. The LATTC Cosmetology program is carefully designed to prepare students to pass the State Board examination and integrates a mock state board exam to help familiarize the students with the examination procedures.

The beauty industry is a 3 billion-dollar business in the United States and the demand for professional and creative cosmetologists is always high. Professionals in the beauty industry can be found in runway dressing rooms, movie sets, and in salons and day spas. Emphasis on skin and hair care for men and women is at the forefront of services in this high visibility industry. In addition the beauty industry holds a wide array of entrepreneurial opportunities. The Cosmetology department prides itself in working with each individual graduate to assist them with job placement upon completion of the program and successfully passing the State Board examination.

Upon program completion, students will have the knowledge and skills needed to successfully compete in the beauty industry. The Cosmetology program will prepare students to enter the beauty industry as stylists, salon managers, educators, make-up artists (both conventional and theatrical), product sales, manicurists and business owners.

COSMETOLOGY

■ Associate in Arts Degree

Requirements for the Associate in Arts degree may be met by completing 48 units of the courses listed below and 18 units of the general education graduation Plan B requirement.

REQUIRED COURSES

FIRST SEMESTER		UNITS
CSMTLGY 111	Freshman Cosmetology	6
CSMTLGY 112	Junior Salon I	6
SECOND SEMESTER		UNITS
CSMTLGY 121	Junior Salon II	6
CSMTLGY 122	Junior Salon III	6

THIRD SEMESTER		UNITS
CSMTLGY 131	Tinting I	6
CSMTLGY 132	Tinting II	6

FOURTH SEMESTER		UNITS
CSMTLGY 141	Senior Salon I	6
CSMTLGY 142	Senior Salon II	6

RECOMMENDED ELECTIVES		UNITS
CSMTLGY 101	Introduction to Cosmetology	3
CSMTLGY 210	Introduction to Hair Coloring and Styling	3
CSMTLGY 211	Intermediate Hair Coloring and Styling	3
CSMTLGY 214	Advanced Hair Coloring and Styling	3
CSMTLGY 215	Contemporary Hair Styling (Completion of 1600 hours of instruction as required by the State Board of Cosmetology regulations.)	3
TOTAL UNITS		48

COSMETOLOGY

■ Certificate of Completion

A Certificate of Completion is awarded for successful completion of all 48 units of the required courses listed above with a grade of "C" or better in each course. Upon completion of the program students will be able to apply knowledge and skills preparing them for the practice and business of the beauty industry.

COSMETOLOGY

■ COURSE DESCRIPTIONS

101 INTRODUCTION TO COSMETOLOGY (3)

Lecture: 3 hours

This course will introduce the student to the opportunities in the field of cosmetology. Students will learn how vocabulary, math skills, and study skills are applicable to the field, and will be better prepared to enter a full-time cosmetology program.

111 FRESHMAN COSMETOLOGY (6)

Lecture: 3 hours; Lab: 9 hours

Students will be introduced to the basic manipulative skills and proper applications of shampooing, finger waving, curl construction, hair designing, hair sculpting, scalp treatments and manicuring. Basic lecture and theory include topics on bacteriology, trichology, decontamination, anatomy, hair sculpting, hair designing and people skills.

- 112 JUNIOR SALON I (6)**
Prerequisite: Cosmetology 111 with a grade of "C" or better.
Lecture: 3 hours; Lab: 9 hours
 Students will be introduced to the basic manipulative skills and proper applications of permanent waving, long hair design, hair sculpting, thermal hair styling, and skin care. Lecture and demonstration includes topics such as chemicals used in permanent waves, thermal hair styling and people skills.
- 121 JUNIOR SALON II (6)**
Prerequisite: Cosmetology 112 with a grade of "C" or better.
Lecture: 3 hours; Lab: 9 hours
 Students are exposed to intermediate instruction in permanent waving, chemical straightening, thermal straightening and curling, skin and hair care, with instruction in the use of facials, hair cutting and styling. Lecture and demonstrations include topics such as chemistry, histology, electricity, and light therapy.
- 122 JUNIOR SALON III (6)**
Prerequisite: Cosmetology 121 with a grade of "C" or better.
Lecture: 3 hours; Lab: 9 hours
 Students receive instruction in advanced permanent waving, chemical straightening, thermal straightening and curling and skin and hair care. Lecture and demonstration covers topics such as facials and hair cutting and styling.
- 131 TINTING I (6)**
Prerequisite: Cosmetology 112 with a grade of "C" or better.
Lecture: 3 hours; Lab: 9 hours
 The students are instructed in basic permanent hair coloring and bleaching, and manicuring, with reinforcement in permanent waving, chemical straightening, skin and hair care as well as hair cutting and styling. Emphasis is placed on hair coloring classifications and bleaching theories.
- 132 TINTING II (6)**
Prerequisite: Cosmetology 131 with a grade of "C" or better.
Lecture: 3 hours; Lab: 9 hours
 Students are instructed in advanced permanent hair coloring and bleaching as well as manicuring. Topics such as permanent waving, chemical straightening, skin and hair care, and hair curling and styling are covered. Lecture includes hair coloring, bleaching, toning, diseases and disorders of the nails.
- 141 SENIOR SALON I (6)**
Prerequisite: Cosmetology 122 and 132 with a grade of "C" or better.
Lecture: 3 hours; Lab: 9 hours
 Students review the areas of cosmetology, coordinating all services. Emphasis is placed on theory related to State Board requirements and students practice salon procedures and management. Emphasis is placed on salesmanship, customer relations, record keeping and time utilization.
- 142 SENIOR SALON II (6)**
Prerequisite: Cosmetology 141 with a grade of "C" or better.
Lecture: 3 hours; Lab: 9 hours
 This class reviews all areas of cosmetology with emphasis on State Board preparation and review of California Cosmetology rules and regulations.
- 210 INTRODUCTION TO HAIR COLORING AND STYLING (3)**
Prerequisite: Successful completion of Cosmetology 112 with a grade of "C" or better.
Lecture: 1.5 hours; Lab: 4.5 hours
 Students are offered an introduction to basic permanent hair coloring, bleaching, cutting and styling. In addition, the course will concentrate on permanent waving, chemical straightening, skin and hair care.
- 211 INTERMEDIATE HAIR COLORING AND STYLING (3)**
Prerequisite: Successful completion of Cosmetology 112 with a grade of "C" or better.
Lecture: 1.5 hours; Lab: 4.5 hours
 Students are instructed in intermediate permanent hair coloring and bleaching. The course also includes reinforcement training in permanent waving, chemical straightening, hair curling and styling and manicuring. Practical instruction is given on hair coloring and bleaching.
- 214 ADVANCED HAIR COLORING AND STYLING (3)**
Prerequisite: Successful completion of Cosmetology 112 with a grade of "C" or better.
Lecture: 1.5 hours; Lab: 4.5 hours
 Students are instructed in semi-permanent hair coloring and permanent hair coloring procedures, including actual processing. Special emphasis will be placed on product knowledge and experimentation with various hair products. Lectures concentrate on chemistry as related to oxidative and non-oxidative hair coloring. In addition, artificial nail techniques will be covered, including nail wraps, nail tips and acrylic sculptured nails.
- 215 CONTEMPORARY STYLING TECHNIQUES (3)**
Prerequisite: Successful completion of Cosmetology 112 with a grade of "C" or better.
Lecture: 1.5 hours; Lab: 4.5 hours
 Students receive instruction in advanced permanent hair coloring, bleaching, permanent waving, hair styling, cutting, and thermal wave techniques. In addition, theory will be given on hair lightening and high-lightening and more practice in manicuring.
- 217 MULTI-TEXTURE DESIGN (LEVELS 1-2) (3)**
Lecture: 2 hours; Lab: 3 hours
 This class teaches the basic techniques of the five most popular methods for applying their hair additions: strand by strand, braiding, bonding, track and sew and netting.
- 220 INSTRUCTIONAL TECHNIQUES IN COSMETOLOGY (10) RPT1**
Prerequisite: Valid Cosmetology License
Lecture: 5 hours; Lab: 15 hours
 The Course is designed to prepare the licensed cosmetologist, manicurist and esthetician for a teaching career in the public and private sectors of cosmetology. The student will be introduced to a variety of teaching techniques, classroom strategies and effective communications skills.
- 221 ADVANCED MAKEUP TECHNIQUES (3)**
Lecture: 2 hours; Lab: 3 hours
 This course is designed to teach students advance techniques in makeup application. Lecture includes: safety and sanitation precautions, color theory, facial enhancement, contouring, tools and product knowledge, corrective makeup, makeup for the mature woman, and camouflage makeup. Practical application will include assembling sanitized work areas, the disinfection of tools and implements, blending and matching colors, contouring to enhance features, corrective shaping of the eyebrows, lips and eyes, application of makeup on women of all ages and ethnicities, makeup application on clients to conceal tattoos, or other scars left from skin traumas.

SKIN THERAPY

PROGRAM OVERVIEW

Esthetics is the study of skin care, massage techniques and makeup applications. The Skin Therapy program offers training in skin analysis, facial treatments, facial machines, hair removal procedures, airbrushing maintenance and makeup applications from straight beauty to editorial and fashion looks. The Esthetics occupation is governed by stringent state laws which stipulate that all who enter the field must complete 600 hours of instruction. LATTC Skin Therapy courses are carefully designed to prepare the student to pass the State Board examination and integrate a mock state board examination to help familiarize the students with examination procedures.

Upon completion, students will have the knowledge and skills needed to successfully compete in the skin care industry. Students will be prepared to enter the beauty industry as skin care technicians, spa managers, educators, makeup artists (both conventional and theatrical), product retailers, and business owners.

SKIN THERAPY

REQUIRED COURSES

FIRST SEMESTER		UNITS
CSMTLGY 35	Skin Therapy I	6
CSMTLGY 36	Skin Therapy II	6
SECOND SEMESTER		UNITS
CSMTLGY 37	Skin Therapy III	6
CSMTLGY 38	Skin Therapy IV	6

SKIN THERAPY

■ Course Descriptions

035 SKIN THERAPY I (6)

Lecture: 3 hours; Lab: 9 hours

Students will be introduced to sanitation, disinfection, draping, cleansing, massaging, and plain facial techniques.

036 SKIN THERAPY II (6)

Prerequisite: Successful completion of Skin Therapy I with a grade of "C" or better.

Lecture: 3 hours; Lab: 9 hours

Students will be introduced to waxing techniques, makeup applications, electrotherapy treatments, hair removal procedures, facial machines and airbrushing techniques and maintenance.

037 SKIN THERAPY III (6)

Prerequisite: Successful completion of Skin Therapy II with a grade of "C" or better.

Lecture: 3 hours; Lab: 9 hours

Students will be introduced to hand, foot, body scrubs, body wraps, aromatherapy and reflexology treatments.

038 SKIN THERAPY IV (6)

Prerequisite: Successful completion of Skin Therapy III with a grade of "C" or better.

Lecture: 3 hours; Lab: 9 hours

Students will be introduced to client consultations procedures, advanced facial treatments, facial machines and body units, advance makeup techniques and state board review.



CULINARY ARTS

CULINARY ARTS

PROGRAM OVERVIEW

The Culinary Arts department at Trade-Tech has the proud history of being one of the oldest cooking schools in the nation. We offer an extensive "hands on" and theory based culinary arts education that prepares students to enter the highly competitive hospitality industry. The department hosts professional industry-seasoned chefs as faculty, bringing their experiences from around the world. In addition to rigorous classroom instruction, students are trained in a working foodservice facility and while attending classes. The Culinary Arts department Associate in Arts degree and Certificate of Completion is recognized and accredited by the American Culinary Federation Educational Institute.

Los Angeles is a major hub to the ever changing, dynamic hospitality industry. The melting pot of cultures within the LA area dictates a cosmopolitan dining environment, and restaurants, hotels, caterers, cruise ships, theme parks and private homes readily employ Trade Tech students and graduates. On graduating from the Trade-Tech Culinary Arts program, students will be qualified to work as cooks, line cooks, caterers, private chefs, chef assistants, and sous chefs.

The Culinary Arts program has successfully prepared students for the hospitality industry for many years. Upon successful completion of the program, students will illustrate a working foundation of a professional industry kitchen. Students will be proficient in cooking techniques and terminology including meat fabrication and cookery, hot and cold sauce preparation, vegetable identification and production, task organizing and time management. Successful students will graduate with a working knowledge of culinary nutrition and fundamental management skills, as well as National Restaurant Association Serve Safe Certification.

CULINARY ARTS

■ Associate in Arts Degree

The foodservice industry provides a wealth of career opportunities, with employers seeking successful graduates of Culinary Arts programs around the nation and the world. Los Angeles Trade Tech offers a Certificate of Completion that allows the student to open the door to a successful career in the foodservice industry.

The Culinary Arts program has successfully prepared students for the hospitality industry for many years. Upon successful completion of the program, students will possess a working foundation of skills necessary to work in a professional industry kitchen. Students will be proficient in cooking techniques and terminology including meat fabrication and cookery, hot and cold sauce preparation, vegetable identification and production, task organizing and time management. Successful student hold the National

Restaurant Association Serve Safe Certificate as well as a working knowledge of culinary nutrition and fundamental management skills.

Requirements for the Associates in Arts degree in Culinary Arts may be met by completing the required 48 units of culinary classes with a passing grade of "C" or better and 18 units of general education requirements listed under graduation requirements listed under plan "B".

REQUIRED COURSES

FIRST SEMESTER		UNITS
CLN ART 120	Front of House Dining Room Services	4
CLN ART 111	Culinary Arts Orientation I	4
CLN ART 112	Sanitation and Safety	2
CLN ART 170	Culinary Nutrition	2
SECOND SEMESTER		UNITS
CLN ART 121	Garde Manger I/ Baking	6
CLN ART 122	Garde Manger II/Charcuterie	6
THIRD SEMESTER		UNITS
CLN ART 131	Breakfast Cookery, Management and Supervision	6
CLN ART 132	Entremetier / Saucier	6
FOURTH SEMESTER		UNITS
CLN ART 141	Advanced Restaurant Practices/Meat Fabrication and Cookery, Quantity Food Cookery	6
CLN ART 142	Advanced Restaurant Practices II, Menu Planning And Purchasing, Storeroom Procedures	6
TOTAL UNITS		48

CULINARY ARTS

■ Certificate of Completion

A Certificate of Completion is awarded to a student who successfully completes the 48 units of culinary arts required courses listed above with a "C" grade or better. Upon successful completion of the programs, students will possess a working foundation of skills necessary to work in a professional industry kitchen.

CULINARY ARTS

■ COURSE DESCRIPTIONS

100 INTRODUCTION TO CULINARY ARTS (2)

Lecture: 1 hour; Lab: 2 hours

This class is designed as an introduction to the culinary field. Topics include basic foodservice sanitation, introduction to knife skills. Preparation of soups, sauces, stock and cold salad dressings are also covered.

111 CULINARY ARTS - ORIENTATION I (4) CSU

Prerequisite: CA 112

Lecture: 2 hours; Lab: 6 hours

With a combination of lecture and lab practice, the student is introduced to the world of commercial food production. Students are introduced to culinary theories and develop skills in knife handling, ingredient identification, small and large equipment use, weights and measures, recipe development, and cooking fundamentals.

112 CULINARY ARTS - SANITATION AND SAFETY (2) CSU

Lecture: 2 hours

This class discusses sanitation and safety as it applies to the restaurant industry. HACCP protocol, preventing food borne outbreaks, introduction to microbiology, and establishing "flow of food systems" will be covered. Federal, state, local legislation and employee training will be discussed. National Restaurant Association Serve Safe Test will be given at the conclusion of this class.

120 CULINARY ARTS - FRONT OF HOUSE DINING ROOM SERVICES (4)

Lecture: 2 hours; Lab: 6 hours

Front of House topics pertinent to restaurant & hospitality management, dining room management, service, use of POS system, money management, stewarding.

121 CULINARY ARTS - GARDE MANGER I - BAKING (6) CSU

Prerequisite: Culinary Arts 111, 112

Lecture: 3.75 hours; Lab: 6.75 hours

This course familiarizes students with the operation of a pantry: how to identify, produce, display and select classic cold kitchen items; practice portion, food cost controls; identify characteristics and uses of herbs and spices, sandwich production, basic pantry items garnishes, and wine selection. Students will recognize and practice classical baking preparations such as basic dough, batters, pastries, fillings, and plate presentation. Teamwork and leadership will be practiced.

122 CULINARY ARTS - GARDE MANGER II - CHARCUTERIE (6) CSU

Prerequisite: Culinary Arts 111, 112

Lecture: 3.75 hours; Lab: 6.75 hours

Students will become proficient in the historical features of the garde manger stations including planning and preparation of cold soups, hors d'oeuvres, appetizers, canapés, mousse, timbale, cold sauces, relishes, forcemeat, galantines, terrine, paté en croute components. Preparation and uses of specialty meats, sweetbreads and sausage will be defined; gelee, aspic, chaud froid, glazing, marinating, curing and smoking will be practiced; and buffet presentation, the display of carved fruit and vegetable garnishes and centerpieces will be studied. Projects will include international cuisine, salt dough sculpting and ice carving

131 CULINARY ARTS - BREAKFAST COOKERY/ MANAGEMENT AND SUPERVISION (6) CSU

Prerequisite: Culinary Arts 111, 112

Lecture: 3.75 hours; Lab: 6.75 hours

Upon completion of this class the student will be able to identify and safely employ the tools and equipment of a breakfast station. Students will learn about egg cookery, breakfast meats, cereals, beverages, hot sandwiches, a la minute preparation, brunch item, pancakes, and waffles. Other areas covered include portion control, inventory pars, weights and measures, labor and cost control. Management, supervision, leadership, customer relations, communication, and teamwork and time management methods are introduced, discussed and practiced. Effective evaluation, discipline and delegation methods are outlined.

132 CULINARY ARTS - ENTREMETIER, SAUCIER (6) CSU

Prerequisite: Culinary Arts 111, 112

Lecture: 3.75 hours; Lab: 6.75 hours

Upon completion of this course, students will have examine and prepare the theory and production techniques involved in the preparations of stocks, soups, starches and vegetable items as they pertain to modern food service requirements. Students will develop a practical understanding of "convenience food" application and the role of sauces as they apply to the enhancement of produce and pastas.

141 ADVANCED RESTAURANT PRACTICE/MEAT FABRICATION AND COOKERY, QUANTITY FOOD COOKERY (6) CSU

Prerequisite: Culinary Arts 111, 112, 121, 122, 131, 132

Lecture: 3.75 hours; Lab: 6.75 hours

This course covers quantity and quality food production of meats, fish and poultry. Students will practice center of the plate food preparation, meat identification and fabrication with an emphasis on portion control, sauce pairing and accompaniment compatibility. Students will discuss, compare and prepare various international foods.

142 ADVANCED RESTAURANT PRACTICE II MENU PLANNING AND PURCHASING/STOREROOM PROCEDURES (6) CSU

Recommended Preparation: Successful Completion of a C Grade or Better in Culinary Arts 111, 112, 121, 122, 131, 132

Lecture: 3.75 hours; Lab: 6.75 hours

This course covers menu planning for restaurant, cafeteria, banquets, and specialty restaurant settings. Fundamentals of storeroom operations including ordering, receiving, storage controls, pars and inventory methods will be identified and best practices studied.

170 CULINARY ARTS - CULINARY NUTRITION (2)

Lecture: 1 hour; Lab 2 Hours

This course provides a quick overview of applied culinary nutrition. Recipe and Menu development including ingredient selection and cooking techniques will be discussed. Special diet (low fat, low sodium, diabetic, and caloric intake) will be discussed. The class is appropriate for food service professionals who would like to work as personal chefs, with sports teams, at spas and resorts, major hospital chains, entertainment or transportation industries, or in health care.

220 SPECIALTY FOOD MANAGEMENT - ENTREPRENEURIAL FOR CULINARY ARTS (3)

Lecture: 3 hours

Course provides an overview of the issues surrounding opening and operating a retail food business/catering and specialty food store. This course examines what it takes to succeed in a highly competitive, trend-driven segment of the food service industry, focusing on self-assessment of entrepreneurial skills, finding an appropriate location, crafting a winning business concept, corporate culture and implementation of a plan to open a successful retail food business.

225 CULINARY ARTS - INTRODUCTION TO FOOD TECHNOLOGY CAREERS (1)*Lecture: 1 hour*

Introduces students to basic concepts of the food industry, including career opportunities, types and kinds of food production facilities, rules and regulations affecting the food industry and current topics in the food industry.

250 INTRODUCTION TO FOOD SCIENCE FOR CULINARY ARTS (3)*Lecture: 3 hours*

An introduction to the fundamentals of food science and its technology as associated with providing safe, nutritious, and innovative supplies of fresh processed food products. Students are introduced to the nature and scope of national and international food processing in scientific and culinary terms.

BAKING, PROFESSIONAL

PROGRAM OVERVIEW

The Professional Baking program is a two year educational process that prepares the student for a successful career within the hospitality community. Baking program students, under the direct supervision of their chef instructor, will discuss, prepare, and analyze various baked goods including quick breads, yeast breads, laminated dough, specialty and wedding cakes, cookies, batters, and restaurant-style plated desserts. Baking formulas, cost controls, ingredient identification and usage is practiced throughout the program.

Students prepare baked goods on a daily basis for a retail bakery located on the LATTC campus, the college cafeteria and faculty dining room as well as catering for special events and holiday functions.

The greater Los Angeles area hosts many bakeries, markets, hotels, restaurants, and theme parks where baking graduates readily find employment as bakers, retail bakers, cake decorators, pastry cooks, managers, and production assistants.

The Professional Baking program will prepare students for employment in areas of baking and pastry arts. Upon successful completion of the program, students will demonstrate the ability to prepare and formulate baking/pastry recipes and formulas, assess food costs and sales price, and organize daily tasks for successful completion of baked goods. The National Restaurant Association Serve Safe Exam is administered at the completion of the first semester.

BAKING, PROFESSIONAL

■ Associate in Arts Degree

Upon completion of 48 units of the baking program with a "C" grade or better and successful completion of an additional 18 units of general education under plan "B" in the college catalog, the student may apply for and receive an Associate in Arts degree.

REQUIRED COURSES

FIRST SEMESTER		UNITS
CUL ART 111	Culinary Arts - Orientation I	4
CUL ART 112	Sanitation and Safety	2
PROFBAK 112	Application of Basic Techniques, Bakers Math	6
SECOND SEMESTER		
PROFBAK 121	Yeast Breads	6
PROFBAK 122	Artesian Breads, Specialty Breads	6
THIRD SEMESTER		
PROFBAK 131	Plated Restaurant Style Desserts	6
PROFBAK 132	Multi Component Desserts and Pastries	6
FOURTH SEMESTER		
PROFBAK 141	Advanced Cake Decorating	6
PROFBAK142	Chocolate, Pastillage, Sugar, Presentation Pieces	6
TOTAL		48

BAKING, PROFESSIONAL

■ Certificate of Completion

The Certificate of Completion in Professional Baking is awarded to students who successfully complete the 48 units of required professional baking classes with a "C" grade or better. The Professional Baking Certificate prepares the student for a career as a baker, retail baker, pastry cook, production assistant or as a cake decorator.

Upon successful completion of the program the student will demonstrate the ability to prepare and formulate baking/pastry recipes and formulas, assess food costs and sales price, and organize daily tasks for successful completion of baked goods.

BAKING, PROFESSIONAL

■ COURSE DESCRIPTIONS

101 BAKING: BASIC CAKE DECORATING (2)*Lecture 1 Hour: Lab: 2 hours*

This course provides an introduction to cake decorating and design. Students will recognize and prepare various piping methods as they pertain to a professional bakery.

112 APPLICATION OF BASICS TECHNIQUES/ BAKERS MATH (6)*Lecture: 3.75 hours; Lab: 6.75 hours*

Course covers the production of quick breads, puff pastry, laminated dough, and cookies; with emphasis placed in mixing methods. The student will identify the role of leavening agents, starches, chemical reaction of ingredients, and the effect of heat and cold on products. Baker's math will also be applied along with costing of formulas, mastering weights and measures and use of the balance scale. Teamwork and journal recording are practiced.

121 BAKING PROCESSES AND INGREDIENTS (6)

Recommended Preparation: Successful completion of a grade "C" or better in Culinary Arts 111, 112 & Professional Baking 112
Lecture: 3.75 hours; Lab: 6.75 hours

Course allows the student to apply the techniques acquired in Professional Baking 112. The student will be learning how to use speed-scratch and industry-level convenience products is demonstrated, along with flour usage, and the effects of time and temperature on yeast products. Speed, accuracy and increased productivity are stressed along with preparation of a variety of yeast breads.

122 BAKING PROCESSES AND INGREDIENT CONTROL I (6)

Recommended Preparation: Successful completion of a grade "C" or better in Culinary Arts 111, 112 & Professional Baking 112 & 121
Lecture 3.75 hours; Laboratory, 6.75 hours

Understanding formulas and gaining the ability to alter formulas is central to this class. How a formula works including changes of yields and altering percentages of ingredients in formulas to produce desired results are stressed. Work on increasing productivity, speed and accuracy is continued in this class. Teamwork and journal keeping as a record of achievement continue to be crucial.

131 BAKING PROCEDURES AND THEORY OF INGREDIENTS I (6)

Recommended Preparation: Successful completion of a grade "C" or better in Culinary Arts 111, 112 & Professional Baking 112, 121 & 122
Lecture, 3.75 hours; Laboratory, 6.75 hours

This course offers instruction in the area of experimental baking, with special concentration on selected topics. Formulating baking solutions and the ability to solve altitude adjustment difficulties. The student will learn advance procedures in the production, of pastries, pies, cookies and frozen plated desserts.

132 BAKING PROCEDURES AND INGREDIENT CONTROL II (6)

Recommended Preparation: Successful completion of a grade "C" or better in Culinary Arts 111, 112 & Professional Baking 112, 121, 122 & 131
Lecture, 3.75 hours; Laboratory, 6.75 hours

The student will learn to check, receive and store supplies, and acquire skills in quantity purchasing, record keeping, inventory and storeroom rotation. Advanced procedures in the production of wedding cakes, fruit desserts, and display pieces are covered.

141 BAKING PROCEDURES AND THEORY OF INGREDIENTS II (6)

Recommended Preparation: Successful completion of a grade "C" or better in Culinary Arts 111, 112 & Professional Baking 112, 121, 122, 131 & 132
Lecture, 3.75 hours; Laboratory, 6.75 hours

The student will learn to analyze formulas, increase and decrease formulas, production troubleshooting, nutrition, basic employment information, interviewing techniques, labor standards, social security benefit, and updated information concerning workers compensation.

142 BAKING PROCESSES AND INGREDIENT CONTROL III (6)

Recommended Preparation: Successful completion of a grade "C" or better in Culinary Arts 111, 112 & Professional Baking 112, 121, 122, 131, 132, & 141
Lecture, 3.75 hours; Laboratory, 6.75 hours

The student will learn costing, equipment control, current baking methods, advanced baking production, centerpieces and decorating.

150 SPECIALTY BREADS CURRENT TRENDS (3) RPT2

Lecture, 1 hour; Laboratory, 4 hours

Learn to make artisan style breads. Topics include yeast, role of gluten, types of flours, and other ingredients, as well as production methods. Current trends in baking and sanitation procedures are reviewed.

RESTAURANT MANAGEMENT

PROGRAM OVERVIEW

The Greater Los Angeles area needs qualified individuals who can lead the numerous hotel, restaurant, and catering kitchens in our region. The Restaurant Management program at Trade-Tech offers a foundation in management theory, cooking fundamentals, sanitation, safety and restaurant supervision. Students practice and demonstrate culinary and management skills in a working foodservice facility located on the college campus.

The Restaurant Management program provides a foundation in kitchen fundamentals including preparation of hot and cold sauces, vegetable and meat cookery, identifying accounting procedures and reports, operating kitchen equipment, expression and employing management theory and supervision techniques.

Upon successful completion students will be prepared to find positions as restaurant managers, manager's assistant, kitchen manager, dining room manager, or kitchen supervisors.

RESTAURANT MANAGEMENT

■ Associate in Arts Degree

Requirements for the Associate in Arts degree include successful completion of 42 units of the required courses listed below with a "C" grade or better and successful completion of 18 units of general education requirements as outline in plan "B" of the college catalog.

REQUIRED COURSES

FIRST SEMESTER		UNITS
CLN ART 111	Culinary Arts Orientation I	4
CLN ART 112	Sanitation and Safety	2
CLN ART 120	Front of House Dining Room Services	4
CLN ART 170	Culinary Nutrition	2

SECOND SEMESTER		UNITS
ACCT 21	Bookkeeping and Accounting	3
RESTMGT 100	Restaurant Management	3

THIRD SEMESTER		UNITS
CLN ART 121	Garde Manger/Baking	6
CLN ART 122	Garde Manger/Charcuterie	6
FOURTH SEMESTER		UNITS
CLN ART 131	Breakfast Cookery, Management & Supervision	6
CLN ART 142	Advanced Restaurant Practices II, Menu Planning And Purchasing, Storeroom Procedures	6
TOTAL UNITS		42

RESTAURANT MANAGEMENT

■ Certificate of Completion

The Restaurant Management Certificate of Completion readies the graduate for employment as a supervisor in the hospitality industry. A Certificate is awarded for successful completion of the 42 units of core courses required for the Associate in Arts degree (above) with a grade of "C" grade or better.



ELECTRONICS AND COMPUTER TECHNOLOGY

The electronics industry today is faced with a changing and dynamic marketplace. In response, the Electronics and Computer Technology program at LATTC continuously updates its courses and labs, responding to the latest industry demands. Students receive training in the most current electronics and computer technology techniques, and degree and certificate programs allow students the flexibility of not having to commit to a full-time schedule. The Electronics Department is proud of its twenty-year partnership with the Federal Aviation Administration (FAA), where our students are frequently offered employment prior to their graduation.

ELECTRONICS COMMUNICATIONS

ELECTRONICS COMMUNICATIONS

■ Associate in Science Degree

The Electronics Communications program covers, circuit analysis of several complete FM systems including wideband microwave multiplex system and several mobile communication systems. Students will be able to apply basic radio fundamentals necessary to understand transmitters and receivers used in modern AM and FM communication systems. The program also prepares students to passing the F.C.C. general radiotelephone license examination. F.C.C theory and regulations, and marine and aeronautical rules are covered and students are offered a sample test.

Upon successful completion of the program students will be proficient in the operation of AM/FM Transmitters and troubleshoot AM/FM Receivers. Students will be able to install C Band, K/U Band, and DSS satellite systems. Students will have an understanding of cordless phones, microwave receivers/transmitters, and cell phone systems.

An Associate in Science degree in Electronics Communications may be earned by completing the required courses listed below during day or evening session, and 18 units of general education courses.

REQUIRED COURSES

FIRST SEMESTER		UNITS
ETNTLGY 150	Soldering Surface Mount Technology	3
ETNTLGY 151	DC Theory and Circuit Fundamentals	3
ETNTLGY 152	DC Theory and Circuit Fundamentals Lab	2
ETNTLGY 153	Applied DC Calculations	1
ETNTLGY 254	Computer Applications for Electronics Technology	3

SECOND SEMESTER		UNITS
ETNTLGY 154	AC Theory and Circuit Fundamentals	3
ETNTLGY 155	AC Theory and Circuit Fundamentals Lab	2
ETNTLGY 156	Applied AC Calculations	1
ETNTLGY 255	Computer-Based Electronics	1
PHYSICS 11	Introductory Physics	4

THIRD SEMESTER		UNITS
ETNTLGY 157	Semiconductors Devices and Applications	3
ETNTLGY 158	Semiconductor Devices and Electronics Lab	3
ETNTLGY 159	Digital Circuits and Applications	3
ETNTLGY 160	Digital Circuits and Applications Lab	2

FOURTH SEMESTER		UNITS
ETNTLGY 161	FCC Radio Operator License	3
ETNTLGY 162	Introduction to Electronics Communications	3
ETNTLGY 163	Introduction to Electronics Communications Lab	3
ECONMT 142	Basic Programmable Logic Controls	1
TOTAL UNITS		44

RECOMMENDED COURSES

		UNITS
ETNTLGY 252	Networking Cabling Specialist	3
ETNTLGY 253	Fiber Optics	3
MICROTK 077	Cisco Networking Academy Semester 1	3
MICROTK 160	I. T. Essentials Application Software Fundamentals	2
MICROTK 162	I. T. Essentials Networking Personal Computers	4
MICROTK 164	I. T. Essentials Microcomputer Theory and Servicing	5

ELECTRONICS COMMUNICATIONS

■ Certificate of Completion

A certificate of completion is awarded upon successful completion of a minimum of the 44 required courses listed above. Upon successful completion of the program students will be proficient in the operation of AM/FM Transmitters and trouble shoot AM/FM Receivers. Students will be able to install C Band, K/U Band, and DSS satellites systems. Students will have an understanding of cordless phones, microwave receivers/transmitters, and cell phone systems.

ELECTRONICS

■ COURSE DESCRIPTIONS

2 INTRODUCTION TO ELECTRONICS

Lecture: 3 hours

This course provides an overview of the field of applied electronics. Typical topics included are a study of the natural forces that makes electronics possible, science, communications, and the start of the digital invasion into our homes and work.

ELECTRONICS TECHNOLOGY

■ COURSE DESCRIPTIONS

150 SOLDERING SURFACE MOUNT TECHNOLOGY (3)

Lecture: 2 hours; Lab: 3 hours

This course provides an introduction of through hole soldering technology as well as principles of surface mount rework, show the range of specific equipment used in that process and provide a framework for learning about various rework methods. Recommended procedures for removal and replacement of surface mount chip components are also covered.

151 DC THEORY AND CIRCUIT FUNDAMENTALS (3) CSU

Lecture: 3 hours

Instruction is given in basic electrical concepts, electron theory, Ohm's Law, Kirchoffs Laws, series circuits, Parallel circuits, combination circuits, principles of magnetism; and the care, use, and construction of basic meters for voltage, current, and resistance measurements. Problems illustrating accuracy necessary in measurements are given.

152 DC THEORY AND CIRCUIT FUNDAMENTALS LAB (2)

Lab: 6 hours

Instruction is given in constructing basic electrical circuits. Series, parallel and series/parallel circuits are constructed and troubleshot to understand the concept of troubleshooting techniques. Problems illustrating accuracy necessary in measurements are given.



153 APPLIED DC CALCULATIONS (1)

Lecture: 1 hour

This course offers a review on basic arithmetic including addition, subtraction, multiplication, division, fractions, decimals, square roots, signed numbers, powers of ten, an introduction to algebra, and problems solving Ohm's Law and power calculations. Instruction is also provided in algebra, calculators, logarithms, graphs, phasors, and basic trigonometry as used in electronics.

154 AC THEORY AND CIRCUIT FUNDAMENTALS (3)

Lecture: 3 hours

Recommended Preparation: Electronics Technology 151 with a grade of "C" or better.

This course offers the Theory of AC Electronics as it applies to basic and advanced circuits found in analog electronics. The course prepares the student for more advanced studies in communications and digital electronics. Subjects covered include capacitors, magnetic circuits, inductors, sinusoidal alternating waveforms, basic elements and phasors, series and parallel AC circuits, series-parallel AC networks, methods of analysis, network theorems (AC), power (AC), resonance, filters and bode plots, pulse waveforms, and an introduction to system analysis. Basic algebra and trigonometry will be used as the tools for understanding the AC circuit as it applies to electronics systems.

155 AC THEORY AND CIRCUIT FUNDAMENTALS LAB (2)

Lab: 6 hours

Recommended Preparation: Electronics Technology 152 with a grade of "C" or better.

This course provides an overview of the field in AC electronics that measures and analyzes the parameters and characteristics of AC circuits. Students will study their applications in electronic systems and becomes familiar with the various components used to make a viable circuit. In class, the students will also learn to construct and troubleshoot AC circuits.

156 APPLIED AC CALCULATIONS (1)

Lecture: 1 hour

Recommended Preparation: Electronics Technology 153 with a grade of "C" or better.

At the completion of this course, students will be able to perform mathematical functions used in AC circuit analysis. The topics include solving various algebraic equations, fractional equations, simultaneous equations, trigonometric functions, vector algebra, and logarithms. An emphasis is placed on calculations involving series, parallel, and series-parallel AC circuits.

157 SEMICONDUCTORS DEVICES AND APPLICATIONS (3)

Lecture: 3 hours

Recommended Preparation: Electronics Technology 154 with a grade of "C" or better.

This course covers the various applications of semiconductor devices. Included are PN junction diodes, Zener diodes, rectifiers, transistors, class A, B, AB amplifiers and operational amplifiers.

158 SEMICONDUCTORS DEVICES AND ELECTRONICS LABORATORY (3)

Lab: 9 hours

Recommended Preparation: Electronics Technology 155 with a grade of "C" or better.

In this course, students measure and analyze the parameters and characteristics of semiconductor devices and become familiar with the use of transistor testers. The student also constructs, tests, and analyzes power supply circuits, receivers, amplifier circuits, oscillator circuit, and converter circuits. Trouble-shooting procedures and techniques are introduced, and integrated circuits are also constructed and tested.

159 DIGITAL CIRCUITS AND APPLICATIONS (3)*Lecture: 3 hours**Recommended Preparation: Electronics Technology 154 with a grade of "C" or better.*

This is an introductory course in digital electronics and applications. The course covers the number systems, including the decimal, binary, octal, and hexadecimal number systems. The topics covered include the characteristics of TTL and CMOS logic families, combinational logic circuits, minimizing logic circuits, minimizing logic circuits using Boolean Operations and Karnaugh maps, encoders and decoders, sequential logic devices such as flip-flops, counters, shift registers, and memory devices.

160 DIGITAL CIRCUITS AND APPLICATIONS LAB (2)*Lecture: 6 hours**Recommended Preparation: Electronics Technology 159 with a grade of "C" or better.*

This is an introductory course in digital electronics and applications. The course covers the number systems, including the decimal, binary, octal, and hexadecimal number systems. Lab activities include the characteristics of TTL and CMOS logic families, combinational logic circuits, minimizing logic circuits using Boolean Operations and Karnaugh maps, encoders and decoders, sequential logic devices such as flip-flops, counters, shift registers, and memory devices. Some lab activities include the use of software simulators such as Electronics Workbench.

161 F.C.C. RADIO OPERATOR LICENSE (3)*Lecture: 3 hours**Recommended Preparation: Electronics Technology 154 with a grade of "C" or better.*

This course provides information needed by the electronics technician to aid in passing the F.C.C. General Radiotelephone License examination. The F.C.C. rules, regulations, and theory areas are explained and sample F.C.C. type tests are given. Marine and aeronautical rules and regulations are also studied and are necessary for passing the general radiotelephone examination.

162 INTRODUCTION TO ELECTRONICS COMMUNICATIONS (3)*Lecture: 3 hours**Recommended Preparation: Electronics Technology 157 with a grade of "C" or better.*

This course covers circuit analysis of several complete AM/FM systems. The installations of C Band, K/U Band, and DSS satellite systems, the theory of cordless phones, microwave receivers/transmitters, cell phones, and TV video are covered.

163 INTRODUCTION TO ELECTRONICS COMMUNICATIONS LAB (3)*Lab: 9 hours**Recommended Preparation: Electronics Technology 158 with a grade of "C" or better.*

This course allows students direct laboratory application of the radio principles and techniques acquired in the lecture sessions. Laboratory experiments will include the construction and analysis of circuits, AM modulation, AM detection, FM modulation, frequency multiplication, limiting, FM discrimination, and the construction, testing and alignment of a complete AM super-heterodyne radio receiver. Microprocessor, digital and solid state troubleshooting techniques are analyzed and performed, as are system level to component level troubleshooting and repair. Basic antenna measurements, troubleshooting and repairs are made.

165 ADVANCED AUTOMOTIVE ELECTRONICS (3)*Lecture: 3 hours*

This course teaches electricity and electronics from an automotive perspective. Traditional subjects such as Ohm's Law, Series Circuits, and parallel Circuits are presented using examples from automotive systems and calculations that are based on actual values found in automotive electricity. An emphasis placed on automotive electronics systems such as Turn Signal, Starting, Ignition, Charging, Fuel Injection, Engine Cooling, and Climate Control systems.

254 COMPUTER APPLICATIONS FOR ELECTRONICS TECHNOLOGY (3) RPT1*Lecture: 2 hours; Lab: 3 hours*

This course introduces students to computer hardware, computer software related technology, and their impact on society and education. Hands-on experience will be provided with applications of software, such as Excel, Word, and PowerPoint. Special emphasis will be provided on electronics applications software such as Electronic Workbench, and VISIO.

255 COMPUTER-BASED ELECTRONICS (1)*Lab: 3 hours*

An introduction to Electronics Workbench (MultiSim), Electronics Technology Computer-Aided Instruction (ETCAI), and MultiSim Computer-Based Training (CBT) software. This course is designed to enable students to construct and analyze circuits using Electronics Workbench. It also enables students to increase their knowledge of electronics using CAI.

MICROCOMPUTER TECHNICIAN I.T. ESSENTIALS

MICROCOMPUTER TECHNICIAN I.T. ESSENTIALS

■ Associate in Science Degree

The Microcomputer Technician I. T. Essentials program is designed to prepare a technician to install, configure, and add auxiliary equipment for a microcomputer. The technician is also able to load software and suggest programs to answer the needs of individuals and companies. Microcomputer Technicians must be above average in knowledge of mechanical systems. They must also have interest and ability in mathematics to successfully apply the training presented in this program.

Daytime and evening classes are offered as part of a two-year training program that leads to the Associate in Science degree. The first year is spent developing basic concepts and skills in networking cabling both copper and fiber optics, basic electronics, software tools for electronics technicians, and networking fundamentals. The second year specializes in microcomputer systems as used in industry. Cisco Networking 1, 2, 3, 4 which leads to a certification in CCNA (Cisco Certified Networking Associate). I. T. Essentials is taught at the fourth semester for students to be certified by Cisco Systems.

Requirements for the Associate in Science degree in Microcomputer Technician I. T. Essentials may be met by completing the required courses listed below, with a grade of "C" or better in each, and 18 units of general education courses as listed in Graduation Plan B to meet the 60-unit requirement. The computer industry is expanding due to the continuing drop in the price of computers and the introduction of new models with greater power. The fastest growing segment of this field is the microcomputer segment. The power and speed of these units continue to increase and, at the same time, the price continues to decrease. This has placed the computer within financial reach of many small businesses and individuals. With more systems being manufactured and installed, more technicians are needed.

Upon successful completion of the program the students will be able to format a computer, install the operating system, and install all the necessary drivers. The students will be able to successfully configure and create a network system consisting of a number of computers.

REQUIRED COURSES

FIRST SEMESTER		UNITS
ELECTRN 2	Introduction to Electronics	3
ETNTLGY 252	Networking Cabling Specialist	3
ETNTLGY 254	Computer Applications for Electronics Technology	3
MICROTK 077	Cisco Networking Academy Semester 1	3
SECOND SEMESTER		UNITS
ETNTLGY 253	Fiber Optics	3
MICROTK 78	Cisco Networking Academy Semester 2	3
MICROTK 160	I.T. Essentials Application Software Fundamentals	2
MICROTK 162	I.T. Essentials Networking Personal Computers	4
THIRD SEMESTER		UNITS
MICROTK 79	Cisco Networking Academy Semester 3	3
PHYSICS 11	Introductory Physics	4
MICROTK 164	I.T. Essentials Microcomputer Theory and Servicing	5
FOURTH SEMESTER		UNITS
MICROTK 80	Cisco Networking Academy Semester 4	3
MICROTK 165	Linux Survival Course	3
TOTAL UNITS		42

RECOMMENDED COURSES

		UNITS
ETNTLGY 255	Computer-Based Electronics	1
ETNTLGY 162	Introduction to Electronics Communications	3

MICROCOMPUTER TECHNICIAN I.T. ESSENTIALS

■ Certificate of Completion

This Certificate is designed for students who wish to train for employment as a microcomputer technician but do not wish to transfer to a four year university. A Certificate of Completion is awarded for the successful completion of 42 units in the first through fourth semester courses listed above. Students completing the Certificate program will be able to program a computer, install the operating system and install necessary drivers as well as configure and create a network system consistent in a number of computers all for employment in a field related to microcomputer technician.

MICROCOMPUTER TECHNICIAN

■ COURSE DESCRIPTIONS

77 CISCO NETWORKING ACADEMY – SEMESTER I (3) RPT1 CSU

Lecture: 2 hours; Lab: 3 hours

This is the first course in a four course sequence that qualifies the student to take the CISCO CCNA Certification Test; and covers fundamentals of computer internet-working, including safety terminology, protocols, network topology and standards, cabling, electrical considerations, the OSI models, IP addressing, bridges, switches, hubs, and routers, and basic network design.

78 CISCO NETWORKING ACADEMY – SEMESTER II (3) RPT1 CSU

Recommended Preparation: Microcomputer Technician 77

Lecture: 2 hours; Lab: 3 hours

This is the second course in a four course sequence that qualifies the student to take the CISCO CCNA Certification Test; and covers router fundamentals, beginning router setup and configurations, routed and routing protocols, wide area internetworking fundamentals, network troubleshooting and network management.

79 CISCO NETWORKING ACADEMY – SEMESTER III (3) RPT1 CSU

Recommended Preparation: Microcomputer Technician 78 with a grade of "C" or better.

Lecture: 2 hours; Lab: 3 hours

This is the third course in a four-course sequence that qualifies the student to take the CISCO CCNA Certification Test; and covers advanced router set-up and configurations, LAN switching theory and VLAN's, advanced LAN and LAN switched design, Novell IPS, and threaded case studies.

80 CISCO NETWORKING ACADEMY – SEMESTER IV (3) RPT1 CSU

Recommended Preparation: Microcomputer Technician 79

Lecture: 2 hours; Lab: 3 hours

This is the fourth course in a four course sequence that qualifies the student to take the CISCO CCNA Certification Test; and covers advanced WAN theory and design; PPP, frame relay, ISDN; threaded case studies; and national SCANS skills.

160 I. T. ESSENTIALS APPLICATION SOFTWARE FUNDAMENTALS (2)

Lecture: 1 hour; Lab: 3 hours

Instruction and demonstrations are provided on the application, set-up, configurations and operation of a wide ranger of computer programs

162 I.T. ESSENTIALS NETWORKING PERSONAL COMPUTERS (4)

Lecture: 2 hours; Lab: 5 hours

The course will assist students in designing, selecting, configuring and installing local area networks. System administration and troubleshooting is also covered in detail.

164 I.T. ESSENTIALS MICROCOMPUTER THEORY AND SERVICING (5)

Lecture: 3 hours; Lab: 6 hours

The course provides servicing techniques for microcomputers and their related peripherals. Hands-on instruction is provided in diagnosing a range of microcomputer malfunctions.

165 LINUX SURVIVAL COURSE (3)*Lecture: 2 hrs; Lab: 3 hrs*

This course provides an introduction to the world of Linux. Linux and Open Source fundamentals will be taught as well as configuration and basic troubleshooting.

252 NETWORK CABLING SPECIALIST (3) RPT1*Lecture: 2 hours; Lab: 3 hours*

Course work includes identification, description, application and configurations of various cables and terminations. Troubleshooting cables for shorts, opens, transposals and reversals, and understanding pin configurations are included. Successful completion of this course leads to industry certification by C-Tech Associates, Inc.

253 FIBER OPTICS (3) RPT1*Recommended Preparation: Electronics Technology 252**Lecture: 2 hours; Lab: 3 hours*

This course is designed to provide students with more advanced knowledge and skills to become entry-level technicians in the network cabling industry with a concentration in fiber optics and leads to industry certification by C-Tech Associates, Inc.

254 COMPUTER APPLICATIONS FOR ELECTRONICS TECHNOLOGY (3) RPT1*Lecture: 2 hours; Lab: 3 hours*

This course introduces students to computer hardware, computer software related technology, and their impact on society and education. Hands-on experience will be provided with applications of software, such as Excel, Word, and PowerPoint. Special emphasis will be provided on electronics applications software such as Electronic Work Bench, and VISIO

FASHION

FASHION DESIGN

PROGRAM OVERVIEW

The Fashion Design program is formulated to provide specialized training in the latest methods of garment construction, illustration, draping, and pattern making, including the most widely used apparel software programs. Students are encouraged to continually experiment with creative design problems during the two-year program. The fashion department is staffed by professional instructors who have spent many years in the fashion industry as designers, pattern makers, production managers and manufacturers in all categories of apparel. The Fashion Design classrooms are equipped like design rooms complete with industrial sewing machines, pressing equipment, grading machines and dress forms. In addition, the college has state-of-the-art computer lab classrooms where instruction is offered in Gerber Technology, Lectra Inc. and Tukatech, which allows students to master technology along with traditional skills. The newest computer lab was developed to answer industry demand for training in fashion and technical illustration using Adobe Photoshop and Illustrator.

The fashion community contributes to the program through student scholarships donated by professional groups, companies and individuals. Fashion professionals are invited to work with and critique student designs and prominent speakers visit the campus on a regular basis to lecture on current fashion industry trends. Foreign and domestic fashion publications are available for student reference as well as an extensive collection of historical fashion magazines. The Sharon Tate Costume Collection houses a vast collection of apparel from noted designers and historical costumes, used to inspire students and offer creative solutions to design problems.

Los Angeles is the leading center for apparel manufacturing in the United States. These firms require personnel trained in the design and technical aspects of clothing production. Many local apparel manufacturing firms employ LATTC graduates as designers, assistant designers, grader/marker makers, pattern makers, technical designers, specification writers, and production managers.

The Fashion Design program prepares students for careers in all areas of apparel manufacturing from assistant designers to production management. Upon successful completion of the program, students will be proficient in construction and assembly, patternmaking and grading, technical and fashion illustration, and draping techniques used to manufacture soft goods. In addition they will understand and be able to apply computer technology to industry related tasks. The comprehensive two-year program stresses industrial problem solving using professional techniques.

FASHION DESIGN

■ Associate in Arts Degree

The daytime fashion design classes are part of a structured program, which each student must take in sequential order. Each semester is divided into two segments, and classes meet five days per week. The Fashion Design Certificate of Completion consists of 46 units that may be completed in two years. Courses in the major must be completed with a "C" or better. Students may add 18 units of general education listed in "Graduation Plan B" and receive an Associate in Arts degree.

REQUIRED COURSES

FIRST SEMESTER		UNITS
FASHDSN 111	Clothing Construction I	4
FASHDSN 112	Basic Fashion Art and Design	4
Electives		4
SECOND SEMESTER		UNITS
FASHDSN 122	Grading and Marker Making	4
FASHDSN 120	Basic Pattern Making and Design	4
Electives		4
THIRD SEMESTER		UNITS
FASHDSN 130	Draping and Design	4
FASHDSN 132	Advanced Pattern Making and Design	4
Electives		4
FOURTH SEMESTER		UNITS
FASHDSN 141	Advanced Design	4
FASHDSN 142	Manufacturing Production	4
Electives		2
TOTAL UNITS		46

PROGRAM REQUIREMENT ELECTIVES

		UNITS
FASHDSN 119	History of Costume	3
FASHDSN 125	Textile Manufacturing Methods	3
FASHDSN 139	Coordinated Sportswear	2
FASHDSN 264	Apparel Computer Systems Analysis	2

RECOMMENDED ELECTIVES

Select 4 units from the following elective courses:

		UNITS
FASHDSN 101	Introduction to Fashion	2
FASHDSN 102	Apparel Assembly Methods	1
FASHDSN 110	Introduction to Computer Art	2
FASHDSN 118	Advanced Clothing Construction	2

FASHDSN 124	Basic Fit Problems	1
FASHDSN 126	Manufacturing and Design Room Process	1
FASHDSN 127	20th Century Designers	1
FASHDSN 128	Cinema Costume History	1
FASHDSN 129	Costume for Theater	1
FASHDSN 134	Design a Line and Children's Wear	1
FASHDSN 136	Design and Usage of Trims	1
FASHDSN 137	Bustier Creation	2
FASHDSN 138	Tailoring for Ready to Wear	2
FASHDSN 140	Advanced Draping and Design	2
FASHDSN 144	Orientation for Designers	1
FASHDSN 145	Design and Pattern Analysis	2
FASHDSN 146	Design Aesthetics and Presentation	1
FASHDSN 147	Fashion Show Production	2
FASHDSN 148	Active Wear Design	2
FASHDSN 150	Introduction to Apparel Systems	1
FASHDSN 151	Advanced Fashion Art and Design	2
FASHDSN 207	Shoes and Handbags Design and Construction	2
FASHDSN 252B	Apparel Methods Analysis	1
FASHDSN 941	Cooperative Education	4
— or —		
Fashion Design Evening and Saturday courses		
— or —		
FASHMER 1	Entrepreneurial Fashion	3
FASHMER 20	Apparel Product Development	3
FASHMER 25	Fashion Industry Interchange	3
FASHMER 30	Wholesale Merchandising	3
FASHMER 50	International Business	3

FASHION DESIGN

■ Certificate of Completion

The Fashion Design Certificate of Completion is comprised of the same core courses as the AA degree. Upon successful completion of the Certificate, students will be proficient in the grading, technical and fashion illustration, and draping techniques and will be prepared for employment in any area of apparel manufacturing. In addition they will understand and be able to apply computer technology to industry related tasks. A Certificate of Completion is awarded for successful completion of all 46 units of the required courses listed above with a grade of "C" or better in each course.

FASHION DESIGN

■ Certificate of Completion – Adjunct

A full range of condensed lab courses in clothing construction, sketching, grading, draping and pattern making are offered during the evening and on Saturdays. These courses may be taken in any order, and lead to a Certificate in Fashion Design. Upon successful completion of the program students will be proficient in construction and assembly methods, illustration, both technical and fashion, pattern making, grading, and draping techniques. These courses will prepare students for apparel computer courses where they will apply skills using the latest computer technology.

Evening students may receive a Certificate of Completion after taking 28 units that include:

		UNITS
FASHDSN 222	Sample Making and Design I	2
FASHDSN 223	Sample Making and Design II	2
FASHDSN 224	Sample Making and Design III	2
FASHDSN 225	Pattern Making and Design I	2
FASHDSN 226	Pattern Making and Design II	2
FASHDSN 227	Pattern Making and Design III	2
FASHDSN 228	Pattern Grading and Design I	2
FASHDSN 229	Pattern Grading and Design II	2
FASHDSN 236	Fashion Sketching and Design I	2
FASHDSN 237	Fashion Sketching and Design II	2
FASHDSN 238	Fashion Sketching and Design III	2
FASHDSN 239	Draping I: Fundamentals	2
FASHDSN 240	Draping II: Intermediate	2
FASHDSN 241	Draping III: Gown Draping and Design	2
TOTAL UNITS		28

FASHION DESIGN

■ Associate in Arts Degree - Fashion Technology

The Fashion Technology Associate in Arts degree is designed for those students attending in the evening and on Saturday. Since the structure of the evening courses does not allow for extensive lab experience, the department has a comprehensive internship program offered through the Cooperative Education Office which allows students to obtain valuable on the job experience. Courses are offered as enrollment dictates. Requirements for the Fashion Technology Associate in Arts degree may be satisfied by completing the courses listed below and an additional 18 units of general education listed in "Graduation Plan B". Certain Fashion Design courses from the day program may be substituted for required courses with approval of the department head.

Los Angeles is the leading center for apparel manufacturing in the United States. These firms require personnel trained in the design and technical aspects of clothing production. This evening/Saturday program allows industry professionals the opportunity to upgrade their skills and advance in the latest technology.

Upon successful completion of the program students will be proficient in construction and assembly methods; illustration, both technical and fashion; pattern making, grading, and draping techniques. In addition, students will be able to apply computer technology to industry related tasks.

REQUIRED COURSES*

REQUIRED COURSES		UNITS
FASHDSN 222	Sample Making and Design I	2
FASHDSN 223	Sample Making and Design II	2
FASHDSN 224	Sample Making and Design III	2
— or —		

SIX UNITS SELECTED FROM:		UNITS
TAILOR 226	Tailoring and Design I	2
TAILOR 227	Tailoring and Design II	2
TAILOR 228	Tailoring and Design III	2
TAILOR 229	Tailoring and Design IV	2
— and —		
FASHDSN 225	Pattern Making and Design I	2
FASHDSN 226	Pattern Making and Design II	2
FASHDSN 227	Pattern Making and Design III	2
FASHDSN 228	Pattern Grading and Design I	2
FASHDSN 229	Pattern Grading and Design II	2
FASHDSN 236	Fashion Sketching and Design I	2
FASHDSN 237	Fashion Sketching and design II	2
FASHDSN 238	Fashion Sketching and Design III	2
FASHDSN 239	Draping I: Fundamentals	2
FASHDSN 240	Draping II: Intermediate	2
FASHDSN 241	Draping III: Gown Draping and Design	2
FASHDSN 941	Cooperative Education	8
Core Electives		6
TOTAL UNITS		42

CORE ELECTIVES SELECT 6 UNITS*

COURSE ELLCOWLES SELECTED UNITS		UNITS
FASHDSN 250	Computer Grading	2
FASHDSN 251	Computer Marker Making	2
FASHDSN 252	Apparel Manufacturing Processes	3
FASHDSN 253	Apparel Production Operations	3
FASHDSN 254	Computerized Product Management	2
FASHDSN 255	Computerized Product Design	2
FASHDSN 256	CAD Apparel Pre-Production Techniques	2
FASHDSN 257	Apparel Pattern Design Systems	2
FASHDSN 258	Computer Aided Pattern Systems	2
FASHDSN 259	CAD Apparel Design (Gerber Artworks)	2
FASHDSN 261	Advanced CAD Systems	2
FASHDSN 262	Introduction to CAD Design and Pre-Production Applications	2
TOTAL UNITS		42

* Essential courses offered for the Fashion Design, Associate in Arts degree may be substituted for courses required for the Fashion Technology, Associates in Arts degree.

FASHION DESIGN

■ COURSE DESCRIPTIONS

101 INTRODUCTION TO FASHION DESIGN (2)

Lecture: 1.5 hours; Lab: 1.5 hours; Out of class work: 3 hours

This course will introduce the student to the opportunities in the field of fashion design. Students will learn how vocabulary, math skills, and study skills are applicable to the field, better preparing them to enter a full-time program. Course will include hands-on activities demonstrating the applicability of the above skills.

102 APPAREL ASSEMBLY METHODS (1)

Lab: 3 hours

This class is designed to allow assembly instruction while working on construction of projects. Students will select sewing projects under the guidance of the instructor.

110 INTRODUCTION TO COMPUTER FASHION ART (2)

Lecture: 1 hour; Lab: 2 hours

This course offers introduction to Adobe Photoshop and Adobe Illustrator or current software using MAC computers. Emphasis is placed on the preparation and input of fashion design ideas for a fashion design portfolio and presentation as required by industry standards.

111 CLOTHING CONSTRUCTION I (4) CSU

Lecture: 1.5 hours; Lab: 7.5 hours

The student will be given instruction in single needle machine operation, sewing technique projects, garment assembly projects, occupational information and method of evaluation and relationship to the Fashion Industry. Basic information needed for entry level employment is provided.

112 BEGINNING FASHION ART AND DESIGN (4) CSU

Lecture: 1.5 hours; Lab: 7.5 hours

Instruction includes drawing of women's fashion figure, drawing children and men's figures, flats, various clothing styles and details. Introduction to color, design theory, fabric properties and rendering. Merchandising a garment line.

118 ADVANCED CLOTHING CONSTRUCTION (2)

Prerequisite: Fashion Design 111

Lecture: 1 hour; Lab: 3 hours

The objective of this course is to advance the sewing skills of fashion design students. Students receive instruction in the theory of color, line and proportion. Students are assigned to create and construct coordinated group using industrial patterns. Selected blouses, shirts, pants and jacket are made.

119 HISTORY OF COSTUME (3) CSU

Lecture: 3 hours

This course surveys the origins and development of clothing from prehistoric times through the 20th century. Students will explore costume from its earliest origins through adaptation and assimilation into popular "fashion" in each century. Instruction will include in-depth study of fashion trends, creators, and political climate that has influenced the creation of men's and women's fashion. The influence of historical costume on contemporary dress is discussed.

120 BASIC PATTERN MAKING AND DESIGN (4) CSU

Prerequisites: Successful completion of a grade of "C" or better in Fashion Design 111 and 112.

Lecture: 1.5 hours; Lab: 7.5 hours

Instruction is given in drafting the basic block, multiple darts and gathers, style lines, sleeves, collars, skirts, and bodice silhouettes.

122 GRADING AND MARKER MAKING (4)

Instruction is given in grading the basic block, multi-patterns, and complete patterns for men, women and children, in a variety of sizes. Techniques in marker making are also covered.

124 BASIC FITTING PROBLEMS (1)

Lecture: 1 hour

Instruction is given in the general principles of garment fitting according to industry standards. Fitting problems and solutions will be discussed for all types of garments.

125 TEXTILES, FIBERS AND FABRICS, PROPERTIES AND MANUFACTURING (3) CSU*Lecture: 3 hour*

This course provides an overview of the terminology and characteristics of fabric and the difference between cellulose, protein and man-made fibers. Topics discussed include: types of yarns and properties, twist yarn, yarn numbering systems and factors in yarn influencing quality. Woven, knitted, tufted, non-woven fabrics and additional fabrication methods will be discussed.

126 MANUFACTURING AND DESIGN ROOM PROCESSES (1) CSU*Lecture: 1 hour*

Instruction is given in the processes used in manufacturing and in the design room, as well as a study of the terminology used in the garment industry.

127 TWENTIETH CENTURY DESIGNERS (1) CSU*Lecture: 1 hour*

Instruction is focused on the development of the French Couture starting with events in the mid-19th century which lead to the international couture market of the mid-20th century. American designers are also discussed.

128 CINEMA COSTUME HISTORY (1) CSU*Lecture: 1 hour*

This course follows the development of cinema costuming by tracing the evolution of film styles and the fashion trends of each period. Individual histories of the costume designers who influenced visual life styles through film and television are studied.

129 COSTUME FOR THE THEATER (1) CSU*Lecture: 1 hour*

Students will select and/or design appropriate costumes for a series of plays and musicals. Video of plays will be shown to enable students to analyze and contrast various designers' concepts of theatrical costuming.

130 DRAPING AND DESIGN (4) CSU*Prerequisite: Fashion Design 120**Lecture: 1.5 hours; Lab: 7.5 hours*

Instruction is given in fundamental draping procedures. Basic block and dart variations, yoke styles, torso styles, advanced skirts, cowls, stretch knits, and current style adaptation are practiced.

132 ADVANCED PATTERNS AND DESIGN (4) CSU*Prerequisites: Successful completion of Fashion Design 111, 112, 120 and 122 with a grade of "C" or better.**Lecture: 1.5 hours; Lab: 7.5 hours*

Instruction is given in torso, jacket and pant blocks, sleeves-in-one with bodice, neckline variations and style adaptations according to current styling.

134 DESIGN A LINE AND CHILDREN'S WEAR (1)*Lecture: 1 hour*

Instruction is given in theory of planning the color story, the designer work sheet and merchandising the cost of the garment.

136 DESIGN AND USAGE OF TRIMS (1)*Lecture: 1 hour*

Instruction will be given in designing Schiffl embroidery, designing screen printing, eyelet, Viennese and string laces, assorted findings comprising braids, cords, ribbons and buttons, local supply sources and specialized design problems with trims.

137 BUSTIER CREATION (2)*Prerequisites: Successful completion of a grade of "C" or better in Fashion Design 111, 112 and 120**Lab: 6 hours*

Research historical bustier (corset foundation) designs and construction methods and adapt them to create currently fashionable bustier.

138 TAILORING TECHNIQUES FOR READY TO WEAR (2)*Prerequisites: Successful completion of a grade of "C" or better in Fashion Design 111 or Fashion Design 222**Lab: 4 hours*

The objective of this course is to advance the tailoring skills of fashion design students. Instruction will be given on preparation and cutting of fabric, basic hand stitching, the use of steam pressing equipment, and basic elements of tailored apparel.

139 COORDINATED SPORTSWEAR (2)*Prerequisite: Fashion Design 132**Lecture: 1 hour; Lab: 3 hours*

Instruction is given on the development of coordinated sportswear including story board presentation and critique. This class has been developed to focus on this most important component of the local apparel industry with concentration on jacket and pant construction and coordination of multiple fabrications within a group.

140 ADVANCED DRAPING AND DESIGN (2) CSU*Prerequisite: Fashion Design 130 or Fashion Design 239**Lecture: 1 hour; Lab: 2 hours*

This course includes the draping of selected types of garment and style innovations. Students use either muslin or fashion fabric according to design and fabrication. Original designs are created and executed in fabric.

141 ADVANCED DESIGN (4) CSU*Prerequisites: Successful completion of a grade of "C" or better in Fashion Design 111, 112, 120, 122, 130 and 132.**Lecture: 1.5 hours; Lab: 7.5 hours*

Instruction is given in knit blocks, specialized fabrics, dartless blocks, knock-offs, and specialized projects relating to current trends.

142 MANUFACTURING PRODUCTION (4) CSU*Prerequisites: Successful completion of a grade of "C" or better in Fashion Design 111, 112, 120, 122, 130, 132, and 141**Lecture: 1.5 hours; Lab: 7.5 hours*

Instruction is given in design and creation of garments for showing to the apparel industry. Included is the creation of children's and men's designs along with evening and avant garde styles and the development of a perfect production patterns for a minimum of two ensembles. Field trips, senior evaluation and job orientation are also included.

144 ORIENTATION FOR DESIGNERS (1) (INACTIVE)*Lecture: 1 hour*

A course designed to help the Fashion Design student enter the sportswear field with a working knowledge of design procedures, including research and development of a product line following a group concept.

145 DESIGN AND PATTERN ANALYSIS (2)*Recommended Preparation: Successful completion of a grade of "C" or better in Fashion Design 120**Lecture: 1 hour; Lab: 2 hours*

Instruction is given in design analysis and the identification of the component parts, as well as analyzing the silhouette and discussing line balance and harmony. The necessary skills for pattern analysis will be studied.

146 DESIGN AESTHETICS AND PRESENTATION (1)*Lecture: 1 hour*

Instruction is given in the basic principles of fashion merchandising and costing, including geographical and sociological effects on the garment merchandise. Students will learn to analyze the methods used in costing a garment and preparing it for shipping.

147 FASHION SHOW PRODUCTION (2)*Lecture: 1.5 hours; Lab: 1.5 hours*

Instruction is given on developing a theme and overall concept for presenting a fashion show. Topics include history of fashion presentations, model selection, fitting, stage design and execution plus behind the scenes production of a department fashion show.

148 ACTIVEWEAR DESIGN (2)*Prerequisite: Fashion Design 132 or Fashion Design 225**Lecture: 1 hour; Lab: 2 hours*

Instruction is given in the specialized area of activewear, focusing on fabrications, design, inner-construction, and sewing techniques. The student will draft basic pattern blocks, design and construct an activewear garment.

150 INTRODUCTION TO APPAREL SYSTEMS (1)*Lecture: 1 hour*

This course is an introduction to apparel computer operating systems and their capabilities. In addition, information is provided on the various software applications utilized in the fashion design and merchandising industries.

151 ADVANCED FASHION ART AND DESIGN (2)*Prerequisite: Fashion Design 112 or Fashion Design 236**Lecture: 1 hour; Lab: 2 hours*

This course covers the creation of children's and men's designs along with evening and avant garde styles and the development of a perfect production pattern for a minimum of two ensembles. Field trips, senior evaluation, and job orientation are also included.

207 SHOE AND HANDBAG DESIGN AND CONSTRUCTION (2) RPT1*Recommended Preparation: Successful completion of a grade of "C" or better in Fashion Design 111 or 222 and 120 or 225**Lab: 6 hours*

Instruction is given in the basic design and construction of shoes and handbags. The student will supply their own materials to construct basic constructed shoes or handbags. Students will learn to construct by using single needle power sewing machines.

222 SAMPLE MAKING AND DESIGN I (2)*Lab: 6 hours*

The course covers the fundamentals of garment construction using industrial patterns, marker making and industrial power machines. Students are assigned sample projects which demonstrate basic techniques, combining classical with modern manufacturing techniques, with special emphasis on pattern layouts for plaids and prints.

223 SAMPLE MAKING AND DESIGN II (2)*Prerequisite: Fashion Design 222**Lab: 6 hours*

The objective of this course is to advance the sewing skills of fashion design students. Students are assigned to create and construct a coordinated group using industrial patterns. Selected blouses, shirts, pants and jacket are made.

224 SAMPLE MAKING AND DESIGN III (2)*Prerequisite: Fashion Design 223**Lab: 6 hours*

Instruction is provided in construction and fitting of selected commercial patterns adapted to industry standards. Students receive instruction in the theory of color, line and proportion. They create or select designs suitable to the individual and occasion. Selected soft dressmaker type coats, suits, vests, blouses, and dresses are made.

225 PATTERN MAKING AND DESIGN I (2)*Recommended Preparation: Fashion Design 222**Lab: 6 hours*

Entry level class offering instruction in development of a basic block, test fitting, and additional basic pattern making fundamentals.

226 PATTERN MAKING AND DESIGN II (2)*Prerequisite: Fashion Design 225**Lab: 6 hours*

Intermediate level class offering instruction on the torso bodice, dartless block and drafting a basic pant then using the blocks to create dresses, shirt styles and pant variations. Advanced skirts styling is also included.

227 PATTERN MAKING AND DESIGN III (2)*Prerequisite: Fashion Design 226**Lab: 6 hours*

Advanced level class offering instruction on jackets, advanced sleeve styles, contouring fundamentals, and basic bodysuits and leotards.

228 PATTERN GRADING AND DESIGN I (2)*Lab: 6 hours*

This course offers training in increasing and decreasing the pattern size for basic slopers in the several size ranges of men's, women's and children's wearing apparel. Also includes practice in selected methods and in the use of "grading machines" currently used in industry.

229 PATTERN GRADING AND DESIGN II (2)*Lab: 6 hours*

Selected whole garments are graded. Research and study is done on the laws of proportionate growth, size ranges, and difficult pattern shapes. Principles of design are correlated to grading problems.

230 CONTEMPORARY GARMENT CONSTRUCTION TECHNIQUES (1) RPT2*Corequisite: Any fashion design course**Lab: 3 hours*

This course provides the opportunity for students to review and practice various hand and machine sewing techniques. Students concentrate on garment assembly projects using industrial methods.

231 CONTEMPORARY PATTERN MAKING TECHNIQUES (1) RPT 2*Corequisite: Any fashion design course**Lab: 3 hours*

This course provides fashion students the opportunity to review and practice various pattern making techniques. Students concentrate on pattern drafting projects using industry methods.

236 FASHION SKETCHING AND DESIGN I (2)*Lab: 6 hours*

Instruction includes fashion figure drawing, rendering fabrics and garments on figures, designing selected garments, study of color theory and techniques.

237 FASHION SKETCHING AND DESIGN II (2)*Prerequisite: Fashion Design 236**Lab: 6 hours*

Instruction includes women's day dresses, children's fashion figures and garment designs, watercolor or gouache techniques, technical illustrations, contemporary graphic layouts and the portfolio development.

238 FASHION SKETCHING AND DESIGN III (2)*Prerequisite: Fashion Design 236 & 237**Lab: 6 hours*

Instruction includes developing male croquis models, designing formal wear for men, women and children, exploring marker techniques, developing illustrations with markers and other mediums combined in categories of interest and concentration, writing a resume, cover letter and calling card and developing a refined professional portfolio in preparation for job interviews.

239 DRAPING I: FUNDAMENTALS (2)*Lab: 6 hours*

Instruction is offered in draping, fitting basic blocks, and transferring the drape to a paper pattern. Students will drape basic type bodices, sleeves, skirts, collars, and construction details. Theory includes basic principles of design, line, proportion, and fabric use.

240 DRAPING II: INTERMEDIATE (2)*Lab: 6 hours*

This course includes the draping of selected types of garments and style innovations. Students use either muslin or dress fabric according to their capabilities. Original designs are created and fashion trends are studied.

241 DRAPING III: GOWN DRAPING AND DESIGN (2)*Lab: 6 hours*

This course correlates the designer's knowledge of designing, sketching, draping, pattern making and construction. Students develop confidence as they study the problems of merchandising and manufacturing. Original designs for the various categories of wearing apparel are created and executed in fabric.

244 COMPUTER FASHION ART (2)

Recommended Preparation: Fashion 112 or 236 with a grade of "C" or better.

Lab: 6 hours

This course offers computer fashion art instruction using the MAC computer. Emphasis is placed on the preparation and input of fashion images for portfolios and design presentations as required by industry standards.

250 COMPUTERIZED GRADING (2)*Lab: 6 hours*

This course concentrates on grading the commercial pattern using a computer. Inputting the pattern, establishing grade rules and correcting the pattern are included. Marker making, with emphasis on difficult garments and fabric problems is covered. Housekeeping and tape routines are explained.

251 COMPUTERIZED MARKER MAKING (2)*Lab: 6 hours*

This course introduces the student to computer assisted pattern making. Basic block for digitizing as well as MPLOT routines are included; housekeeping and job streams are also covered.

252A MATERIALS MANAGEMENT (1)*Lecture: 1 hour*

This course covers planning and scheduling procedures, which are presented with an emphasis on current apparel industry practices.

252B APPAREL METHODS ANALYSIS (1)*Lecture: 1 hour*

This course will analyze the current production systems in the apparel industry. From receiving to cutting and bundling to contractor communication, students will understand the production flow of garment manufacturing.

252C GARMENT COSTING (1)*Lecture: 1 hour*

This course will concentrate on garment costing, which is often the difference between profit and loss in the apparel industry. Students will examine the roles of each department in the costing process as well as the different costing methodologies.

253A FACTORY LAYOUT AND MANAGEMENT (1)*Lecture: 1 hour*

This course presents an overview of an apparel factory and its management. Special emphasis is on practical and efficient plant layouts, machinery for specific manufacturing uses, site locations and an introduction to OSHA regulations.

253B HUMAN RESOURCES MANAGEMENT (1)*Lecture: 1 hour*

This course presents human resource management in current usage. Personnel, organizational methods, wages and bookkeeping particular to the apparel industry will be the focus of resource management.

253C CAPITOL AND SALES MANAGEMENT (1)*Lecture: 1 hour*

This course presents a critical overview of the specialized areas of marketing, product development, capitalization and accounting methods in the apparel industry. Special emphasis will be placed on manufacturing methodology and wholesale marketing of apparel.

254 COMPUTERIZED PRODUCT MANAGEMENT (2)*Lab: 6 hours*

This course offers training utilizing the latest versions of apparel pattern making software technology. Students will concentrate on transferring basic pattern and design principles from a manual format to a computerized one.

255 COMPUTERIZED PRODUCT DESIGN (2)*Lab: 6 hours*

This course offers advanced training and development of skills in apparel utilizing the latest versions of apparel pattern making software. Design students will concentrate on working on advanced pattern and design projects ranging from haute couture to ready-to-wear clothing.

256 CAD APPAREL PRE-PRODUCTION TECHNIQUES (2)*Lecture: 1.5 hours; Lab: 1.5 hours*

This course offers advanced training in apparel pre-production process, and marker making as it applies to computerized apparel production. The class will cover specialized computer software applications, such as Lectra Systems, used for marker making. Students will learn to identify menus associated with marker making applications and composing a full scale marker using industry standards.

257 APPAREL PATTERN DESIGN SYSTEMS (2)*Lecture: 1.5 hours; Lab: 1.5 hours*

This course provides an overview of current computer-aided design applications used in apparel pattern development. The class will cover manual pattern development and demonstrate how two-dimensional patterns translate to the computer. Students will learn to identify menus associated with pattern applications, used for Tukatech software, and will compose a full-scale pattern on the computer as it applies to industry.

258 COMPUTER-AIDED PATTERN SYSTEMS (2)

Recommended Preparation: FD120 or 225.

Lab: 6 hours

This course is designed to introduce computer aided pattern-making using Lectra Systems software programs. Class instruction will cover translating manual patterns to the computer as well as pattern creation using technology. Instruction will be given on system menus in their relation to pattern applications.

259 CAD APPAREL DESIGN (GERBER ARTWORKS) (2)*Lecture: 1.5 hours; Lab: 1.5 hours*

This course provides an overview of apparel computer design techniques as they apply to textiles and apparel production. The class will cover specialized computer software applications, such as Gerber systems "Artworks" and similar design software geared toward apparel design and manufacturing. Students will learn to identify menus associated with design applications and create projects using industry standards.

261 ADVANCED CAD SYSTEMS (1) RPT2

Recommended Preparation: One of the following: FASHDSN 250, 254, 255, 256, 257

Lab: 3 hours

This course will provide advanced studies in computer apparel systems. Students will practice and perfect beginning skills in an advanced lab in pattern-making, grading, and marker-making on the Gerber, Tukatech, and Lectra systems.

262 INTRODUCTION TO CAD DESIGN AND PRE-PRODUCTION APPLICATIONS (2) RPT1*Lab: 6 hours*

This course offers new and existing design and pre-production applications using Lectra U4ia and Gerber Artworks for textile design, Gerber classic PDS, and Lectra DIAMINO (marker making)

263 INTRODUCTION TO TEXTILE DESIGN (3)*Lecture: 2 hours; Lab: 2 hours*

This course provides an overview of the of a Textile Designer and an CAD Textile Artist. It emphasizes basic design concepts of creating a croquis for the apparel, home furnishing, and industrial markets. It features an introduction to computer aided design applications for the CAD textile artist, PDM Web applications, and resources and trend services in the textile market.

264 APPAREL COMPUTER SYSTEMS ANALYSIS (2)*Recommended Preparation: Fashion Design 120**Lecture: 1 hour; Lab: 2 hours*

This lab course demonstrates how the apparel industry uses commercial and vendor apparel technology in the global market. Topics covered are apparel software and commercial hardware used to design and manufacture products.

270 ILLUSTRATOR FOR FASHION ART (2) RPT1*Recommended Preparation: Fashion Design 112 or 236**Lab: 6 hours*

This course offers Adobe Illustrator instruction using the Macintosh computer. Emphasis is placed on the preparation and input of fashion design ideas in flat drawings for portfolios, pattern information cards, and cost sheets as required to meet industry standards.

FASHION MERCHANDISING

PROGRAM OVERVIEW

Fashion Merchandising is the planning, organization, and development of fashion products to be sold at a profit. The program at Los Angeles Trade-Technical College is unique in that it offers instruction covering both manufacturing processes and retail expertise. Computer technology plays an important role in the program offering instruction on AIMS 2000 and Electronic Data Interchange (EDI). The Fashion Merchandising Certificate consists of 45-46 units. An Associate in Science degree can be earned by adding 18 units of general education courses under Graduation Plan B. A skills Certificate is offered for 15 units in Fashion Promotion or Retail Management.

Retail is a major industry in Southern California and fashion constitutes one of its largest segments. Retail positions range from major department stores to specialty outlets, and from personal stylists to employment in wholesale manufacturing. Los Angeles has taken the lead as the largest apparel manufacturing center in the United States, and the Fashion Merchandising curriculum is designed to provide specialized training in fashion trends, and consumer demand, as well as wholesale concepts.

Upon completion of the program, students will understand the cultural aspects of fashion in history, entrepreneurial opportunities in the fashion industry, and how to communicate the latest fashion trends and styling. Students will also be proficient in international business processes preparing them for the global apparel market.

FASHION MERCHANDISING

■ Associate in Sciences Degree

An Associates in Arts degree in Fashion Merchandising may be earned upon completion of the required courses listed below and 18 units from the general education retirement courses.

FIRST SEMESTER		UNITS
FASHMER 10	Retail Merchandising	3
FASHMER 25	Fashion Industry Interchange	3
ENGLISH 28/101*	College Reading and Composition I	3
CAOT 82	Microcomputer Software Survey in the office	3

— or —		
CO INFO 701	Introduction to Computers & Their Uses	3
— or —		
FASHMER 21	Cultural Perspectives of Dress	3

SECOND SEMESTER		UNITS
FASHMER 20	Apparel Product Development	3
FASHMER 35	Fashion Promotion	3
FASHMER 40	Modern Merchandising Math	3
CAOT 85	Microcomputer Office Application: Spreadsheet	3
— or —		
CAOT 84	Microcomputer Office Application: Word Processing	3
— or —		
BUS 1	Introduction to Business	3

THIRD SEMESTER		UNITS
FASHMER 30	Wholesale Merchandising	3
FASHMER 50	International Fashion Business	3
FASHDSN 244	Computer Fashion Art	2
— or —		
VIS COM 129	Digital Photo Manipulation (Photoshop)	
— or —		
FASHDSN 270	Illustrator for Fashion Design	2
SPEECH 101	Oral Communications	3

FOURTH SEMESTER		UNITS
FASHMER 1	Entrepreneurial Fashion	3
FASHMER 27	Advanced Retail Merchandising	3
— or —		
FASHMER 41	Fashion Merchandise Buying	3
FASHDSN 931/941	Cooperative Education	3-4
TOTAL UNITS		45-46

* Satisfies part of the general education requirements

FASHION MERCHANDISING

■ Certificate of Completion

The Fashion Merchandising Certificate of Completion is comprised of the same core courses as the AA degree. Upon completion of the Certificate students will understand cultural aspects of fashion in history, entrepreneurial opportunities within the fashion industry, and how to communicate the latest fashion trends and styling. Students will be proficient in international business processes preparing them for the global apparel market. A Certificate of Completion is awarded for successful completion of all 45-46 units of the required courses listed, above, with a grade of "C" or better in each course.

FASHION MERCHANDISING

■ COURSE DESCRIPTIONS

1 ENTREPRENEURIAL FASHION (3) CSU

Recommended Preparation: English 28 and Math 105 with a grade of "C" or better

Lecture: 2.5 hours; Lab: 1.5 hours

This course delivers the information needed to develop an effective business plan and provides a background in entrepreneurship for apparel related businesses. Students will examine the development of a fashion retail business from concept evaluation to strategy articulation. Procedures and resources for researching and opening a business are covered, as well as assortment planning, pricing and financing.

10 RETAIL MERCHANDISING (3) CSU

Recommended Preparation: English 28 and Math 105 with a grade of "C" or better

Lecture: 3 hours

This course introduces all phases of fashion retailing from the creative to the financial. It is designed to familiarize students to the crucial functions of merchandising and product management in a modern retail company. The course covers special aspects of retailing including: the evolution of the industry, merchandising roles and careers, market knowledge, consumer behavior, planning and control and retail pricing.

20 ADVANCED APPAREL PRODUCT DEVELOPMENT (3) CSU

Recommended Preparation: English 28 and Math 105 with a grade of "C" or better

Lecture: 2.5 hours; Lab: 1.5 hours

This course covers the step-by-step development of apparel products in a retail or wholesale environment. Students will use research, merchandising knowledge and the application of merchandising concepts and theories in a simulated process. The course includes visual presentation of design concepts, raw materials sourcing, overviews of production technology, wholesale marketing and retail distribution. Special emphasis is placed on the California apparel industry.

21 CULTURAL PERSPECTIVES OF DRESS (3) CSU

Recommended Preparation: English 28 and Math 105 with a grade of "C" or better

Lecture: 3 hours

This course covers the factors that influence human behavior in the selection of dress in societies and cultural groups, and the ultimate influence of these factors on the design and production of textiles and apparel. Understanding the function of dress helps us relate to other cultures, facilitates our interaction with others and gives us insight as to why consumers purchase clothing and other dress related products. Topics include the cultural context of dress, dress as nonverbal communication, dress through life stages, dress in the workplace, ethnic influences on dress and technological change.

25 FASHION INDUSTRY INTERCHANGE (3) CSU

Recommended Preparation: English 28 with a grade of "C" or better
Lecture: 3 hours

This course covers current trends and relationships in the Fashion Industry between apparel, accessories, cosmetics, and home goods. Each category of goods is reviewed from the perspectives of historical development, organization and operation, merchandising and marketing in order to gain broad insight to the unique aspects of these industry segments.

27 ADVANCED RETAIL MERCHANDISING (3) CSU

Prerequisite: FASHMER 10 with a grade of "C" or better.

Lecture: 2.5 hours; 1.5 hours

An advanced retail research and study course covering retail demographics, site selection, stock assortments, planning, retail budgets, and sales applicable to all retail environments. Merchandise coordination and seasonal planning are given detailed coverage.

30 WHOLESALE MERCHANDISING (3) CSU

Recommended Preparation: English 28 and Math 105 with a grade of "C" or better.

Lecture: 3 hours

This course prepares students for a merchandising position with an apparel manufacturing company. All phases, including line development, design, costing, sales, production, contracting and distribution are covered. Current trends and specialized knowledge in merchandising a saleable line are emphasized.

35 FASHION PROMOTION (3) CSU

Recommended Preparation: English 28 and Math 105 with a grade of "C" or better.

Lecture: 3 hours

This course covers the promotional aspects of the retail fashion industry. Emphasis is given to the processes of fashion communication and how they connect company profit and performance with skillful and creative promotional strategies. Sales promotion, advertising formats, public relations, and direct marketing are presented.

40 MODERN MERCHANDISING MATH (3) CSU

Recommended Preparation: FASHMER 27, 30; CAOT 82 or CO INFO 701 with a grade of "C" or better.

Lecture: 3 hours

Students will learn to use the computer for costing, pricing, inventory control as well as vendor analysis. All current concepts in wholesale and retail merchandise planning are presented, with an emphasis on practical knowledge and the use of computers and software in today's apparel business.

41 FASHION MERCHANDISE BUYING (3) (CSU)

Recommended Preparation: FASHMER 10, English 28, Math 113 with a grade of "C" or better.

Lecture: 2.5 hours; Lab: 1.5 hour

This course provides specific instruction on fashion/merchandise buying tasks such as identifying target customers, creating six month merchandise plans, departmental assortment plans, shopping the market and placing orders, in-season sales planning and forecasting, and calculating open-to-buy. Covers the process of retail buying for a small business as well as for larger companies.

50 INTERNATIONAL FASHION BUSINESS (3)

Recommended Preparation: English 28 with a grade of "C" or better.

Lecture: 3 hours

An active study of the dynamics and challenges of the international apparel industry. Topics covered include: International business today; cultural diversity and dynamics; international legal issues; global opportunities in marketing; importing/exporting strategies; international fashion business vocabulary

TAILORING

PROGRAM OVERVIEW

The LATTC Tailoring Certificate program is uniquely designed for the working adult. Courses are offered during evening and weekend hours and cover all aspects of the pattern making and construction techniques necessary to complete tailored garments. Courses include construction techniques for bespoke men's and women's garments including trousers, jackets and coats. Tailors are distinctly different from dressmakers in that they are specialized in constructed garments such as jackets, coats and trousers or slacks.

Requirements for the Certificate of Completion may be met by successfully completing a minimum of 20 units with a grade of "C" or better, 12 of which must be in the major and 8 units of electives from the Fashion Design evening/Saturday courses.

The skills for custom tailoring are always in demand. Stylists work with tailors to outfit sports figures, celebrities, and specialty customers. Costume designers work with tailors to create multiple versions of garments needed in film production, and customers seeking individual design and fit seek out the assistance of professional tailors.

TAILORING

■ Certificate of Completion – Adjunct

The Tailoring Certificate of Completion prepares students to construct trousers, jackets, vests and coats for personal fit and for custom tailoring. Upon completion of the program students will be able to draft patterns as well as construct tailored garments.

REQUIRED COURSES

	UNITS
TAILOR 226 Tailoring and Design I	2
TAILOR 227 Tailoring and Design II	2
TAILOR 228 Tailoring and Design III	2
TAILOR 229 Tailoring and Design IV	2
TAILOR 233 Men's Custom Pattern Drafting and Design I	2
TAILOR 234 Men's Custom Pattern Drafting and Design II	2
Core Electives	8
TOTAL UNITS	20
— or —	
TAILOR 250 Tailoring Techniques I	2
TAILOR 251 Tailoring Techniques II	2
TAILOR 252 Tailoring Techniques III	2
TAILOR 253 Tailoring Techniques IV	2
TAILOR 255 Men's Pattern Drafting I	2
TAILOR 256 Men's Pattern Drafting II	2
Core Electives	8
TOTAL UNITS	20

CORE ELECTIVES

UNITS

TAILOR 185, 285, 385 Directed Studies. To be taken at discretion of instructor 1-3
Fashion Design courses Note: see "200" numbered courses

TAILORING

■ COURSE DESCRIPTIONS

226 TAILORING AND DESIGN I (2)

Lab: 6 hours

Training is offered in hand stitching, operation of the steam pressing machine, use of the tailor iron, and in distinguishing material, trimmings, and kinds of thread.

227 TAILORING AND DESIGN II (2)

Lab: 6 hours

The student receives training in the making of trousers, vests, skirts, cuffs, pleats, pockets, seams, waistbands, flies, facings, linings, basting, joining, trimming and pressing.

228 TAILORING AND DESIGN III (2)

Lab: 6 hours

This is a course in the making of ladies' or men's coats and overcoats. The student learns to prepare front parts, all type of pockets, coat canvasses, sleeves, lining and facings. Instruction includes basting linings and taping edges.

229 TAILORING AND DESIGN IV (2)

Lab: 6 hours

This course offers training in construction operations which require the highest degree of skill and knowledge of the tailoring craft such as putting on shoulders and collars; setting in sleeves; shaping fronts, lapels and collars; fitting and remodeling. Students make complete garments.

233 MEN'S CUSTOM PATTERN DRAFTING AND DESIGN I (2)

Lab: 6 hours

Instruction is given in the proper use of the tailor's square and curved ruler. Training is given in basic pattern drafting of slacks and vests, manipulating of patterns, and taking of measurements.

234 MEN'S CUSTOM PATTERN DRAFTING AND DESIGN II (2)

Lab: 6 hours

This course continues training in the pattern drafting of single or double breasted suits, coats, semi-drape and full drape model top coats, tuxedos, overcoats, raglan coats, manipulating of patterns, and taking of measurements.

250 TAILORING TECHNIQUES I (2)

Recommended Preparation: Fashion Design 111 or 222.

Lecture: 6 hours

Training is offered in basic tailoring techniques. Students will be instructed in welt pockets, hand tailored stitching, and finishing techniques. This course will consist of basic tailored vests and trousers.

251 TAILORING TECHNIQUES II (2)

Prerequisite: Tailoring 250 or 226

Lecture: 6 hours

Students will receive training in basic tailored jackets. Instruction will include yokes, vents, pockets, and tailored techniques as applied to jacket styles.

252 TAILORING TECHNIQUES III (2)

Prerequisite: Tailoring 251 or 227

Lecture: 6 hours

Students receive training in men's or women's suits. Instruction on advanced techniques as applied to suits including 2 piece sleeves with vents, back vents, and hand stitched buttonholes.

253 TAILORING TECHNIQUES IV (2)

Prerequisite: Tailoring 252 or 228

Lecture: 6 hours

Students receive training in tailored coats, men's style shirts and blouses. Instruction will include stylized seams, cold weather techniques.

255 MEN'S PATTERN DRAFTING I (2)

Recommended Preparation: Fashion Design 111 or 222

Lecture: 6 hours

In this course students will learn the fundamentals of taking and using men's measurements for pattern making. Students will draft patterns for basic trousers, men's sport shirts, and a basic man's vest. Each pattern will be tested for fit.

256 MEN'S PATTERN DRAFTING II (2)

Prerequisite: Tailoring 233 or 255

Lecture: 6 hours

This course in men's pattern making will introduce students advanced styling including, jackets, and stylized pants. Students will make complete patterns for each element of a three piece suit.

LABOR STUDIES

LABOR STUDIES

THE LABOR CENTER

The Labor Center, located in LRC 220, offers Labor Studies classes leading to an Associate in Arts Degree or Certificate of Completion. These classes cover a wide range of topics from labor law and workers rights to union organizing and strategic bargaining. The Labor Center also develops and sponsors short-term college credit and non-credit classes off campus, as well as seminars, workshops, guest lectures and other appropriate training sessions in labor education and Labor Studies. Classes and programs are held both on campus and off site at union halls and community organizations. Students can register by mail, online, on site in class or at the Labor Center Office.

The Labor Center maintains strong relationships with leaders of organized labor and the community. This includes the active participation of a broad based advisory board. These leaders help promote participation in the Labor Studies program, and assure evaluation and feedback from the private sector to help shape future programs. The Labor Center staff also advise Labor Studies students and prospective students. The Labor Center maintains a collection of labor video-tapes and DVDs available for free loan.

PROGRAM OVERVIEW

Labor Studies is designed to train students, union leaders, human relations professionals, and workers in the practical, applied skills and up-to-date knowledge of labor relations and for positions in labor and trade union leadership. Employees in labor and human relations can develop career skills and prepare for positions or advancement in labor unions, labor relations, human relations and government.

Leaders of union organizations come from the same occupations and professions as the members they represent. This ranges from teachers and fire fighters, to electricians, janitors and office workers. Seldom, if ever, are they trained in the skills required for effective union leadership prior to assuming leadership positions. Usually, they learn by experience. The Labor Studies program offers classes in the practical applied skills needed for effective union representation, including negotiations, labor law and workers rights, and grass roots political campaign work, to name a few. The instructors are all experts who are active in the field.

The Labor Studies Program offers the following alternative patterns of learning: 1) courses may be completed as desired to develop specific skills to meet the needs of the individual student; 2) courses may be completed to meet the requirements of the Associate degree; 3) courses may be completed to meet the 24 units required to earn the Certificate of Completion in Labor Studies.

The Associate in Arts Degree requirements may be met by successfully completing 36 units of Labor Studies classes (which must include at least 18 units of required 3-unit Labor Studies courses) and 18 units of required general education courses specified in Plan B. These Labor Studies classes are often given in cooperation with organized labor and held off site in union halls with free parking. Students may earn a Certificate of Completion by successfully completing 24 units of Labor Studies classes, which must include at least 15 units of required, 3-unit courses.

Due to a projected 17% growth rate in labor relations and thousands of recently organized new union members in the Los Angeles area, industry experts project expanded employment opportunities for union grievance representatives, organizers and communications experts. Additionally, job opportunities are available in human relations, civil service, and government employment. Areas of concentration in labor include labor law and workers rights, bargaining and leadership skills, member mobilization and communication, and knowledge of grass roots campaign activities.

Upon successful completion of Labor Studies classes, the student will have a greater understanding of the contributions of labor and the necessary skills for union leadership. This is particularly applicable to Los Angeles, with 340 local unions with a combined membership approaching one million union members.

Students who complete the requirements for the Associate Degree in Labor Studies will have a working knowledge of labor organizations, their structure, philosophy and day to day operation. Graduates will be qualified for positions in labor organizations, human relations, and government.

LABOR STUDIES

■ Associate in Arts Degree

To fulfill the 36-unit Labor Studies major requirement, students must earn at least 18 of the 36 units by successfully completing "Required Courses" listed below.

COMPLETE MINIMUM 6 COURSES FROM THE FOLLOWING REQUIRED COURSES

	UNITS
LABR ST 1 U.S. Labor History	3
LABR ST 2 Collective Bargaining	3
LABR ST 3* Labor Relations Law	3
LABR ST 4 Labor in America	3
LABR ST 5* Grievance and Arbitration	3
LABR ST 6* Labor Community Services	3
LABR ST 7 Labor and Political Action	3
LABR ST 8 Labor in the Global Economy	3
LABR ST 9 Union Organizing Strategies	3
LABR ST 10 Workplace Gender and Race Issues	3

LABR ST 11	Labor in the Public Sector	3
LABR ST 12	Building Strong Unions	3
LABR ST 13*	Union Leadership	3
LABR ST 15	Workplace Health and Safety	3
LABR ST 16	Leadership for Change	3
LABR ST 20*	Labor Law	3
LABR ST 21*	The Working Class in Cinema	3
UNITS		18-36
CORE ELECTIVES		0-30
TOTAL UNITS		36

Note: A maximum of 18 units of recommended electives in Labor Studies may replace 6 of the required Labor Studies courses.

RECOMMENDED ELECTIVES

RECOMMENDED ELECTIVES		UNITS
LABR ST 101	Introduction to Unions	1
LABR ST 102*	Contract Negotiations Skills	1
LABR ST 103*	Labor Law Update	1
LABR ST 104*	Current Issues for Labor	1
LABR ST 105*	Grievance Handling Skills	1
LABR ST 106*	Labor and Disaster Relief	1
LABR ST 107*	Political Action Skills	1
LABR ST 108	Labor and Globalization	1
LABR ST 109	Union Building Strategies	1
LABR ST 110	Workplace Diversity	1
LABR ST 111	Labor Education Techniques	1
LABR ST 112	Strategic Planning for Unions	1
LABR ST 113*	Union Leadership Skills	1
LABR ST 114*	Workers' Legal Rights	1
LABR ST 115	Health and Safety Seminar	1
LABR ST 116	New Strategies for Labor	1
LABR ST 118*	Employee Benefit Plans	1
LABR ST 119*	Union Organizing	1
LABR ST 120	Union Issues for Women Workers	1
LABR ST 121	Labor Communications	1
LABR ST 122	Framing Labor's Message	1
LABR ST 124*	Combating Workplace Violence	1
LABR ST 125*	Labor Arbitration	1
LABR ST 126*	Issues in Labor Arbitration	1
LABR ST 127*	Workers' Compensation	1
LABR ST 128	Sexual Harassment and Discrimination	1
LABR ST 130	Immigration and Labor	1
LABR ST 132	Strategic Bargaining Techniques	1
LABR ST 134*	California Workers' Rights	1
LABR ST 136*	When the Paycheck Stops	1
LABR ST 185*, 285, 385	Directed Study - TBA	1/2/3

*Repeatable for credit but may only be applied once to AA degree or Certificate of Completion.

COOPERATIVE WORK EXPERIENCE

COOP ED 911	Work Experience in Major I	1
COOP ED 921	Work Experience in Major II	2
COOP ED 931	Work Experience in Major III	3
COOP ED 941	Work Experience in Major IV	4

NOTE: A maximum of 6 units of COOP ED may be applied to meet the 36 units AA Degree requirement in Labor Studies.

LABOR STUDIES

■ Certificate of Completion

The Certificate requirements may be met by successfully completing 24 units in Labor Studies courses (Including a minimum of 15 units of required courses). Students who complete the requirements for the Certificate of Completion in Labor Studies will have developed practical skills in representation, negotiations, advocacy, and problem solving at the workplace.

Students who earn a Certificate will be qualified for entry level positions in labor, industry, and government.

A maximum of 3 units of COOP ED may be applied to meet the 24 units Certificate requirement in Labor Studies.

LABOR STUDIES

■ COURSE DESCRIPTIONS

1 U.S. LABOR HISTORY (3) CSU

Lecture: 3 hours

A neglected yet critical element of American History is the fascinating struggle by American workers for justice and equality. Tracing the origins and growth of the American labor movement from the craft guilds to industrial unions to public sector organizations, this course will analyze Labor's challenges into the twenty first century.

2 COLLECTIVE BARGAINING (3) CSU

Lecture: 3 hours

The central component of American labor relations is the collective bargaining agreement. Negotiating and enforcing a contract are the union's most critical tasks. Topics include strategy, tactics, tricks of the trade, preparation of bargaining demands, impasse, contract language, and mock bargaining.

3 LABOR RELATIONS LAW (3) RPT1 CSU

Lecture: 3 hours

Instruction is given in how labor relations law impacts the rights and obligations of workers, unions and employers in the workplace. Focus is placed on the national labor relations act, including: (1) employee organization rights; (2) unfair labor practices (employer and union); (3) union representation election procedures; (4) NLRB structure and operation; (5) the collective bargaining process.

4 LABOR IN AMERICA (3) CSU

Lecture: 3 hours

This course tackles the sweeping changes facing working men and women brought about by global economics and national policies. Labor's political program, new organizing techniques, immigrant workers and more are covered in this broad and cutting edge class. This course meets the GE requirement for American Institutions and U.S. History in both Plan A and B.

5 GRIEVANCE AND ARBITRATION PROCEDURES (3) RPT 1 CSU

Lecture: 3 hours

The union contract is a powerful tool to defend worker and union rights. But enforcing the contract is an ongoing and difficult job. This step-by-step class on the union grievance and arbitration process will cover the full range of responsibilities of grievance handling and arbitration. This course is designed to help union officers and stewards develop the confidence and skills to enforce the contract effectively.

6 LABOR COMMUNITY SERVICES (3) RPT2 CSU

Lecture: 3 hours

Unions are critically valuable civic resources. This class prepares union staff and stewards to help members in need. Financial assistance, legal services, mortgage relief, debt counseling, and food and banks are some of the topics covered. Excellent training for union "counselors."

7 LABOR AND POLITICAL ACTION (3) CSU

Lecture: 3 hours

This course will examine legislation, lobbying, and campaign techniques, precinct walking, campaign contributions, election laws, and the voting pattern of union workers. The foundation of American labor's political philosophy and practices is explored in this course.

8 LABOR IN THE GLOBAL ECONOMY (3) CSU

Lecture: 3 hours

Instruction is given on how labor and the labor movement affect wages and working conditions, the economic forces affecting the labor market, the conditions of employment, and collective bargaining. An examination of wage rates, productivity, inflation, multinational companies is explored.

9 UNION ORGANIZING STRATEGIES (3) CSU

Lecture: 3 hours

This course emphasizes on how unions organize new workers to gain market share and power and mobilize their members to effectively counter employer strategies. Students will learn basic skills and techniques needed to organize new workers, build and strengthen their ranks, and learn about relevant laws and winning strategies.

10 WORKPLACE GENDER AND RACE ISSUES (3) CSU

Lecture: 3 hours

This course studies legal framework and strategies to combat discrimination and promote diversity and equal opportunity as an asset for more effective workplace and stronger unions. Skills learned include overcoming workplace divisions by developing respect for differences based on race, sex, ethnicity, disability, age, and sexual orientation.

11 LABOR IN THE PUBLIC SECTOR (3) CSU

Lecture: 3 hours

This course covers public employment practices, policies, laws and labor relations at the federal, state and local levels. It also addresses the importance of the public sector to the quality of public service, public policy, the future of government. Topics covered include issues and challenges faced by public sector workers and their unions.

12 BUILDING STRONG UNIONS (3) CSU

Lecture: 3 hours

Unions are complex and sophisticated organizations, requiring effective leadership skills and techniques to successfully manage. The course will examine techniques for successful union administration, including strategic planning, goal setting, effective communication techniques, budgeting, team building, staff development, supervision, problem solving, and increasing member participation.

13 UNION LEADERSHIP (3) RPT1 CSU

Lecture: 3 hours

Unions are democratic organizations. Effective union leadership requires many diverse skills such as administering bargaining and enforcing the contract, communicating with members, interacting with the media, working with political and civic leaders. This course will help students understand what it takes and what's at stake in running a labor organization.

15 WORKPLACE HEALTH AND SAFETY (3) CSU

Lecture: 3 hours

Unions can be powerful advocates for a safe and healthy workplace. Students learn to become health and safety resource people. Topics covered are hazard identification, controls, legal rights and outside resources. Students will develop skills in communication, problem solving, and group decision making to handle health and safety issues at the workplace.

16 LEADERSHIP FOR CHANGE (3) CSU

Lecture: 3 hours

This course focuses on skills and techniques necessary to lead and manage organizational change in unions. Instruction is given on how making "strategic choices" develops organizational capacity and industry leverage today, and how a leadership development program that includes diversity is the key to the future of labor. Timely reviews of current issues in labor law, collective bargaining, union grievance and arbitration are covered.

20 LABOR LAW (3) RPT 3 CSU

Lecture: 3 hours

This class focuses on federal and California labor law. Overview is given on federal labor laws, such as the railway labor act, the fair labor standards act; the employee retirement income security act, the labor-management reporting and disclosure act, a brief examination of state and local labor laws for public employees is also covered.

21 THE WORKING CLASS IN CINEMA (3) RPT1 CSU

Lecture: 3 hours

This course will combine the study of America's working class and how Hollywood portrays their experience through film. Using classic films such as On the Water Front, The Grapes of Wrath and many other, students will look at how Hollywood depicts such things as class, racial and gender roles and divisions in American working-class life, as well as how history shapes the present and future.

101 INTRODUCTION TO UNIONS (1) CSU

Lecture: 1 hour

Overview of union impact on wages, benefits, working conditions and public policies by industry. Surveys basic union structures, operation and governance.

102 CONTRACT NEGOTIATIONS SKILLS (1) RPT3 CSU

Lecture: 1 hour

The course teaches the basic tactics and skills needed for union contract negotiations. It covers preparation of demands, negotiations strategies and tactics, contract language, and major bargaining trends. Students will integrate techniques learned and apply to real life situations in hands-on, "mock" bargaining.

103 LABOR LAW UPDATE (1) RPT3 CSU

Lecture: 1 hour

This course studies applied labor relations law including the legal rights and obligations of employees, the relationships of unions and employers, the structure and procedures of government regulatory agencies, employee rights to organize, picket and strike, and the interpretation and application of collective bargaining agreements.

104 CURRENT ISSUES FOR LABOR (1) RPT3 CSU*Lecture: 1 hour*

Challenges to the American Labor Movement including: new corporate structures, global markets, immigration patterns and the changing nature of work in America. Surveys the extensive structural changes in the Labor Movement such as the change to win split from AFT-CIO, union mergers and consolidations.

105 GRIEVANCE HANDLING SKILLS (1) RPT3 CSU*Lecture: 1 hour*

Designed for union stewards and staff, this course is a step-by-step approach to handling disciplinary grievances and union contract interpretation cases. Topics include investigating and writing grievances, documenting evidence, evaluating cases, and settlement techniques. Duty of fair representation, Weingarten rights, and using the grievance process for union building are also discussed.

106 LABOR AND DISASTER RELIEF (1) RPT 3 CSU*Lecture: 1 hour*

This course offers specialized training and current information for labor representatives interested in aiding and assisting members in need. Instruction is given on how to provide relief in the event of earthquakes, floods and other natural disasters. Survey of public and private helping agencies is also explored.

107 POLITICAL ACTION SKILLS (1) CSU*Lecture: 1 hour*

This course is a primer for union activists. Survey of grassroots political organizing strategies, including phone banks, precinct walks, polling, GOTV, vote-by-mail campaigns, and overview of campaign financing laws that apply to unions are covered in this course. Discussions of issues development, communications, and other effective strategies and techniques to win are also a part of the instruction in this course.

108 LABOR AND GLOBALIZATION (1) CSU*Lecture: 1 hour*

The world economy is changing with dramatic consequences for American workers. This course explores the financial and political forces behind these changes and America's transition from an industrial to a service economy with emphasis on migration, immigration, taxes and the distribution of income.

109 UNION BUILDING STRATEGIES (1) CSU*Lecture: 1 hour*

Internal organizing is essential to maintaining effective representation and bargaining leverage. Techniques to inform and mobilize members are explored in this course. The value of one-on-one communications and effective committee structures, and the organizing model of unionism are also discussed.

110 WORKPLACE DIVERSITY (1) CSU*Lecture: 1 hour*

Instruction is given on the process of identifying and overcoming gender and race divisions and discrimination in the workplace. This class will explore changing laws and attitudes and the value of understanding and respecting different life experiences among various cultures.

111 LABOR EDUCATION TECHNIQUES (1) CSU*Lecture: 1 hour*

This course teaches specific techniques used by unions and social movements such as role playing and popular education and basic education topics such as curriculum development, adult teaching theory and assessment skills.

112 STRATEGIC PLANNING FOR UNIONS (1) CSU*Lecture: 1 hour*

This course is designed to teach union leaders on how to move from operating in a crisis driven environment to a union administration capable of long term planning, delegation of authority, effective communications, and a proactive approach to change.

113 UNION LEADERSHIP SKILLS (1) RPT3 CSU*Lecture: 1 hour*

Designed for union activists, stewards, staff and officers, this course examines the critically important qualities and skills required to lead. Classes will focus on such topics as negotiations, communications and more.

114 WORKERS' LEGAL RIGHTS (1) RPT3 CSU*Lecture: 1 hour*

Students will learn about basic employee rights and employer obligations in such increasingly important areas as workplace privacy, rights to leaves, accommodations for permanent and temporary disabilities (including pregnancy), as well as protections against wrongful discharge. Also, how union contracts work to expand these rights for workers is discussed.

115 WORKPLACE HEALTH AND SAFETY (1) CSU*Lecture: 1 hour*

Instruction is given on how to analyze and address current health and safety issues in the workplace such as job stress, understaffing, hazardous waste, ergonomic problems, and diseases including AIDS. Students will learn about hazard identification, legal rights, government agencies and outside resources.

116 NEW STRATEGIES FOR LABOR (1) CSU*Lecture: 1 hour*

Labor is challenged by the world economy, mega-corporations and privatization. This course explores image and communication strategies. Topics covered include labor solidarity, media, community and political campaigns, strategic organizing, international solidarity and organizing immigrants.

118 EMPLOYEE BENEFIT PLANS (1) RPT3 CSU*Lecture: 1 hour*

A comprehensive examination of employee health and retirement benefits is explored in this course. Topics include how employee health and retirement benefits work, how they are funded, how workers can improve their security, the role of labor in bargaining and preserving benefits, proposed benefit changes and the issues and political forces framing the debate.

119 UNION ORGANIZING (1) RPT1 CSU*Lecture: 1 hour*

New approaches and techniques for educating the changing workforce about unions are explored. Analysis of the changing workforce, the power within an industry, issues of women and immigrant workers, effective communications, and taking concerted action is studied.

120 UNION ISSUES FOR WOMEN WORKERS (1) CSU*Lecture: 1 hour*

This course will address leadership and union building among women and issues of sexism, racism, wage inequities, workplace and sexual harassment, stereotyping, temporary work, and meeting family needs.

121 LABOR COMMUNICATIONS (1) CSU*Lecture: 1 hour*

Modern techniques for unions to communicate effectively with members, prospective members, employers, media, public officials, citizens groups and the general public, coordinated campaigns, new strategies and tactics, and image building.

122 FRAMING THE MESSAGE FOR LABOR (1) CSU*Lecture: 1 hour*

Hands-on techniques to communicate effectively with union members, prospective members, staff, and the media to strengthen the union by more effectively disseminating information are covered. Topics studied include memos, newsletters, leaflets, direct mail, press releases, interviewing skills, style, content and media presentation.

124 COMBATING WORKPLACE VIOLENCE (1) RPT1 CSU*Lecture: 1 hour*

This course provides an overview of violence in the workplace, including incidence, social causes, profiles of homicidal individuals, legal issues, organizational influences, costs, desirable and undesirable employee relations practices, union considerations, prevention, and trauma response programs.

125 LABOR ARBITRATION (1) RPT3 CSU*Lecture: 1 hour*

This course examines the process of labor arbitration, including background of arbitration, preparation of cases, selection, duties, scope and cost of arbitrators, typical cases, presentation cases, how arbitrators decide cases, settlement techniques and effective use of arbitration.

126 ISSUES IN LABOR ARBITRATION (1) RPT3 CSU*Lecture: 1 hour*

This course is an overview of two major issues of arbitration, discipline and discharge and contract interpretation cases. It covers just cause, absenteeism, insubordination, substance abuse, theft/dishonesty, standards for interpreting contract language, case studies on discipline, discharge and contract interpretation are included.

127 WORKERS' COMPENSATION UPDATE (1) RPT3 CSU*Lecture: 1 hour*

This course examines California workers' compensation including the purpose, financing and administration of the program, entitlement to benefits ranging from partial to total, temporary and permanent, medical care, rehabilitation, eligibility criteria, how to file a claim, appeals procedures, and new legislation.

128 SEXUAL HARASSMENT AND DISCRIMINATION (1) CSU*Lecture: 1 hour*

This topical subject will be sensitively and thoroughly examined to prepare union representatives to meet their responsibilities. Ways to identify and prevent discrimination and harassment will be explored. The employer's and the union's role are also discussed.

130 IMMIGRATION AND LABOR (1) CSU*Lecture: 1 hour*

This course is a historical and current day study of how race, national origin, class, gender and other factors shape U.S. labor markets, citizenship and immigration policy. Students will learn how domestic and global forces have shaped this history. The class will assess and explore immigration and citizenship strategies.

132 STRATEGIC BARGAINING TECHNIQUES (1) CSU*Lecture: 1 hour*

This course covers the analysis of various social, economic, and political conditions that affect the application of the basic elements of collective bargaining to the development and application of appropriate negotiations strategies and tactics.

134 CALIFORNIA WORKERS' RIGHTS (1) RPT3 CSU*Lecture: 1 hour*

A student who takes this course will learn the basics of wage and hour law under both federal and California law as well as a host of employee rights and employer obligations arising under both the California labor code and the various California wage orders.

136 WHEN THE PAYCHECK STOPS (1) RPT2 CSU*Lecture: 1 hour*

Union representatives occasionally must counsel members when the paycheck stops due to strikes, layoff, or plant closure. This course overviews professional services available for referral and teaches strategies for negotiating with landlords, mortgage companies, utility companies and other creditors.

185 DIRECTED STUDY - LABOR STUDIES (1) RPT2 CSU**285 DIRECTED STUDY - LABOR STUDIES (2) CSU****385 DIRECTED STUDY - LABOR STUDIES (3) CSU***Conference: 1 hour per unit*

These courses allow students to pursue directed study in Labor Studies on a contract basis under the direction of a supervising instructor.

Credit Limit: A maximum of 3 units in Directed Study may be taken for credit

COOPERATIVE WORK EXPERIENCE EDUCATION CSU

Labor Studies is approved for cooperative work experience education credit. See Cooperative Education courses for prerequisites, course description and credit limits. A maximum of 3 units of work-experience may be used to meet the Labor Studies Certificate requirement, and 6 units to meet the Labor Studies AA Degree requirement.

LEARNING SKILLS / ESL

Los Angeles Trade-Technical College offers a variety of classes designed to support students in achieving both academic and personal success. We encourage you to take advantage of our offerings in the following areas:

ENGLISH AS A SECOND LANGUAGE

PROGRAM OVERVIEW

The English as a Second Language (ESL) program consists of core and elective ESL offerings which include conversation and writing classes. All courses offered under the ESL discipline are designed for students whose native language is not English. Upon completion, students will have improved English skills and be better prepared to transfer to college level English classes.

ENGLISH AS A SECOND LANGUAGE

COURSE DESCRIPTIONS

1 INTEGRATED SKILLS (12) CR/NCR NDA

Lecture: 12 hours

This is an intensive multi-skills beginning level course introducing simple grammatical structures, vocabulary, simplified reading material, and conversational sentences relating to topics presented.

2 INTEGRATED SKILLS (12) CR/NCR NDA

*Prerequisite: ESL 1 with a grade of "CR" or placement process.
Lecture: 12 hours*

This is a higher beginning level class in which review of basic material is very strongly emphasized. Students practice basic speaking, listening, and grammar, high-beginning level reading, and pre-paragraph writing of strings of five to ten sentences.

3A WRITING AND GRAMMAR (6) (CSU)

*Prerequisite: ESL 2 with a grade of "CR" or placement process.
Lecture: 6 hours*

Students continue to learn good sentence writing, which includes basic punctuation and grammar. Students are also introduced to beginning level paragraph writing. ESL 3A is part of a sequence of ESL writing courses that prepare students for college level composition.

3B READING AND VOCABULARY (3) (CSU)

*Prerequisite: ESL 2 with a grade of "CR" or placement process.
Lecture: 3 hours*

In this class, students learn and review low-intermediate level English reading skills including previewing, skimming, scanning, identifying the main idea, understanding simple charts and graphs, and basic dictionary skills. Students learn new vocabulary and practice figuring out new words from the context of the surrounding sentence.

3C LISTENING AND SPEAKING (3) (CSU)

*Prerequisite: ESL 2 with a grade of "CR" or placement process.
Lecture: 3 hours*

This is a low-intermediate level class in which students learn to understand and practice following directions spoken at normal speeds on topics and functions related to everyday communication in the academic and employment world. Listening practice discriminates between statements of fact and opinion, questions and commands. Speaking practice will produce short answers and simple sentences expressing fact and personal opinion.

4A WRITING AND GRAMMAR (6) (UC:CSU)

*Prerequisite: ESL 3A with a grade of "C" or better or placement process.
Lecture: 6 hours*

In this course, students continue to study grammar, sentence writing and paragraph writing, and move forward to producing simple essays. ESL 4A is part of a sequence of ESL writing courses that prepare students for college level composition.

4B READING AND VOCABULARY (3) (UC:CSU)

*Prerequisite: ESL 3B with a grade of "C" or better or placement process.
Lecture: 3 hours*

Students review the skills learned in 3B and practice new intermediate level skills, including taking notes on readings and summarizing main ideas from notes, understanding the concept of outlining and filling in partial outlines, distinguishing the difference between fact and opinion in readings, and expanded dictionary skills. Students also learn new vocabulary, including the various forms (noun, verb, adjective and/or adverb) of new words.

4C LISTENING AND SPEAKING (3) (UC:CSU)

*Prerequisite: ESL 3C with a grade of "C" or better or placement process.
Lecture: 3 hours*

This is an intermediate level course whereby students learn to identify and understand standard English spoken by various voices. Listening practice discriminates among verb tenses. Speaking practice will produce statements and questions in the appropriate verb tenses. Students learn to interpret American culture through body language and common idioms. Students will give brief presentations.

5A WRITING AND GRAMMAR (6) (UC:CSU)

*Prerequisite: ESL 4A with a grade of "C" or better or placement process.
Lecture: 6 hours*

Students consolidate grammar and paragraph writing skills. They also practice writing organized, well-developed essays. ESL 5A is part of a sequence of courses that prepare students for college level composition.

5B READING AND VOCABULARY (3) (UC:CSU)

Prerequisite: ESL 4B with a grade of "C" or better or placement process.
Lecture: 3 hours

Students review the skills learned in 4B and practice new high-intermediate level skills, including understanding inferences, taking notes and organizing them into a complete outline, writing and presenting a summary and reader response, basic library skills, and strategic reading skills for the purpose of test-taking. Students also learn new vocabulary, and learn to use prefixes and suffixes as an aid to understanding new words.

5C LISTENING AND SPEAKING (3) (UC:CSU)

Prerequisite: ESL 4C with a grade of "C" or better or placement process.
Lecture: 3 hours

In this high-intermediate class, students learn to communicate in everyday situations in the real world using expected probes and responses. Students will understand difference in meaning expressed through spoken intonation and non-verbal communication. Students will orally improvise in conversational situations and will make brief formal presentations. Students will become familiar with idiomatic expressions.

6A WRITING AND GRAMMAR (6) (UC:CSU)

Prerequisite: ESL 5A or English 64 with a grade of "C" or better or placement process.
Lecture: 6 hours

Students practice prewriting, editing, and rewriting skills that will lead to organized, well developed essays. A short research paper is also included. ESL 6A is part of sequel of ESL writing courses that leads to college level composition.

8 ADVANCED ESL COMPOSITION (6) (UC:CSU)

Prerequisite: ESL 6A or English 21 with a grade of "C" or better or placement process.
Lecture: 6 hours

This is an advanced course in written composition and critical reading skills. It is a prerequisite to English 101. The emphasis is on writing based primarily on critical reading and secondarily on life experiences. Advanced grammar skills are emphasized throughout each lesson.

7C SPEAKING AND LISTENING (AMERICAN ACCENT TRAINING) (3) NDA

Prerequisite: ESL 3 (A, B or C) or placement process.
Lecture: 3 hours

This course provides intermediate level practice in improving the pronunciation of spoken English by non-native speakers. Students develop an American pronunciation pattern so that greater clarity is achieved.

10 ENGLISH GRAMMAR AND SENTENCE PATTERNS (3) NDA

Prerequisite: ESL 3A with a grade of "C" or better
Lecture: 3 hours

This course is an intermediate level course that focuses on English sentence patterns, which inherently teach punctuation and sentence structure. There will also be a strong emphasis on grammar, particularly verb tenses.

11 IDIOMS FOR ENGLISH LANGUAGE CONVERSATION (3) NDA

Prerequisite: ESL 3 (A, B or C) with a grade of "C" or better
Lecture: 3 hours

In this intermediate level course, ESL students expand their ability to understand and use naturally spoken American English through idiom study and conversation practice.

LEARNING SKILLS

PROGRAM OVERVIEW

The Learning Skills program offers basic skills and developmental courses in reading, writing, mathematics, spelling, English as a Second Language (ESL), basic computer literacy, study skills, developmental communications and GED preparation. To accommodate individual learning styles, a combination of lecture and computer-assisted courses are offered. Classes are available throughout the semester in both short-term and long-term formats. For more information, please contact the Learning Skills Center at (213) 763-3738, or visit C-102.

LEARNING SKILLS

COURSE DESCRIPTIONS

1 READING (3) RPT3 NDA

Lab: 9 hours

Students will learn a variety of strategies to increase their comprehension of college level reading materials. Students will learn how to use context clues to determine the meaning of unfamiliar words and to increase critical thinking skills. Study skills and critical thinking skills will be developed.

1A READING – (BEGINNING) (1) RPT3 NDA

Lab: 3 hours

Students will progress from reading paragraphs to short selections, applying a variety of strategies to increase comprehension of beginning reading materials including informational and expository text. Students will also gain understanding of word origins and relationships to determine the meaning of vocabulary and to increase critical thinking skills. Study skills are also covered.

1B READING – (INTERMEDIATE) (1) RPT3 NDA

Lab: 3 hours

Students will read short selections and apply a variety of strategies to improve understanding and comprehension of intermediate level reading materials. Students will learn about word origins and relationships to help develop their vocabulary and increase their critical thinking skills.

1C READING – (ADVANCED) (1) RPT3 NDA

Lab: 3 hours

Students will analyze and critique the organizational patterns, arguments, and positions of advanced level reading materials. They will also be exposed to the use of analogies, and learn to analyze word comparisons, relationships, and inferences. Inferential comprehension and vocabulary development will also be covered.

2 ENGLISH FUNDAMENTALS (3) RPT3 NDA

Lab: 9 hours

This course covers standard English writing conventions and language structure including grammar, punctuation, capitalization, spelling mechanics and sentence and paragraph structure. Students will learn to use the stages of the writing process, such as pre-writing, drafting, revising, and editing successive versions to assist them in writing clear and coherent sentences, focused paragraphs, and short essays. Students will apply organizational, evaluation, and revision strategies for vocational and academic writing.

2A ENGLISH FUNDAMENTALS – (BEGINNING)(1) RPT3 NDA*Lab: 3 hours*

This course covers standard English writing conventions and language structure including grammar, punctuation, capitalization, spelling mechanics and sentence structure. Students learn how to write simple, compound and complex sentences.

2B ENGLISH FUNDAMENTALS – (INTERMEDIATE) (1) RPT3 NDA*Lab: 3 hours*

This course covers standard English writing conventions and language structure including grammar, punctuation, capitalization, spelling mechanics and sentence and paragraph structure. Students will learn to use the stages of the writing process, such as prewriting, drafting, revising, and editing successive versions to assist them in writing clear, coherent, and focused paragraphs.

2C ENGLISH FUNDAMENTALS – (ADVANCED) (1) RPT3 NDA*Lab: 3 hours*

This course covers the stages of the writing process, such as pre-writing, drafting, revising, and editing successive versions to assist students in writing short essays. Students will apply organizational, evaluation, and revision strategies for vocational and academic writing.

4 SPELLING (1) RPT3 NDA*Lab: 3 hours*

Students will receive individualized, small group or computer-assisted instruction in spelling based on diagnostic assessment results. Students' strengths and weaknesses will determine program content.

5 ENGLISH AS A SECOND LANGUAGE FUNDAMENTALS (1) RPT3 NDA*Lab: 2 hours*

Students will participate primarily in simple oral and basic written English communications, moving from exercises in polite phrases to generating basic conversations. Emphasis is on vocabulary building and simple structures for speech and writing.

10 MATH (3) RPT3 NDA*Lecture: 1 hour; Lab: 4 hours*

Students will receive individualized, small group or computer-assisted instruction designed to build skills for entry into basic math classes and other college courses. The course covers addition and subtraction of whole numbers up to pre-algebra and geometry.

10A MATH FUNDAMENTALS – (BEGINNING)(1) RPT3 NDA*Lecture: 1 hour*

This basic math course covers addition and subtraction of whole numbers, progressing into multiplication and division.

10B MATH FUNDAMENTALS – (INTERMEDIATE) (1) RPT3 NDA*Lab: 2 hours*

This basic math course covers operations involving fractions, decimals and word problems.

10C MATH FUNDAMENTALS – (ADVANCED) (1) RPT3 NDA*Lab: 2 hours*

This basic math course covers practice with word problems and math concepts leading to an introduction to algebra and geometry.

16 MATH ANXIETY (1) RPT3 NDA*Lab: 2 hours*

This course will help students develop skills to overcome math anxiety and achieve success in mathematics courses. Topics include discovering math learning styles, reducing math anxiety, improving math study skills, and improving math test taking skills.

20 EFFECTIVE NOTETAKING (1) NDA*Lab: 3 hours*

Students will learn to employ effective note-taking principles and strategies. Emphasis is on listening skills; understanding main ideas, details, and sequence; and overcoming lecture digressions.

21 TEST TAKING FOR COLLEGE SUCCESS (1) RPT 3 NDA*Lab: 3 hours*

Students will develop test taking skills and strategies to overcome test anxiety and achieve academic success. Topics to be covered are study schedules, study tools and techniques for test taking, test taking routines, strategies to alleviate test anxiety, and memory strategies for successful test taking.

36 READING FOR COLLEGE SUCCESS (3) RPT1 NDA*Lab: 6 hours*

This course covers vocabulary development, critical reading and comprehension skills. Time management, study skills, memorization techniques and note-taking are also covered.

36A READING FOR COLLEGE SUCCESS: LITERAL LEVEL (1) RPT1 NDA*Lab: 2 hours*

This course focuses on literal reading comprehension skills and vocabulary development. Students will be able to identify, classify, and sequence directly stated main ideas, details, and facts from a variety of written materials.

36B READING FOR COLLEGE SUCCESS: INFERENTIAL LEVEL (1) RPT1 NDA*Lab: 2 hours*

This course helps develop inferential reading comprehension skills and strategies, allowing students to move beyond stated ideas as they appear on the printed page and helping them to draw conclusions based on unstated information.

36C READING FOR COLLEGE SUCCESS: CRITICAL LEVEL (1) RPT1 NDA*Lab: 2 hours*

This course emphasizes critical reading in which students learn how to identify, examine and describe advanced level abstract themes and ideas.

40 INTRODUCTION TO LEARNING DISABILITIES (1) RPT3 NDA*Lab: 3 hours*

This course consists of individualized diagnostic assessment procedures administered to students with suspected learning disabilities. Students with learning disabilities will identify strengths and weaknesses in achievement and learning skills. Individual educational plans are developed outlining goals, objectives, strategies, and recommendations.

41 STUDY STRATEGIES FOR STUDENTS WITH LEARNING DISABILITIES (3) RPT3 NDA*Lab: 3 hours*

This course is designed to assist students with identified learning disabilities develop strategies to cope with the demands of the regular classroom environment. Topics covered include developing and enhancing study skills, understanding learning disabilities, and accessing support services both on and off campus.

57 LEARNING STRATEGIES FOR MATH SUCCESS (1) RPT3 NDA*Lecture: 1 hour*

This course will help students develop skills to overcome math anxiety and achieve success in mathematical courses. Topics include discovering math learning styles, reducing math anxiety, improving math study skills, and improving math test taking skills.

58 TEST TAKING FOR COLLEGE SUCCESS (1) RPT2 NDA*Lecture: 1 hour*

Students will develop test taking skills and strategies to overcome test anxiety and achieve academic success. Topics include time management, study tools and techniques for test taking, test taking routines, strategies to alleviate test anxiety, memory strategies and behavior modification for successful test taking.

62 GENERAL EDUCATION DEVELOPMENT (GED) PREPARATION: LANGUAGE, READING (1) RPT2 NDA*Advisory: Learning Skills 1B or College Placement Process**Lab: 3 hours*

This course is designed to prepare students to pass the General Education Development (GED) Language Arts, Reading test. The course includes, reading comprehension and critical thinking skills; interpretation of graphs; critical thinking skills and analysis of fiction, poetry, plays and commentaries.

63 GENERAL EDUCATION DEVELOPMENT (GED) PREPARATION: WRITING (1) RPT2 NDA*Advisory: Learning Skills 2B or College Placement Process**Lab: 3 hours*

This course is designed to prepare students to pass the General Education Development (GED) Writing Skills test. It includes basic grammar and usage skills, sentence structure, capitalization, punctuation, spelling, and essay writing.

64 GENERAL EDUCATION DEVELOPMENT (GED) PREPARATION: SCIENCE (1) RPT2 NDA*Advisory: Learning Skills 1B or College Placement Process**Lab: 3 hours*

This course is designed to prepare students to pass the General Education Development (GED) Science test. It includes biology, earth science, astronomy, geology, meteorology, chemistry, and physics.

65 GENERAL EDUCATION DEVELOPMENT (GED) PREPARATION: MATHEMATICS (3) RPT2 NDA*Advisory: Learning Skills 10B or College Placement Process**Lecture: 2 hours; Lab: 3 hours*

This course is designed to prepare students for the mathematics component of the General Education Development (GED) test. It covers operations with polynomials (addition, subtraction, multiplication and division linear and quadratic equations, and basic geometry.

66 GENERAL EDUCATION DEVELOPMENT (GED) PREPARATION: SOCIAL STUDIES (1) RPT2 NDA*Advisory: Learning Skills 1B or College Placement Process**Lab: 3 hours*

This course is designed to prepare students for the General Education Development (GED) Social Studies Test. Topics covered include U.S history, world history, civics and government, economics, and geography.

67 READING FOR COLLEGE SUCCESS (3) RPT 3 NDA*Recommended Preparation: Learning Skills 36 or Developmental Communications 23 or College Placement Process**Lecture 9 hours*

This course is designed to improve critical thinking and inferential reading comprehension. Students will learn critical thinking strategies, logical reasoning skills, and textbook critical reading methods. Students will solve analogy, logic problem, and sentence relationship exercises. Students will be required to evaluate arguments and formulate logical written explanations to substantiate their responses to reading questions and logic problems. This course also covers paragraph organization, and transitional word usage.

67A READING FOR COLLEGE SUCCESS: CRITICAL THINKING (3) RPT3 NDA*Recommended Preparation: Developmental Communications 23, Learning Skills 36, or College Placement Process**Lecture: 3 hours*

This course is designed to improve critical thinking, inferential reading comprehension and verbal reasoning skills. Students will apply these strategies by identifying the main idea, drawing valid inferences and conclusions, and summarizing paragraphs and short essays. Students will be required to evaluate arguments and formulate logical written explanations to substantiate all responses to reading questions and logic problems.

67B READING FOR COLLEGE SUCCESS: CRITICAL READING: (3) RPT3 NDA*Lecture: 3 hours*

This course is designed to improve critical reading and logical reasoning skills. Critical reading strategies and processes will be developed to help students employ logical reasoning to interpret, evaluate, and critically analyze reading selections. Students will apply these strategies by solving analogy, logic problem, and sentence relationship exercises.

67C READING FOR COLLEGE SUCCESS: TEXTBOOK CRITICAL READING (3) RPT3 NDA*Lecture: 3 hours*

This course is designed to develop textbook critical reading strategies. Students will analyze textbook selections; formulate objective and essay questions; prepare for tests using underlining, highlighting, and marginal note taking strategies; construct graphic organizers, and utilize strategies to organize main ideas and details.

68 STUDY SKILLS (1) RPT 3 NDA*Lecture: 1 hour*

This course prepares students to manage their learning experience and succeed at their educational goals. Students will be introduced to academic self-management, goal setting, time management, memory and concentration, note taking, textbook study systems, and test taking strategies.

AMERICAN SIGN LANGUAGE

PROGRAM OVERVIEW

This discipline currently offers courses to develop communication skills using the manual alphabet and American Sign Language to assist in gaining an understanding of deafness and deaf culture. Vocabulary, grammar dialogue, and the improvement of expressive and receptive skills are covered.

AMERICAN SIGN LANGUAGE

■ COURSE DESCRIPTIONS

1 AMERICAN SIGN LANGUAGE I (4) UC:CSU

Lecture: 4 hours

This is an introductory course to develop basic expressive and receptive skills in reading and signing the finger spelling and American Sign Language. The student will gain a basic understanding of the nature of deafness, and the educational, social, and political issues of deaf culture, as well as deaf awareness in our society.

2 AMERICAN SIGN LANGUAGE II (4) UC:CSU

Lecture: 4 hours

This is an intermediate course in American Sign Language with special emphasis on vocabulary, grammar dialogue, and on the improvement of expressive and receptive skills. This course includes exposure to deaf culture and the history of sign languages.

DEVELOPMENTAL COMMUNICATIONS

PROGRAM OVERVIEW

Courses in Developmental Communications assist under-prepared college students to master the reading, writing mathematics, and life skills necessary to achieve a level of academic competence to perform successfully in their college level courses and to move as quickly as possible through their Individual Learning Plan.

DEVELOPMENTAL COMMUNICATIONS

■ COURSE DESCRIPTIONS

28 FUNDAMENTALS OF READING LABORATORY (1) RPT 3 NDA

Lab: 2 hours

This course covers the fundamental features of reading essential to achieving fluent oral and silent reading. Students will apply phonics, syllabication, and word parts to read, spell and write multi-syllable words and sentences and identify the facts and ideas of what has been read, heard, or viewed. This course will introduce comprehension strategies to read and understand level-appropriate material.

30 PHONICS APPLIED TO SPELLING AND READING (3) RPT 3 NDA

Lecture: 3 hours

This course introduces students to letters, words, and sounds. Students will apply this knowledge to read and write simple sentences and identify the basic facts and ideas of what they have read, heard, or viewed. This class is appropriate for native English speakers as well as students who are learning English as a second language.

34 BASIC READING (3) RPT 3 NDA

Lecture: 3 hours

This course is designed to improve basic reading skills. Students will use various strategies to identify the subject matter, main idea, and supporting details of various reading selections. The second major emphasis is the fluency and systematic development of students' vocabulary skills.

35 READING I: FUNDAMENTALS (3) RPT2 NDA

Lecture: 3 hours

This course is designed to improved literal reading and thinking skills. Students will use various strategies to identify the subject matter, main idea, and supporting details of various reading selections. The second major emphasis is vocabulary building. Students will also work on reading rate improvement.

41 BEGINNING COMPUTER SKILLS (1) NDA

Lab: 2 hours

This course offers hands-on experience with computers, introducing students to basic computer literacy and providing instruction in keyboarding, word processing, and using the Internet.

LIBRARY SCIENCE / PERSONAL DEVELOPMENT

LIBRARY SCIENCE

Students seeking to effectively use library resources, both traditional and on-line, will benefit from these classes. Students who are required to prepare research papers, speeches, and other assignments where fact-finding and research is critical will especially benefit. For more information, please contact the Library at (213) 763-3950, or visit the Library and Learning Resources Center.

LIBRARY SCIENCE

COURSE DESCRIPTIONS

101 LIBRARY RESEARCH METHODS (1) CSU

Formerly Library Media/Technology 15

Lecture: 1 hour

This is an introductory course to research methods and library organization. Instruction is given in the use of reference materials, classification systems, the catalog, and specialized indexes. Focus is placed upon learning techniques for doing research.

PERSONAL DEVELOPMENT

Personal development classes are designed to help students develop the personal skills necessary to succeed in college; effectively utilize both on- and off-campus resources; enhance interpersonal relationships, and engage in effective career planning. For more information about Personal Development classes, please contact the Counseling Office at (213) 763-7354 or visit H-130.

PERSONAL DEVELOPMENT

COURSE DESCRIPTIONS

2 INTERPERSONAL RELATIONSHIPS (1) CSU RPT3

Lecture: 1 hour

This course utilizes a small group approach to the development of interpersonal skills, including acceptance of others as they are and the ability to listen in depth. An honest appraisal of individual strengths and weaknesses is made in an effort to help remove barriers to social and academic growth.

4 CAREER PLANNING (1) CSU

Lecture: 1 hour

This is an educational and vocational course designed to assist the undecided student to make a meaningful decision regarding a career goal. The course includes vocational interest tests, various self-appraisal techniques, and information regarding occupational characteristics, trends, entry level, and career ladder roles. Data presented will serve as an aid to career development and insights into a student's abilities, interests, values, and personality as they apply to decision-making and the selection of a firm career choice. Working with this information, students will develop a tentative educational and vocational plan.

5 COLLEGE SURVIVAL (2) CSU

Lecture: 2 hours

This course provides the student with information enabling him/her to succeed or survive in a college program. Emphasis will be placed on development of making informed decisions, study skills, productive time management, financial planning, an understanding of college terminology and utilization of college support services.

20 POST SECONDARY EDUCATION: THE SCOPE OF CAREER PLANNING (3) CSU

Lecture: 3 hours

This course is designed to assist students with educational and career goal decision-making, critical college requirements and services, study skills, and self-assessment of interests, values, and abilities.

22 THE TRANSFER PROCESS (1) UC:CSU

Lecture: 1 hour

This course is an introduction to the transfer process. It is designed to enable students to become active participants in planning their long-term educational and career goals and will provide students with an understanding of the process and the requirements for transferring to a four-year college or university. The course will consist of lecture, guest speakers and student assignments.



LIBERAL ARTS / HUMANITIES

LIBERAL ARTS

PROGRAM OVERVIEW

Students planning to transfer to a four-year college or university may choose the Associate in Arts degree with a major in Liberal Arts and Sciences by choosing one of the options listed below.

LIBERAL ARTS AND SCIENCES

■ Associate in Arts Degree

ASSOCIATES OF ARTS DEGREE – LIBERAL ARTS AND SCIENCES

The Liberal Arts degree is designed for students who desire a broad base of knowledge in the liberal arts and sciences. The Liberal Arts degree is one option for students who plan to transfer to a four-year university, including the California State University (CSU) or the University of California (UC).

The Liberal Arts degree consists of a core of general education units combined with 18 units chosen from ONE area of emphasis plus additional elective units to reach a total of 60 units.

To complete the degree students must:

- | | UNITS |
|---|-------|
| I. Choose one option for the General Education Core | UNITS |
| A. Los Angeles Trade-Technical College Graduation Plan A | 30 |
| OR | |
| B. CSU/GE | 39-41 |
| Minimum GE units required for CSU/GE Certification | |
| OR | |
| C. IGETC | 39-41 |
| Minimum GE units required for IGETC Certification | |
| II. Choose ONE Area of Emphasis | 18 |
| - Courses used to meet General Education requirements may NOT be used to complete requirements in the following areas of emphasis: Natural Sciences. | |
| - Courses taken to complete the Multiple Subject Teacher Prep option may be used to complete General Education Requirements. | |
| III. Complete any additional electives chosen from DEGREE APPLICABLE courses necessary to complete the 60 units required for the Associates of Arts Degree. | |
| IV. Complete all DEGREE APPLICABLE course work with a cumulative grade point average (G.P.A.) of "C" (2.0) or better | |

(Note: Students should be aware that not all courses on this list are offered every semester. Students should check with the department listing the course to verify when the course will be offered.)

Liberal Arts and Sciences: Emphasis in Natural Sciences

This area of emphasis examines the physical universe, its life forms, and its natural phenomena. Emphasis is placed on students using the methodologies of science as an investigative tool. The Natural Sciences area of emphasis allows the students to take courses that MAY satisfy lower-division requirements with the fields of science including Biology, Chemistry, Allied Health fields, Nursing preparation, Health Science and related fields, Kinesiology, Pre-Med, Dental Hygiene and more.

Students planning for transfer are cautioned that this curriculum may not provide for the completion of lower division requirements for transfer. Students should consult with a counselor for specific information regarding an intended major if transfer to a four-year university is a goal.

Degree Requirements in Natural Sciences: Complete 18 units of coursework from courses listed below. At least one course requiring lab work is required. Lab courses, marked with *, cannot apply in this area unless the lecture courses that are prerequisite or co-requisite to the lab courses are also taken.

Anthropology 101 – Human Biological Evolution (3)
 Astronomy 1 – Elementary Astronomy (3)
 Astronomy 2* – Elementary Astronomy Lab (1)
 Astronomy 5* – Fundamentals of Astronomy Lab (1)
 Biology 3 – Intro to Biology (4)
 Biology 6 – General Biology I (5)
 Biology 7 – General Biology II (5)
 Biology 20 – Human Anatomy & Physiology (8)
 Biology 40 – The Science of Biotechnology (3)
 Chemistry 51 – Fundamentals of Chemistry (5)
 Chemistry 65 – Introductory General Chemistry (4)
 Chemistry 70 – Introductory Organic and Biochemistry (4)
 Chemistry 101 – General Chemistry I (5)
 Chemistry 102 – General Chemistry II (5)
 Chemistry 211 – Organic Chemistry I for Science Majors (5)
 Chemistry 212 – Organic Chemistry II for Science Majors (5)
 Chemistry 221 – Biochemistry for Science Majors I (5)
 Geography 1 – Physical Geography (3)
 Geology 1 – Physical Geology (3)
 Geology 6* – Physical Geology Laboratory (2)
 Microbiology 1 – Introductory Microbiology (5)
 Microbiology 20 – General Microbiology (4)
 Physics 6 – General Physics I (4)
 Physics 7 – General Physics II (4)
 Physics 12 – Physics Fundamentals (3)
 Psychology 2 – General Psychology II (3)

Liberal Arts and Sciences: Emphasis in Multiple Subject Teacher Preparation

The Multiple Subject Teacher Preparation option is designed for future elementary school teachers.

Students planning for transfer are cautioned that this curriculum may not provide for the completion of lower division requirements for transfer. Students should consult with a counselor for specific information regarding an intended major if transfer to a four-year university is a goal.

REQUIRED COURSES

		UNITS
ENGLISH 101	College Reading and Composition I	3
SPEECH 101	Oral Communication I	3
MATH 215	Principles of Mathematics I	3
BIOLOGY 3	Introduction to Biology	4
PHYSICAL SCI 1	Physical Science I	3
— or —		
PHYSICS 12	Physics Fundamentals	3
ASTROM 1	Elementary Astronomy	3
GEOG 2	Cultural Elements of Geography	3
HISTORY 86	Introduction to World Civilization I	3
POL SCI 1	The Government of the United States I	3
HISTORY 11	Political and Social History of the United States I	3
CH DEV 1	Child Growth and Development	3
— or —		
PSYCH 11	Child Psychology	3
CH DEV 44	Programs for Children with Special Needs I	3

CRITICAL REASONING COURSE

3 UNITS

Choose one of the following:

English 103 – Critical Thinking and English Composition (3)
 Philosophy 6 – Logic in Practice (3)
 Philosophy 8 – Deductive Logic (3)

INTRODUCTION TO LITERATURE COURSE

3 UNITS

Choose one of the following:

English 102 – College Reading and Composition II (3)
 English 203 – World Literature I (3)
 English 204 – World Literature II (3)
 English 205 – English Literature I (3)
 English 206 – English Literature II (3)
 English 207 – American Literature I (3)
 English 208 – American Literature II (3)
 English 219 – Literature of Am. Ethnic Groups (3)
 English 220 – Contemporary Latin Am. Short Story (3)
 English 234 – African-American Literature (3)

HUMANITIES, PHILOSOPHY AND RELIGION COURSE

3 UNITS

Choose one of the following:

Anthropology 121 – Anthropology of the Supernatural (3)
 Philosophy 1 – Introduction to Philosophy (3)

PERFORMING AND VISUAL ARTS COURSE

3 UNITS

Choose one of the following:

Art 101 – Survey of Art History I (3)
 Art 102 – Survey of Art History II (3)
 Art 103 – Art Appreciation I (3)
 Music 111 – Music Appreciation (3)
 Theater 100 – Introduction to the Theater (3)
 Theater 270 – Beginning Acting (3)

ART

ART

COURSE DESCRIPTIONS

101 SURVEY OF ART HISTORY I (3) UC:CSU

Lecture: 3 hours

A survey is made of the chronological development of Western art from prehistoric times through the Renaissance with special emphasis upon the cultural factors which contributed to its evolution. This course encompasses the historic study of architecture, painting, and sculpture, with incidental references to the related minor arts.

102 SURVEY OF ART HISTORY II (3) UC:CSU

Lecture: 3 hours

This course provides a survey of the major visual arts of the Western world from the early Renaissance to the present time, linking art with social and economic aspects of Western culture. Individual artists are studied, from Michelangelo to Andy Warhol.

103 ART APPRECIATION I (3) UC:CSU

Lecture: 3 hours

This course is designed specifically for those students who desire to expand their visual awareness through training in visual perceptive skills. The course includes exploration of the basic elements of art; visual skills are enhanced by practice in drawing techniques based on perception. Students will acquire a broad understanding of the nature of art through study of selected works from art history.

104 ART APPRECIATION II (3) UC:CSU

Lecture: 3 hours

Students participate in art experiences through study of specific artists and works of art, basic drawing exercises stressing visual perception, and individual research projects on the art and artists of various cultures.

201 DRAWING I (3) UC:CSU (CAN ART 8)

Lecture: 2 hours; Lab: 2 hours

Beginning instruction is given in pencil drawing, charcoal, pastel and other sketching media. Painting in wash, water color and tempera, from still life, and from outdoor assignments, is included. This is a course for beginners and non-art majors, as well as a brush-up course for artists. Limits to transfer credit.

202 DRAWING II (3) UC:CSU

Lecture: 2 hours; Lab: 2 hours

This course is a continuation of Art 201 with particular emphasis on water color and its techniques. Limits to transfer credit.

211 ART LABORATORY FOR DRAWING (1) RPT1 UC:CSU

Recommended Corequisite: Art 201 or 202

Lab: 2 hours

This course will reinforce the lectures presented in each drawing class. It gives the student needed practice using art tools and applying techniques and concepts to each assignment.

300 INTRODUCTION TO PAINTING (3) UC:CSU

Lecture: 2 hours; Lab: 2 hours

This introductory painting course covers the basic skills and techniques in acrylic, oil, and watercolor. Emphasis is placed on color mixing, value, intensity and compositional organization.

304 ACRYLIC PAINTING I (3) UC; CSU*Lecture: 2 hours; Lab: 2 hours*

Introduction to acrylic painting. This course emphasizes developing skills in media, techniques, personal expression

313 ART LABORATORY FOR PAINTING (1) RPT1 UC:CSU*Recommended Corequisite: Art 300**Lab: 2 hours*

This course will reinforce the lectures presented in each painting class. It gives the student the needed practice using art tools and applying techniques and concepts to each assignment.

501 BEGINNING TWO-DIMENSIONAL DESIGN (3) UC:CSU*Lecture: 2 hours; Lab: 2 hours*

This course introduces the elements and principles of two-dimensional (flat) design in the visual arts. Color, color theory, psychology of perception and historical and cultural foundations are explored.

502 BEGINNING THREE-DIMENSIONAL DESIGN (3) UC:CSU*Lecture: 2 hours; Lab: 2 hours*

This course introduces the fundamentals of three-dimensional composition. A study is made of line, mass, texture, value, and shape in a variety of materials. Emphasis is on form and space.

522 ART LABORATORY FOR DESIGN (1) RPT1 UC:CSU*Corequisite: Art 501 or 502**Lab: 2 hours*

This course will reinforce the lectures presented in each design class. It gives the student needed practice using art tools and applying techniques and concepts to each assignment.

635 DESKTOP PUBLISHING DESIGN (3) UC:CSU*Lecture: 2 hours; Lab: 2 hours*

This introductory course uses the Macintosh computer to provide an overview and hands-on training in desktop publishing, software, and equipment. Focus is on the development of basic design techniques which are incorporated into the student's work. Students study basic photocomposition and typography using the computer. Students will be introduced to the history of typesetting including the development of desktop publishing.

185 DIRECTED STUDY (1) UC:CSU*Conference, 1 hour per unit.*

Allows students to pursue Directed Study in Art on a contract basis under the direction of a supervising instructor.

285 DIRECTED STUDY (2) UC:CSU*Conference, 1 hour per unit.*

Allows students to pursue Directed Study in Art on a contract basis under the direction of a supervising instructor

385 DIRECTED STUDY (3) UC:CSU*Conference, 1 hour per unit.*

Allows students to pursue Directed Study in Art on a contract basis under the direction of a supervising instructor. Credit Limit: A maximum of 3 units in Directed Study may be taken for credit.

CINEMA

CINEMA

■ COURSE DESCRIPTIONS

5 INTRODUCTION TO SCREENWRITING (3)*Lecture 2 Lab: 2*

This course work consist of writing and revising synopses, log lines, treatments and introductions, conflicts, and resolutions to screenplays.

6 MOTION PICTURE PHOTOGRAPHY (3)*Lecture:2 Lab: 2*

This course will include optics, photo emulsions, camera operation, lighting, laboratory procedures, terminology and aesthetics. Students will do individual and group projects using film and mini digital video camera equipment.

10 INTRODUCTION TO SCREENWRITING (3)*Lecture 2 Lab: 2*

This course will discuss the craft of directing for film with emphasis on the visualization of the screenplay, and the role of the director in handling actions in the production of film.

20 BUSINESS OF MOTION PICTURE PRODUCTION(3)*Lecture 2 Lab: 2*

This course will discuss the business aspects of the production of professional motion pictures. Special attention will be given to marketing, financing, budgeting, scheduling, producing and promoting a motion picture.

35 NON LINEAR EDITING (3)*Lecture 2 Lab: 2*

Students are introduced to Non-Linear Editing Software. In this course the focus will be given to logging, digitizing, film to video techniques and other post production procedures.

HUMANITIES

HUMANITIES

■ COURSE DESCRIPTIONS

1 CULTURAL PATTERNS OF WESTERN CIVILIZATION (3) UC:CSU*Lecture: 3 hours*

An introduction to the general concepts of the humanities. Music, painting, sculpture, and architecture are studied and compared in relation to their background, medium, organization, and style. Included is a survey of the most productive periods of Western history, from classical Greek through the Medieval period. Stress is placed on awareness of difference in cultural heritage, values, and perspective as revealed in the arts.

2 STUDIES IN SELECTED CULTURES (3) UC:CSU*Lecture: 3 hours*

Students study in-depth the social, political, economic and cultural features of a particular culture or set of related cultures. Customs, traditions, values, historical events and trends, religious traditions, pop culture practices, achievements and trends in the arts and the sciences of the culture(s) studied are also examined. Western, Eastern, Mid-Eastern, African and other cultures and societies both past and present may be studied.

60 PEOPLE AND THEIR WORLD: TECHNOLOGY AND THE HUMANITIES (3) UC:CSU*Lecture: 3 hours*

This course involves students in a study of the urban environment and society. The approach is interdisciplinary involving art, music, literature, drama, philosophy, technology, and history. The goal is to explore and to understand the interaction between the individual and society as well as interrelationships existing between the humanities and technology.

73 HUMANITIES THROUGH THE ARTS (3) CSU*Lecture: 3 hours*

Through film, drama, music, literature, painting, sculpture and architecture this course surveys the humanities; emphasizing the history, technique, meaning and evaluation of individual works of Western art.

185 DIRECTED STUDY I (1) UC:CSU RPT2*Conference, 1 hour*

Allows students to pursue Directed Study in humanities on a contract basis under the direction of a supervising instructor.

JOURNALISM

JOURNALISM

■ Associate in Arts Degree

The Journalism Associate in Arts degree is designed for students who would like to enter the workforce after graduation with practical, solid writing skills. The flexibility of the program makes this program perfect for students from vocational majors who would like to develop their writing skills as a complement to another trade or discipline with a career goal of writing for trade journals, technical writing, or writing training manuals. Most of the required courses transfer to a four-year university. Requirements for the Associate in Arts degree may be met by completing the following list of courses and 30 units of Plan A plus electives to equal 60 units.

REQUIRED COURSES

	UNITS
JOURNAL 101 Collecting and Writing News	3
JOURNAL 105 Mass Communications	3
JOURNAL 202 Advanced Newswriting	3
JOURNAL 225 Product Workshop (can be repeated once)	4-8

CAOT 82	Microcomputer Software Survey in the Office	3
— or —		
CAOT 84	Microcomputer Applications: Word Processing	
PUB REL 1, 2, or 3	Introduction to Community Development	3
COOP ED	Work Experience (Cooperative Education)	1-4
TOTAL UNITS		24-29

JOURNALISM

■ Certificate Program

The Certificate in Journalism is designed for students who want to concentrate on a course of study in writing and the media, but are not necessary interested in earning a degree. The program is ideal for working professionals who are interested in sharpening their writing skills, and also for students from other disciplines who are interested in adding another certification to their resume.

REQUIRED COURSES

REQUIRED COURSES		UNITS
JOURNAL 101	Collecting and Writing News	3
JOURNAL 105	Mass Communications	3
JOURNAL 202	Advanced Newswriting	3
JOURNAL 225	Production Workshop (can be repeated once)	8
CAOT 82	Microcomputer Software Survey in the Office	3
— or —		
CAOT 84	Microcomputer Applications: Word Processing	3
PUB REL 1, 2, or 3	Introduction to Community Development	3
COOP ED	Work Experience (Cooperative Education)	1-4
TOTAL UNITS		24-29

JOURNALISM

■ COURSE DESCRIPTIONS

101 COLLECTING AND WRITING NEWS (3) CSU

Recommended Preparation: English 21 with a grade of "C" or better.

Lecture: 3 hours

Practical work on the college newspaper and class assignments provide instruction in reporting and writing news. An endeavor is made to connect theory with purposeful activity in the basic principles of news writing. The course includes an examination of freedom of the press along with a review of its responsibilities.

105 MASS COMMUNICATIONS (3) UC:CSU*Lecture: 3 hours*

Examines the structure and functioning in print and electronic communications, including: film, print, television, radio, the recording industry, public relations, and the internet. Considers factors that influence distribution and creation of media messages, and the impact of those messages on society.

202 ADVANCED NEWSWRITING (3) CSU

Recommended Preparation: Journalism 101 with a grade of "C" or better.

Lecture: 3 hours

This course provides the student with principles and practices in writing specialized types of newspaper stories and increases mastery of fundamental reporting techniques. Interpretive writing skills, such as editorial writing and feature writing, are included.

225 NEWSPAPER PRODUCTION WORKSHOP (4) CSU RPT2

Recommended Preparation: Concurrent enrollment in Journalism 101 or 202 with a grade of "C" or better.

Lecture: 2 hours; Lab: 4 hours

Copy desk and editing procedures are performed and students are exposed to production of newsletters and facets of printing production. Supervised activities include copy reading, editing for typesetting, columnar sizes, headline writing, page make-up, photo scaling and selection, supervision of paste-up and other production requirements. Students plan editions, assign stories to reporters. Issues of Trade Winds are reviewed, critiqued and evaluated with the goal of implementing improvements.

185 DIRECTED STUDY – JOURNALISM (1) CSU**285 DIRECTED STUDY – JOURNALISM (2) CSU****385 DIRECTED STUDY – JOURNALISM (3) CSU**

MUSIC

MUSIC

■ COURSE DESCRIPTIONS

101 FUNDAMENTALS OF MUSIC (3) UC:CSU

Lecture: 3 hours

This course consists of a study of basic rudiments of musical notation, scales, keys, signatures, intervals, common musical terms, ear training, beginning sight singing, elementary keyboard, and clapping of simple rhythms.

141 JAZZ APPRECIATION (3) UC:CSU

Lecture: 3 hours

A survey of twentieth-century blues, ragtime, New Orleans and Chicago jazz, swing, bebop, cool jazz, hard bop, third stream, avant-garde and free jazz, fusion and experimental jazz styles. Emphasis is placed on the music and personalities of those artists who made original contributions and whose work influenced that of other important jazz figures.

142 WORLD MUSIC (3) UC:CSU

Lecture: 3 hours

This course will survey traditional, folk, and popular genres of Asia, Africa, Latin America, The Pacific Rim, Europe, and North America. By gaining an appreciation for music of other cultures, students will also learn to value their own culture's contribution to the global mix.

321-322-323-324**ELEMENTARY PIANO (I, II, III AND IV) (2, 2, 2, 2)****UC:CSU**

Student must have access to a piano for practice.

Lecture: 1 hour; Lab: 2 hours

This course consists of repertoire, technical exercises, transportation, sight reading, memorization, harmonization of simple melodies, and basic music theory as it relates to the material being studied.

341 INTERMEDIATE PIANO (2) RPT3 UC:CSU

Student must have access to a piano for practice.

Lecture: 1 hour; Lab: 2 hours

This course consists of repertoire exercises to develop technical facility, transposition, harmonization of simple melodies using diatonic and chromatic cords, sight reading, memorization, and analysis of form as it relates to the material being studied.

411-412-413-414**ELEMENTARY VOICE (I, II, III AND IV) (2, 2, 2, 2) UC:CSU**

Lecture: 1 hour; Lab: 2 hours

This course covers the background in learning and presentation of several types of songs and varied literature. Development of facility to express oneself with musical understanding, control of tone, skills of vocal techniques, and poise, including the understanding of the structure and effective use of the human voice.

650 BEGINNING GUITAR (2) UC:CSU

Lecture: 1 hour; Lab: 2 hours

This is a beginning course in guitar playing. Skills studied include performance of single line melodies, accompaniment patterns, sight reading, improvisation, and solo repertoire.

Note: Student must supply his/her own classical guitar.

775 JAZZ ENSEMBLE (0.5) RPT3 UC:CSU

Lab: 3 hours

This course provides training and experience in jazz and in dance band routines. It is designed for qualified players who contemplate a professional career in performance.

185 DIRECTED STUDY - MUSIC (1) UC:CSU**285 DIRECTED STUDY - MUSIC (2) UC:CSU****385 DIRECTED STUDY - MUSIC (3) UC:CSU**

Conference, 1 hour per unit

Allows students to pursue Directed Study in Music on a contract basis under the direction of a supervising instructor. Credit limit: A maximum of 3 units in Directed Study may be taken for credit.

PHILOSOPHY

PHILOSOPHY

■ COURSE DESCRIPTIONS

1 INTRODUCTION TO PHILOSOPHY I (3)

Recommended Preparation: English 28 or equivalent skills with a grade of "C" or better.

Lecture: 3 hours

This course introduces the student to the subject matter of philosophy and its interrelations with practical life. Major consideration is given to the nature of basic problems and values of present-day life, as illustrated by reference to the leading philosophies of the past and present. Consideration is given to the nature of knowledge with emphasis on the analysis of meaning, the criteria of truth, scientific methods of thinking, and the nature of reality as illustrated in the various philosophical systems.

6 LOGIC IN PRACTICE (3) UC:CSU

Recommended Preparation: Successful completion of English 28 with a grade of "C" or better.

Lecture: 3 hours

This course applies the logical principles of sound thinking to morals, politics, and everyday life. Emphasis is placed upon the analysis of language and the development of composition skills that demonstrate critical thinking.

8 DEDUCTIVE LOGIC (3) UC:CSU

Recommended Preparation: Successful completion of English 28 with a grade of "C" or better or concurrent enrollment in English 28 or equivalent skills.

Lecture: 3 hours

This is an introductory course in logic. The student is introduced to the standards and techniques of correct thought with regular practice with short specimens of correct and incorrect reasoning taken from daily life. Consistency, thoroughness, and other aspects of rational thought are fostered.

informative and persuasive speaking, as well as speeches for special occasions. The use of logic, evidence, and emotional appeals is studied and applied.

102 ORAL COMMUNICATION II UC:CSU 3 UNITS

Lecture: 3 hours

This course is an introduction to all advanced phases of public speaking and critical thinking, including structure and evaluation of argument, semantics, evidence, fallacies in reasoning, evidence and language; ethics; processes and techniques of group discussion; argumentation and debate; refutation; parliamentary procedure; extemporaneous, impromptu, professional and persuasive speaking situations.

104 ARGUMENTATION (3) UC:CSU

Lecture: 3 hours

This course explores the critical thinking process, emphasizing the use of logical reasoning and evidence in the presentation and analysis of sound arguments.

111 VOICE AND ARTICULATION (3) CSU

Lecture: 3 hours

This speech improvement course deals with voice quality, force flexibility, articulation, and pronunciation. It is not a clinical course. Emphasis is placed upon self-improvement drills involving posture, breath control, resonance, pitch, and inflection, thereby developing confidence in speaking. Extensive use is made of audio equipment. Limits to transfer credit.

121 THE PROCESS OF SPEECH COMMUNICATION (3) UC:CSU

Advisory: English 21 with a grade of "C" or better

Lecture: 3 hours

Provides an introduction to the dynamics of communication in one-to-one relationships, focusing on experience, behavior, and rules governing interpersonal contexts such as friendships, families, romantic relationships, and workplace relations. Factors influencing communication such as language, perception, nonverbal cues, listening, power, status and roles are studied. Problems of communication are identified and explored through conflict resolution and problem solving techniques.

122 COMMUNICATION ACROSS CULTURES (3) UC:CSU

Advisory: English 21 with a grade of "C" or better

Lecture: 3 hours

This course provides an introduction to communication between people from different cultures. Through the study of the theory and practice of intercultural communication, this course provides for the development of both a more global communication perspective and greater appreciation of other cultures. This course will examine variable affecting intercultural communication including language, verbal and nonverbal communication, cultural values, perception, communication inferences, communication expectations and the impact of media images on intercultural communication.

122H COMMUNICATION ACROSS CULTURES - HONORS (3) UC:CSU

Advisory: English 21 with a grade of "C" or better

Lecture: 3 hours

This course provides an introduction to communication between people from different cultures. Through the study of the theory and practice of intercultural communication, this course provides for the development of both a more global communication perspective and greater appreciation of other cultures. This course will examine variable affecting intercultural communication including language, verbal and nonverbal communication, cultural values, perception, communication inferences, communication expectations and the impact of media images on intercultural communication. Honors students will be assigned extensive reading and research papers beyond the regular Speech 122 course.

SPEECH COMMUNICATIONS

SPEECH COMMUNICATIONS

■ COURSE DESCRIPTIONS

101 ORAL COMMUNICATIONS I (3) UC:CSU

Lecture: 3 hours

This course is designed to develop student's speaking skills. Activities include selecting speech subjects; defining purposes and analyzing audience needs; gathering materials; organizing, outlining and presenting, and constructive listening. Students will gain experience in job interviewing,

130 INTRODUCTION TO ORAL INTERPRETATION OF LITERATURE (3) UC:CSU*Lecture: 3 hours*

This course is devoted to oral interpretation of the printed page. Studying the meanings which the authors intended, and conveying those meanings to an audience through reading aloud, the student has an opportunity to apply basic speech fundamentals. Major goals are to build self-confidence and poise before a group and to foster greater appreciation and understanding of literature and its authors.

151 SMALL GROUP COMMUNICATION (3) UC:CSU*Advisory: English 21 with a grade of "C" or better**Lecture: 3 hours*

The activity/lecture/discussion course provides students with an analysis of the purposes, principals, and types of group processes. Development of individual skills in leadership, problem solving, conflict management, and collaborative learning is achieved through responsible group participation and small group activities. Students will learn how to make decisions and function effectively in a variety of group situations.

THEATER**THEATER****■ COURSE DESCRIPTIONS****100 INTRODUCTION TO THE THEATER (3) UC:CSU***Lecture: 3 hours*

This course surveys the history of theater from the ancient Greek to modern times. Stage vocabulary, production crafts and acting techniques are introduced. Students will analyze how theater relates to motion pictures, television, and radio in contemporary American life, as well as compare themes in literature, compare and contrast adaptations of famous plays to their original written form and apply critical analysis to live dramatic productions.

270 BEGINNING ACTING (3) UC:CSU*Lecture: 3 hours*

This course introduces students to performing in front of a live audience. Exercises for the body and voice are demonstrated and sensory identification is used to explore and reenact situations. Students will perform readings from a variety of published plays and practice the technical skill of "cold" reading without rehearsal. They will practice psychological interpretation of characters with the help of character analysis, memorize scenes and monologues, and learn to improvise on stage.

271 INTERMEDIATE ACTING (2) UC:CSU*Recommended Preparation: Theater 270 with a grade of "C" or better.**Lecture: 1 hour; Lab: 2 hours*

This course guides students in technical and script analysis for acting fundamentals. Students will study characters from a variety of published plays and will be introduced to classic plays from the Greek, Restoration and/or Shakespeare. Character analysis for scenes and monologues will include the study of subtext, beats and transitions.

507 MAIN CURRENTS IN MOTION PICTURES (3) UC:CSU*Lecture: 3 hours*

This course guides students in an analytical/critical survey of motion pictures as an art form, an entertainment vehicle, and communications medium for cultural comment. Critical analysis will be aided by screenings, lectures, and readings about "classic" and contemporary, American and foreign, theatrical and non-theatrical films.

ENGLISH**PROGRAM OVERVIEW**

English courses offered at Trade-Tech are designed to meet the needs of students requiring developmental English course work; satisfy general education requirements for graduation and/or transfer; fulfill major requirements for the Associate in Arts degree, and to prepare students for transfer as English majors.

The English Associate in Arts degree is designed for students interested in general studies or who plan to transfer to a four-year institution for a Bachelor of Arts (B.A.) degree. This program provides students with an opportunity to read widely in American, British and world literature. Students are trained in writing, analytical, and critical thinking skills that will prepare them for various academic and business-related pursuits.

ENGLISH**■ Associates In Arts Degree**

Requirements of the two-year curriculum for the Associate in Arts (A.A.) Degree with a major in English may be met by completing the required courses below with sufficient electives to fulfill the minimum of 18 units in English and other graduation requirements.

The English major may not be declared as a double major with Liberal Arts.

Requirements for the English major may be met by taking the minimum 30 units in general education courses under Graduation Plan A for an Associate in Arts degree concurrently with a minimum of 18 units in English and sufficient electives to total 60 degree applicable units.

REQUIRED COURSES

		UNITS
ENGLISH 101	College Reading and Composition I	3
ENGLISH 102	College Reading and Composition II	3
ENGLISH 103	Composition and Critical Thinking	3
ENGLISH 203	World Literature I	3
ENGLISH 205	English Literature I	3
ENGLISH 206	English Literature II	3
ENGLISH 215	Shakespeare	3
CORE ELECTIVES		6
TOTAL UNITS		18

CORE ELECTIVES

		UNITS
ENGLISH 127	Creative Writing	3
ENGLISH 203	World Literature I	3
ENGLISH 205	English Literature I	3
ENGLISH 206	English Literature II	3
ENGLISH 207	American Literature I	3
ENGLISH 208	American Literature II	3
ENGLISH 209	California Literature	3
ENGLISH 211	Fiction	3
ENGLISH 212	Introduction to Poetry	3
ENGLISH 213	Dramatic Literature	3
ENGLISH 214	Contemporary Literature	3
ENGLISH 215	Shakespeare	3
ENGLISH 219	The Literature of American Ethnic Groups	3
ENGLISH 220	Contemporary Latin American Short Story	3
ENGLISH 234	African American Literature	3
ENGLISH 239	Women in Literature	3
ENGLISH 240	Literature and the Motion Picture	3
ENGLISH 270	Science Fiction	3
SPEECH 130	Introduction to Oral Interpretation of Literature	3

ENGLISH

■ COURSE DESCRIPTIONS

21 ENGLISH FUNDAMENTALS (3) NDA

Prerequisite: English 64 with a grade of "C" or better or placement process.

Lecture: 3 hours

This beginning composition course reviews the essentials of good sentence writing: grammar, usage, and mechanics. The main emphasis is on practice of paragraph and essay construction.

22 TECHNICAL ENGLISH (3) NDA

Prerequisite: English 64 with a grade of "C" or better or placement process.

Lecture: 3 hours

This course emphasizes short essay construction as well as improving reading and critical thinking. Students will review the essentials of good sentence writing: grammar, usage, and mechanics as they apply to daily life. At the conclusion of the course, students will have prepared several successful essays as well as letters of application and occupational resumes.

28 INTERMEDIATE READING AND COMPOSITION (3)

Prerequisite: English 21 with a grade of "C" or better or placement process.

Lecture: 3 hours

This course introduces students to the principles and techniques of essay writing. Practice includes the writing of descriptive, narrative, expository, and argumentative essays.

33 BASIC VOCABULARY (3) NDA

Lecture: 3 hours

This course is designed to expand student's vocabulary through reading; learning unfamiliar words and practice in their use; a study of the history of word derivations, prefixes, suffixes, pluralization and spelling and the use of dictionaries and thesauri.

46 READING AND STUDY IMPROVEMENT (3) NDA

Lecture: 3 hours

This course covers the improvement of reading speed, comprehension, and general techniques.

47 READING CLINIC (3) RPT1 NDA

Lecture: 3 hours; Lab: 2 hours

This beginning course is designed to help the individual student improve reading methods and comprehension. The course may be repeated once for credit.

64 INTERMEDIATE READING AND COMPOSITION: BASIC SKILLS (3) RPT1 NDA

Lecture: 3 hours

This basic skills course reviews the elements of the English sentence, grammar, usage, and mechanics. Practice exercises include the writing of cogent sentences and simple paragraphs, while reading provides vocabulary study and ideas for writing.

67 WRITING LABORATORY (0.5) NDA RPT3

Lab: 1 hour

This lab setting provides students with one-on-one assistance in improving their writing skills. An emphasis is placed on the composing process and includes organizing, spelling, punctuating, grammar, and mechanics.

68 READING LABORATORY (0.5) NDA RPT3

Lab: 1 hour

This course helps students improve college reading comprehension and interpretation. An emphasis is placed on vocabulary, sentence meaning, paragraph meaning, and finding the main idea in texts.

94 INTENSIVE GRAMMAR REVIEW (3) NDA RPT1

Lecture: 3 hours

Offers an intensive review of the principles of standard English grammar, sentence structure, usage, and diction. The course reviews the parts of speech, verb forms and tenses, fragments, run-ons, and mechanics. Students will learn to identify errors and correct them. Intended for students enrolled in English 28 and more advanced courses.

101 COLLEGE READING AND COMPOSITION I (3) UC:CSU

Prerequisite: English 28 with a grade of "C" or better or placement process.

Lecture: 3 hours

This course studies the use of persuasive discourse, logic, and manuscript documentation. Written essays and a research paper are course requirements. Concurrent enrollment in Library Research, LIS 101, is recommended.

102 COLLEGE READING AND WRITING II: INTRODUCTION TO LITERATURE (3) UC:CSU

Prerequisite: English 101 with a grade of "C" or better or placement process.

Lecture: 3 hours

This course introduces students to the critical reading of short stories, novels, plays, and poems. The course further develops skills taught in English 101, including analytical thinking and the writing of essays with a clear, well-developed thesis.

102H COLLEGE READING AND WRITING II: INTRODUCTION TO LITERATURE - HONORS (3) UC:CSU

Prerequisite: English 101 with a grade of "C" or better

Lecture: 3 hours

English 102 is a survey course that introduces students to the critical reading of short stories, novels, plays, and poems. Reading selections will represent the ancient through the modern. The course further develops skills taught in English 101, including analytical thinking, research, and essay writing. Honors students will be assigned extensive reading and research papers beyond the regular English 102 course.

103 COMPOSITION AND CRITICAL THINKING (3) UC:CSU

Prerequisite: English 101 with a grade of "C" or better
Lecture: 3 hours

This course is designed to help students clarify and refine their thinking and reasoning processes, allowing them more effectively solve problems and analyze complex issues. Students will develop skills in critical thinking, reading, and writing which will help them succeed in their other academic coursework, regardless of discipline. Writing assignments will emphasize critical analysis and argumentation.

127 CREATIVE WRITING (3) RPT3 CSU

Lecture: 3 hours

This course provides an overview of principles and techniques to assist with the writer's practical needs. Students will present their original stories, sketches, essays, poems, or plays for informal discussion by class members.

150 PEER TUTORING IN WRITING:THEORY AND PRACTICE (0.5)

Prerequisite: English 28 with a grade of "C" or better
Laboratory: 1 hour

Instruction will take place in a center serving student writers. This course introduces students to writing theory and methods of effective tutoring in writing. Tutors will be given concrete guidance on observing, participating, and analyzing sessions with student writers. Covers special topics in writing across the curriculum. Focuses on challenges of tutoring writing and on designing a rewarding experience for both the peer tutor and the student writer and instructor.

203 WORLD LITERATURE I (3) UC:CSU

Prerequisite: English 28 with a grade of "C" or better
Lecture: 3 hours

This course provides a survey of literature from throughout the world up to the year 1700. Readings include Greek and Roman masterpieces, the Bible, and medieval and renaissance classics from Europe, Asia, Africa, and Central America. Students will learn to explore the relationship between the written works and their cultures as well as their significance to modern society.

205 ENGLISH LITERATURE I (3) UC:CSU

Prerequisite: English 101 with a grade of "C" or better
Lecture: 3 hours

The course provides a historical survey of English literature, from inception to the decline of neo-classicism in the 18th century. An emphasis is placed on major figures and works from each era.

205H ENGLISH LITERATURE I - HONORS (3) UC:CSU

Prerequisite: English 101 with a grade of "C" or better
Lecture: 3 hours

Chronological survey of major authors and texts of British literature from the Old English period to the Neoclassic period. Extensive reading and discussion of works; strong writing component and emphasis on textual analysis. Examination of the relationship between historical events and literary works. Honors students will be assigned extensive reading and research papers beyond the regular English 206 course.

206 ENGLISH LITERATURE II (3) UC:CSU

Prerequisite: English 101 with a grade of "C" or better
Lecture: 3 hours

This course provides a historical survey of English literature from the pre-Romantics of the 18th Century to the present.

206H ENGLISH LITERATUREII - HONORS (3) UC:CSU

Prerequisite: English 101 with a grade of "C" or better
Lecture: 3 hours

Chronological survey of major authors and texts of British literature from the Romantic period, the Victorian Age, The Twentieth Century, and after. Extensive reading and discussion of works; strong writing component and emphasis on textual analysis. Examination of the relationship between historical events and literary works. Honors students will be assigned extensive reading and research papers beyond the regular English 206 course.

207 AMERICAN LITERATURE I (3) UC:CSU

Prerequisite: English 28 with a grade of "C" or better
Lecture: 3 hours

This course is a survey of literature written in the United States from pre-colonial and colonial times up to 1860. Reading focuses on major works and writers from various cultural and regional groups.

208 AMERICAN LITERATURE II (3) UC:CSU

Prerequisite: English 28 with a grade of "C" or better
Lecture: 3 hours

Course provides a survey of the literature of the United States from the Civil War to the present with emphasis on the major writers and their works.

212 POETRY (3) UC:CSU RPT1

Prerequisite: English 28 with a grade of "C" or better
Lecture: 3 hours

The course is designed to increase the students' understanding and enjoyment of poetry through the reading, discussion, and analysis of selected American, British, and world poetry. Students will also write and critique poetry of their own.

212H POETRY - HONORS (3) UC:CSU

Prerequisite: English 101 with a grade of "C" or better
Lecture: 3 hours

English 212 features the reading, discussion, and analysis of selected American, British, and world poetry. Students will also write poetry. The course is designed to increase the students' understanding and enjoyment of poetry. Honors students will be assigned extensive readings and research papers beyond the regular English 212 course.

213 DRAMATIC LITERATURE (3) UC:CSU

Prerequisite: English 28 with a grade of "C" or better
Lecture: 3 hours

This course includes reading, discussion and interpretation of selected American, British, Continental, Asian and African dramatic literature. Activities are coordinated with the Theater Arts Department and include videos and field trips to theaters and to theatrical performances.

214 CONTEMPORARY LITERATURE (3) UC PENDING:CSU

Prerequisite: English 28 with a grade of "C" or better
Lecture: 3 hours

A survey of the 20th Century trends and development in English and American poetry, fiction, and criticism is presented in this course. Reading and discussions focus upon literary innovations, cultural influences, and historical comparisons.

215 SHAKESPEARE I (3) UC:CSU

Prerequisite: English 28 with a grade of "C" or better
Lecture: 3 hours

Course emphasized the reading of Shakespeare to develop an understanding of his poetry, theater, and drama.

215H SHAKESPEARE I - HONORS (3) UC:CSU

Prerequisite: English 101 with a grade of "C" or better
Lecture: 3 hours

Course introduces students to Shakespeare's prose and poetry through several of his major plays and sonnets with an additional examination of Elizabethan England and the relationship between historical events and literary works. Course features a strong reading and writing component with an emphasis on class discussion, research and textual analysis. Honors students will be assigned extensive readings and research papers beyond the regular Shakespeare 215 course.

218 CHILDREN LITERATURE (3) CSU

Prerequisite: English 28 with a grade of "C" or better
Lecture: 3 hours

Course provides a survey of the literature suitable for children of different age levels, preschool through high school. Emphasis is placed on storytelling, acquaintance with authors, and developing positive attitudes toward literature in young children. Recommended for prospective nursery, kindergarten, elementary, and secondary teachers.

219 THE LITERATURE OF AMERICAN ETHNIC GROUPS (3) UC:CSU

Prerequisite: English 28 with a grade of "C" or better
Lecture: 3 hours

A survey of the significant literary writings of American ethnic groups: Black Americans, Asian Americans, Hispanic Americans, Indian Americans, and Jewish Americans, with emphasis upon their aesthetic, cultural, and historical insights and values.

220 CONTEMPORARY LATIN AMERICAN SHORT STORY (3) UC:CSU

Prerequisite: English 28 with a grade of "C" or better
Lecture: 3 hours

This course offers a study of contemporary Latin-American short stories from Mexico, Central America as well as the United States. The course covers themes of social realism, magical realism, and the Chicano Literary Movement. Writers studied include Paz, Borges, Garcia-Marquez, Cossio, and Viramontes.

234 AFRICAN AMERICAN LITERATURE (3) UC:CSU

Recommended: English 28 with a grade of "C" or better
Lecture: 3 hours

This course analyzes the major literary, social and historical aspects of essays, novels, drama, short stories, and poetry written by African Americans, revealing the progression of black awareness in America as interpreted by African American writers.

240 LITERATURE AND THE MOTION PICTURE I (3) UC:CSU

Prerequisite: English 28 with a grade of "C" or better
Lecture: 3 hours

This course is designed to give the student opportunities to view, analyze, and evaluate films of artistic and cultural significance. The relationship between literature and film is discussed and evaluated.

270 SCIENCE FICTION AND FANTASY (3) UC:CSU

Prerequisite: English 28 with a grade of "C" or better
Lecture: 3 hours

Course covers the study of science fiction and fantasy works as literature. Class discussions emphasize the use of mythology, the history and traditions of the genre, science fiction and fantasy as escape literature, and political and philosophical commentary in the works studied.

185 DIRECTED STUDY – ENGLISH (1)

Consult current Schedule of Classes for details.

ARABIC

■ COURSE DESCRIPTION

1 ELEMENTARY ARABIC I (5) UC:CSU

Lecture: 5 hours

This course focuses on learning the alphabet, pronunciation and basic grammar of the Arabic language. Elementary reading, practical vocabulary, useful phrases, basic geography, customs and culture of the Arabic speaking world are emphasized, along with cultural implications manifested in the modern and traditional usages of the language.

CHINESE

■ COURSE DESCRIPTIONS

1 ELEMENTARY CHINESE I (5) UC:CSU

Lecture: 5 hours

This course introduces the fundamentals of pronunciation and grammatical structure; teaches simple to complex sentence patterns; stresses reading and writing, and offers practical material for conversation based upon everyday activities. Practical vocabulary and idiomatic expressions are utilized.

2 ELEMENTARY CHINESE II (5) UC:CSU

Lecture: 5 hours

Chinese 2 completes the elementary Mandarin Chinese grammar requirement. The reading and writing of elementary texts is introduced. Writing will accompany reading assignments, and students will practice their speaking skills in Chinese.

FRENCH

■ COURSE DESCRIPTIONS

1 ELEMENTARY FRENCH I (5) UC:CSU

Lecture: 5 hours

This course provides instruction in the fundamentals of French pronunciation and grammar and includes laboratory practice with multi-media aids. Emphasis is placed on basic vocabulary and reading, writing, and speaking in simple French.

2 ELEMENTARY FRENCH II (5) UC:CSU

Recommended Preparation: French 1 with a grade of "C" or better or two years of high school French
Lecture: 5 hours

This course is a continuation of French 1 and includes completion of elementary grammar principles. Further study includes compound and simple tenses and irregular verbs. Readings emphasize French literature.

3 INTERMEDIATE FRENCH I (5) UC:CSU

Recommended Preparation: French 2 with a grade of "C" or better.
Lecture: 5 hours

This is a continuation of French 2, including a review of grammar skills acquired in French 1 and French 2. Further study includes all forms of the subjunctive and the future tense. Readings emphasize French literature.

4 INTERMEDIATE FRENCH II (5) UC:CSU

Prerequisite: French 3 with a grade of "C" or better.
Lecture: 5 hours

This is a continuation of French 3. Texts are chosen in order to improve oral and written expression in the language as well as comprehension and reading skills. Study of important French literary selections provides a continuing overview of French literature and culture.

JAPANESE

■ COURSE DESCRIPTIONS

21 FUNDAMENTALS OF JAPANESE I (3) UC:CSU

Lecture: 3 hours

This is an introductory Japanese language course which includes elementary level reading, writing, speaking, comprehension, grammar and information on the cultural implications manifested in the modern and traditional usages of the language.

22 FUNDAMENTALS OF JAPANESE II (3) UC:CSU

Lecture: 3 hours

This course completes the fundamentals of Japanese language acquisition presented in Japanese 21. These include elementary level reading, writing, speaking, comprehension, grammar and cultural implications.

SPANISH

■ COURSE DESCRIPTIONS

NOTE: One year of high school foreign language study equals one semester of community college instruction.

1 ELEMENTARY SPANISH I (5) UC:CSU

Lecture: 5 hours

This course stresses the fundamentals of pronunciation and grammar, practical vocabulary, useful phrases, and the ability to understand, read, write and speak simple Spanish. It includes basic facts on geography, customs, and culture of Spain and Latin America.

2 ELEMENTARY SPANISH II (5) UC:CSU

Prerequisite: Spanish 1 with a grade of "C" or better.
Lecture: 5 hours

This second course comprises review and further study of the fundamentals of Spanish grammar with emphasis upon correct pronunciation and mastery of a practical vocabulary, including useful phrases and idioms. Practice is given in oral and written expression. A continued study of Spanish and Latin American civilization is made through selected readings, instructor comments and audio visual materials.

3 INTERMEDIATE SPANISH I (5) UC:CSU

Prerequisite: Spanish 2 with a grade of "C" or better.
Lecture: 5 hours

This course provides a complete review of Spanish grammar with special emphasis upon idiomatic construction. Intensive and extensive reading. Discussion, in Spanish, of Spanish-American life and problems.

4 INTERMEDIATE SPANISH II (5) UC:CSU

Prerequisite: Spanish 3 with a grade of "C" or better.
Lecture: 5 hours

This course continues the review of Spanish sentence structures with emphasis on idiomatic expressions and construction. It also continues the review of tenses. Class discussions are based on selected readings from Latin American and Spanish literature.

21 FUNDAMENTALS OF SPANISH I (3) UC:CSU

UC limits credit for Spanish 21 and 22 to 5 units
Lecture: 3 hours

This course introduces the fundamentals of pronunciation and grammar structures, stresses reading and writing, and offers practical material for conversation based on everyday activities, utilizing practical vocabulary and idiomatic expressions. Spanish 21 and 22 together equal Spanish 1.

22 FUNDAMENTALS OF SPANISH II (3) UC:CSU

UC limits credit for Spanish 21 and 22 to 5 units.
Lecture: 3 hours

This course completes the fundamentals of pronunciation and grammar structures presented in Spanish 21. Practical material is offered for simple conversations based on everyday activities, utilizing practical vocabulary and idiomatic expressions. Spanish 21 and 22 together equal Spanish 1. (Note entries for Spanish 21 and Spanish 22.)

35 SPANISH FOR SPANISH SPEAKERS I (5) UC:CSU

Lecture: 5 hours

Spanish 35 is designed to address the needs of the bilingual student. An introduction to written Spanish with an emphasis on the acquisition of a solid grammatical base, vocabulary enrichment, and spelling. Addresses all four skills in Spanish, but focuses on reading and writing. Includes readings on the geography, customs and culture of Spain and Latin America.

36 SPANISH FOR SPANISH SPEAKERS II (5) UC:CSU

Lecture: 5 hours

Prerequisite: Completion of Spanish 35 with grade of "C" or better.

A continuation of Spanish 35. Completes the study of grammar and continues the development of reading and writing skills. Further study of Spanish and Latin American culture and civilization.

MATHEMATICS

MATHEMATICS

PROGRAM OVERVIEW

The Mathematics Department at Los Angeles Trade Technical College offers courses of high academic standards from remedial courses to advanced college level. These courses meet the students' need to reach their goals, whether it is in obtaining their certificates, AA degrees, AS degrees or transferring to a four-year college. UC limits credit for Mathematics courses combined with Computer Science Information Technology courses to 6 courses.

MATHEMATICS

COURSE DESCRIPTIONS

101 WORLD OF NUMBERS (3) NDA

Lecture: 3 hours

This is the first course in the sequence of courses in mathematics. Students learn reading and writing whole numbers; addition, subtraction, multiplication, division and order of operations with whole numbers; divisibility tests, factorization, finding greatest common factor and least common multiple; and solving simple application problems with whole numbers.

105 ARITHMETIC FOR COLLEGE STUDENTS (3) NDA

Prerequisite: Successful completion of Mathematics 101 with a grade of "C" or better or placement process

Lecture: 3 hours

Topics include operations in addition, subtraction, multiplication and division of fractions, decimals; using prime number factorization; percentages and applications.

112 PRE-ALGEBRA (3) NDA

Prerequisite: Successful completion of Mathematics 105 with a grade of "C" or better or placement process.

Lecture: 3 hours

This course prepares students for their first course in Algebra. Topics include a brief review of arithmetic operations with signed numbers, variables, expressions, linear equations, and word problems.

113 ELEMENTARY ALGEBRA A (3)

Prerequisite: Successful completion of Mathematics 112 with a grade of "C" or better or placement process.

Lecture: 3 hours

Topics include review of signed numbers, variables, the order of operations; Addition, subtraction, multiplication and division of signed numbers and polynomials; linear equations, inequalities and factoring.

114 ELEMENTARY ALGEBRA B (3)

Prerequisite: Successful completion of Mathematics 113 with a grade of "C" or better.

Lecture: 3 hours

Review of Algebra A. The balance of the course covers graphs, equations, word problems, inequalities, systems of equations, rational expressions, radicals and quadratic equations.

115 ELEMENTARY ALGEBRA (5)

Prerequisite: Successful completion of Mathematics 112 with a grade of "C" or better or college placement process.

Lecture: 5 hours

Topics include signed numbers, variables, the order of operations; addition, subtraction, multiplication and division of signed numbers and polynomials. Solve linear equations, inequalities; factor, graph. Solve word problems, systems of equations, rational equations, radicals and quadratic equations.

120 ELEMENTARY GEOMETRY (5)

Prerequisite: Math 115 or Math 113 and Math 114 with a grade of "C" or better or placement process.

Lecture: 5 hours

This course is an introduction to Euclidean geometry and it is equivalent to one year of high school geometry. This course reviews basic geometric constructions, definitions, postulates, theorems and their proofs, elements of mathematical logic, and analytical reasoning.

121 ESSENTIALS OF PLANE GEOMETRY (3)

Prerequisite: Math 113 and 114 or Math 115 with a grade of "C" or better or placement process.

Lecture: 3 hours

This course is an introduction to Euclidean geometry and it is equivalent to one year of high school geometry. This course reviews basic geometric construction, definitions, postulates, theorems and their proofs.

125 INTERMEDIATE ALGEBRA (5)

Prerequisite: Math 113 and 114 or Math 115 with a grade of "C" or better or placement process.

Lecture: 5 hours

This course is a study of the properties of real numbers, laws of exponents, radicals, equations and inequalities in linear and quadratic form, systems of equations, matrices, graphing in two variables, rational expressions and equations, complex numbers, conic sections and their graphs, exponential and logarithmic functions.

215 PRINCIPLES OF MATHEMATICS I (3) CSU

Prerequisite: Mathematics 125 with a grade of "C" or better or placement process.

Lecture: 3 hours

This course is primarily for students who plan to teach arithmetic in elementary schools. In this course, systems of numeration, language of sets, the nature of numbers and fundamental operations, number theory, functions and field of real numbers are studied.

216 PRINCIPLES OF MATHEMATICS II (3) CSU

Prerequisite: Mathematics 125 with a grade of "C" or better or placement process.

Lecture: 3 hours

This course is the second of two in a sequence for prospective elementary school teachers. Topics in this course include decimal and real numbers, rational numbers, abstract mathematical systems, geometry and metric system.

225 INTRODUCTORY STATISTICS (3) UC: CSU

Prerequisite: Mathematics 125 with a grade of "C" or better or placement process.

Recommended: Concurrent enrollment in Mathematics 226.

Lecture: 3 hours

Students will discuss basic concepts and techniques of descriptive and inferential statistics including: sampling, probability, statistical distributions, tables and graphs, central limit theory, hypothesis testing, confidence interval estimation, correlation and regression.

226 ELEMENTARY STATISTICS PROBLEM SOLVING (1) CSU*Lecture: 1 hour*

Supplements Math 225 class lectures by introducing the student to various statistical applications.

227 STATISTICS (4) UC:CSU

Prerequisite: Mathematics 125 with a grade of "C" or better or placement process.

Lecture: 4 hours

This course discusses basic concepts and techniques of descriptive and inferential statistics including: sampling, probability, statistical distributions, tables and graphs, central limit theory, hypothesis testing, confidence interval estimation, correlation and regression. Most of analysis will be done using Excel spreadsheet program.

230 MATHEMATICS FOR LIBERAL ARTS STUDENTS UC:CSU

Prerequisite: Math 125 with a grade of "C" or better or placement process.

Lecture: 3 hours

This is a survey course for prospective teachers and Liberal Arts students. Emphasis is on Mathematical concepts and problem-solving rather than basic skills. Some history of mathematics is included. This course is intended to enhance the student's appreciation of mathematics. Included are topics such as numeration systems, algebraic models and graphing set theory, and logic.

235 FINITE MATHEMATICS (5) UC:CSU

Prerequisite: Mathematics 125 with a grade of "C" or better or placement process.

Lecture: 5 hours

This course consists of the basic concepts and operations of algebra essential to business, life and social science majors. The course includes the study of rational exponents, quadratic equations, graphs, logarithms, mathematics of finance, linear programming and an introduction to probability and statistics.

236 CALCULUS FOR BUSINESS AND SOCIAL SCIENCES (5) UC:CSU

Prerequisite: Mathematics 125 with a grade of "C" or better or placement process.

UC limits credit for Math 236 combined with Math 265 and 266 to 2 courses.

Lecture: 5 hours

This course is an introduction to one and two variable calculus as applied to business, economics, and social sciences, included are applications of partial derivatives and multiple integrals to extreme problems.

240 TRIGONOMETRY (3) CSU

Prerequisite: Math 121/125 with a grade of "C" or better or placement process.

Lecture: 3 hours

Topics include trigonometric functions; circular functions; trigonometric equations; trigonometric identities; solutions of right and oblique triangles; inverse trigonometric functions, graphing; complex numbers and De Moivre's Theorem; polar coordinates; vectors and applications.

245 COLLEGE ALGEBRA (3) UC:CSU

Prerequisite: Mathematics 125 with a grade of "C" or better or placement process.

Lecture: 3 hours

Upon successful completion of this course, students will reinforce the concept of functions and their graphs important in later courses of mathematics, science, business, nursing, or computer science. Polynomial, rational, radical, exponential, and logarithmic equations, both linear and nonlinear systems, sequences and series, and basics of probability are covered to allow students to solve a wide variety of real-life applications.

260 PRE CALCULUS (5) UC:CSU

Prerequisite: Math 240 with a grade of "C" or better or placement process.

Lecture: 5 hours

This is a brief review of algebra with real and complex numbers; polynomials and rational functions with informal limits; exponential, logarithmic and trigonometric functions; systems of equations and matrices; sequences, series and the binomial theorem; conics and polar coordinates.

265 CALCULUS WITH ANALYTIC GEOMETRY I (5) UC:CSU

Prerequisite: Mathematics 260 with a grade of "C" or better or placement process.

Lecture: 5 hours

Introduction to real analysis with analytic geometry; functions, limits and continuity; derivatives and integrals of algebraic and transcendental functions; applications of the derivative to graphing and optimization; the Fundamental Theorem of Calculus and applications of the definite integral.

266 CALCULUS WITH ANALYTIC GEOMETRY II (5) UC:CSU

Prerequisite: Mathematics 265 with a grade of "C" or better or placement process.

Lecture: 5 hours

Topics include differentiation and integration of trigonometric, exponential, logarithmic functions, and hyperbolic functions; conic sections with translations and rotations, techniques of integration; improper integrals, infinite series and polar coordinates.

267 CALCULUS WITH ANALYTIC GEOMETRY III (5) UC:CSU

Prerequisite: Mathematics 266 with a grade of "C" or better or placement process.

Lecture: 5 hours

This course reviews operations with vectors in two and three-dimensional spaces as well as vector-valued functions with their applications. Topics include partial derivatives, Lagrange multiplier, line integrals, multiple integrals in polar, cylindrical, and spherical coordinates, Green's theorem, surface integrals, divergence and Stokes' theorems.

270 ELEMENTARY LINEAR ALGEBRA (3) UC:CSU

Prerequisite: Mathematics 267 with a grade of "C" or better or placement process.

Lecture: 3 hours

Introduction to linear algebra and matrix theory. Topics include: linear systems, matrices and determinants; vector spaces and linear transformations; eigenvectors and eigenvalues; inner product spaces and canonical forms.

275 ORDINARY DIFFERENTIAL EQUATIONS (3) UC:CSU

Prerequisite: Mathematics 267 with a grade of "C" or better or placement process.

Lecture: 3 hours

Topics include ordinary differential equations with concentration on first and higher-order, homogeneous and non-homogeneous linear differential equations with or without initial-value conditions; system of linear first-order differential equations; Cauchy-Euler equation; series solutions; Laplace Transform; numerical solutions.

185 DIRECTED STUDY - MATHEMATICS (1) RPT2 UC:CSU**285 DIRECTED STUDY - MATHEMATICS (2) UC:CSU****385 DIRECTED STUDY - MATHEMATICS (3) UC:CSU**

Directed Study courses allow a student to pursue individual instruction on a contract basis under the direction of a supervising instructor.

NONCREDIT CONTINUING EDUCATION

NONCREDIT CONTINUING EDUCATION

PROGRAM OVERVIEW

Los Angeles Trade Technical College offers a wide variety of tuition-free noncredit courses on campus and at community based organizations throughout Los Angeles. As a key aspect of lifelong learning, noncredit instruction at LATTC serves as a gateway to college and a career path, provides programs for immigrants to actively engage in the economy and civic life; and provides access to basic skills and English as a Second Language. Students can register for classes six days a week (Monday through Saturday) in the Bridges to Success Center (C-108) or off-site at the first class meeting. For additional information contact the Bridges to Success Center at (213) 763-5560 or via email at bridge@lattc.edu.

NONCREDIT CERTIFICATIONS OF COMPLETION

Los Angeles Trade-Technical College has received approval from the California Community College's Chancellor's Office for several Noncredit Certificates of Completion. These Noncredit Certificates are programs that create opportunities for career development and college preparation through career-technical education (short-term vocational), educational development (basic skills, ESL and VESL) or workforce preparation. LATTC's approved Noncredit Certificates are listed below:

ENGLISH AS A SECOND LANGUAGE: BEGINNING

Students who earn this certificate will receive instruction in speaking, listening, reading and writing and the basic skills necessary for success in obtaining employment and/or advancement in the workforce.

REQUIRED COURSES

	UNITS
ESL 6 CE English as a Second Language-0	0
ESL 7 CE English as a Second Language-1	0
ESL 8 CE English as a Second Language-2	0

ENGLISH LITERACY AND CIVICS

Immigrant and second language learners who complete this set of courses will receive instruction in English focusing on speaking, listening, reading and writing to help them initiate and successfully complete the United States' naturalization process.

REQUIRED COURSES

	UNITS
ESLCVCS 1 CE ESL Civics	0
ESL 1 CE English as a Second Language – Beginning	0
ESL 5 CE English as a Second Language – Intermediate	0

BANK TELLER

Students who earn this certificate receive the necessary entry-level skills for employment as Bank Tellers and Customer Service Representatives in the financial services industry.

REQUIRED COURSES

	UNITS
VOC ED 80 CE Bank Teller Training	0
BSICKSL 43 CE Softskills Basic 1C - Pre-Employment Readiness	0

COLLEGE READINESS

■ Certificate

This certificate prepares students for success in college. Students will obtain the basic skills needed to successfully transition to college classes so you can start a degree.

REQUIRED COURSES

	UNITS
BSICKSL 2 CE Basic English Skills	0
BSICKSL 23 CE College and Scholastic Assessment Prep	0
BSICKSL 35 CE Basic Math Skills	0
BSICKSL 60 CE Basic Computer Literacy	0

WORKPLACE READINESS

This program will provide students with the skills to successfully search for, obtain and maintain employment.

REQUIRED COURSES

	UNITS
BSICKSL 45 CE Microsoft Office Application Basics	0
BSICKSL 46 CE Microsoft Windows Basics	0
VOCED 8 CE Pre-employment Skills/Consumer Training	0
BSICKSL 41 CE Softskills Basic 1A - Job Search Planning	0
BSICKSL 42 CE Softskills Basic 1B - The Successful Job Search	0
BSICKSL 55 CE Softskills Basic 3B - Image, Etiquette and Interpersonal Communication	0

ELECTIVE COURSES		UNITS
BSICSKL 45 CE	Microsoft Office Application Basics	0
BSICSKL 46 CE	Microsoft Windows Basics	0
VOCED 8 CE	Pre-employment Skills/Consumer Training	0

BASIC SKILLS

■ Noncredit Course Descriptions

002CE BASIC ENGLISH SKILLS (0)

Basic listening, reading, speaking, and writing skills for students with minimum English language skills. (54 hours)

023CE COLLEGE AND SCHOLASTIC ASSESSMENT PREP (0)

This course provides students with study, computational, writing, and critical thinking skills to prepare for the college assessment test. (72 hours)

035CE BASIC MATH SKILLS (0)

This course is designed to strengthen basic math skills. Topics include properties, rounding, estimating, comparing, converting, and computing whole numbers, fractions, and decimals. Upon completion, students should be able to perform basic computations and solve relevant mathematical problems. (54 hours)

041CE SOFTSKILLS BASIC 1A – JOB SEARCH PLANNING (0)

This course covers the basic knowledge and skills necessary for finding and gaining employment. Topics include job search planning, clarifying work/professional goals, identifying work opportunities using many resources, and developing a Work Opportunity Plan. (9 hours)

042CE SOFTSKILLS BASIC 1B - THE SUCCESSFUL JOB SEARCH (0)

This course covers the basic knowledge and skills necessary for gaining employment. Topics include telephone contact of prospective employers, resume writing, employer expectations, and interviewing skills. (9 hours)

043CE SOFTSKILLS BASIC 1C - PRE-EMPLOYMENT READINESS (0)

This course provides an introduction for starting successful employment or a new job. Topics include: making good first impressions, basic workplace expectations, developing good work habits, time management, communication skills, dealing with job-related stress, and techniques for good interpersonal relationships. (9 hours)

045CE MICROSOFT OFFICE APPLICATION BASICS (0)

An introduction to basic functions of Microsoft Office® applications namely Word®, Excel®, Outlook®, and Powerpoint®. (36 hours)

046CE MICROSOFT WINDOWS BASICS (0)

An introduction to basic functions of Microsoft Windows®. Topics include: terminology; screen elements such as toolbars, title bars, and task bars; navigating in Windows®; file management; and much more. (9 hours)

047CE MICROSOFT WORD BASICS (0)

An introduction to basic functions of Microsoft Word®. Topics include: document management, editing techniques, and formatting text and documents. (9 hours)

048CE MICROSOFT EXCEL BASICS (0)

An introduction to basic functions of Microsoft Excel®. Topics include: worksheet terminology. (9 hours)

049CE MICROSOFT OUTLOOK BASICS (0)

An introduction to basic functions of Microsoft Outlook®. Topics include: Outlook® definitions and terminology; creating, sending, and receiving email messages; scheduling and rescheduling calendar appointments; and much more. (9 hours)

050CE MICROSOFT POWERPOINT BASICS (0)

An introduction to basic functions and features of Microsoft Powerpoint®. Topics include: Powerpoint® definitions and terminology; using fonts, colors, graphics, and much more! (9 hours)

051CE INTERNET BASICS (0)

An introduction to basic functions and features of the internet. Topics include internet providers, web browsers, search engines, navigating the internet, methods for handling worms and viruses, and more. (9 hours)

054CE SOFTSKILLS BASIC 3A – CUSTOMER SERVICE AND RELATIONS (0)

This course introduces basic customer service and relations skills. Topics include principles of customer service and relations, employee responsibilities in customer relations, communication skills, handling customer complaints, telephone skills, and using new technologies related to customer service. (9 hours)

055CE SOFTSKILLS BASIC 3B—IMAGE, ETIQUETTE, AND INTERPERSONAL COMMUNICATIONS (0)

This course covers the interpersonal and professional image skills necessary for succeeding in the workplace. Topics include basic business manners and etiquette, interacting with people or "people skills", how to develop a professional image, problem solving, and handling workplace conflict. (9 hours)

060CE BASIC COMPUTER LITERACY (0)

This course introduces basic computer components and functions including computer hardware, software, using the internet, operating systems, and software applications, (e.g. word processing, spreadsheets, email and communications). (54 hours)

ENGLISH AS A SECOND LANGUAGE

■ Noncredit Course Descriptions

001CE ENGLISH AS A SECOND LANGUAGE - BEGINNING I (0)

This course provides a basic introduction to the English language to the limited English speaker. Topics include listening, speaking, and reading English for the immediate need. (54 hours)

005CE ENGLISH AS A SECOND LANGUAGE - INTERMEDIATE (0)

This course provides listening, reading, speaking, and writing skills for ESL learners with basic English language skills. (36 hours)

006CE ENGLISH AS A SECOND LANGUAGE I (0)

This course basic listening, reading, speaking, and writing skills for ESL learners with zero to minimum English language skills. Students will learn basic pronunciation, survival vocabulary, cultural differences, self-sufficiency for tasks and activities, and basic English structure. (54 hours)

008CE ENGLISH AS A SECOND LANGUAGE - II (0)

Listening, reading, speaking, and writing skills for ESL learners with some English language skills. (54 hours)

ENGLISH LITERACY AND CIVICS (CITIZENSHIP PREPARATION)

■ Noncredit Course Descriptions

001CE ENGLISH LITERACY AND CIVICS (0)

Introduces US History and government with appropriate English vocabulary and structure for ESL students who are preparing to take the US citizenship examination. (54 hours)

VOCATIONAL EDUCATION

■ Noncredit Course Descriptions

008CE PRE-EMPLOYMENT SKILLS/CONSUMER TRAINING (0)

Students will acquire conceptual, intra-, and inter-personal skills to prepare them for the world of work. Topics include communication skills, group effectiveness, problem-solving skills, and teamwork while working in "simulated" vocational settings. (270 hours)

080CE BANK TELLER TRAINING (0)

This course provides basic training for someone seeking an entry-level position as a bank teller. Topics include general work-place personal behavior and interpersonal relationships, specific common financial transaction procedures, and fundamental record processing principles. (72 hours)

108CE COMPUTER TECHNOLOGY IN THE WORKPLACE (0)

An introductory course to data-entry providing hands-on training. Students learn basic concepts of entering data using the numeric and alphabetic keyboard. (54 hours)

190CE BUSINESS PLAN (0)

An introduction to Business Plan preparation. Topics include: description of business, vision and mission statements, core components of business plan, information resources and the preparation of a sample business plan. (9 hours)

191CE INTRODUCTION TO RECORD-KEEPING & BASIC ACCOUNTING (0)

An introduction to keeping business records and basic accounting. Topics include: Manual and computerized record-keeping, computerized accounting, financial statements and budgeting. (9 hours)

192CE MARKETING AND SALES FOR SMALL BUSINESS (0)

An introduction to marketing and sales techniques. Topics include: Marketing plans, marketing mix, developing sales presentations and servicing of accounts. (18 hours)

193CE STARTING & MANAGING YOUR OWN BUSINESS (0)

An introduction to starting and managing a small business. Topics include: Key decisions and considerations when creating a business, small business information resources, business financing resources and business readiness assessment. (9 hours)

194CE PATHWAY TO ENTREPRENEURSHIP (0)

An introduction to unlocking creative potential when planning a new business or a new project for an existing business. (9 hours)

195CE TECHNOLOGY FOR SMALL BUSINESS (0)

An introduction to basic technology needed in operating a small business. Topics include: equipment hardware, software, and training. (18 hours)

214CE ADVANCED LIFELONG FITNESS CENTER (0)

Orientation to fitness and lifelong health for students to achieve goals of lifelong fitness. This course includes a pre-test fitness test which includes cardio respiratory endurance, muscle endurance, flexibility, body composition (% fat), and muscle strength. Students will implement a personal exercise program and learn about diet and exercise, cholesterol screening, breast health and cancer, weight management, and stress management. (54 hours)

215CE MULTIMEDIA PRESENTATION FOR THE INTERNET I (0)

This course examines the power of using the Internet as a presentation tool and includes document conversion, use of FrontPage, PowerPoint and Producer to combine digital images, video, and audio. (81 hours)

216CE MULTIMEDIA PRESENTATION FOR THE INTERNET I - INTRODUCTION (0)

This course examines the power of using the Internet as a presentation tool and includes Internet History and development, plus converting Word and PowerPoint documents to HTML documents. (27 hours)

217CE MULTIMEDIA PRESENTATION FOR THE INTERNET I - FRONTPAGE (0)

This course examines the power of using the Internet as a presentation tool and includes using Microsoft FrontPage to create a web site and evaluation of effectiveness as a presentation tool. (27 hours)

218CE MULTIMEDIA PRESENTATION FOR THE INTERNET I - POWERPOINT (0)

This course examines the power of using the Internet as a presentation tool and includes using Microsoft PowerPoint and Producer to produce effective static and streaming presentations that include digital images, audio and video. (27 hours)

219CE MULTIMEDIA PRESENTATIONS II - DIGITAL IMAGES, LEVEL 1 (0)

This course introduces basic procedures for creating digital images using scanners, digital cameras, and software. Students will create and modify images for presentation for print and online media. (27 hours)

220CE MULTIMEDIA PRESENTATIONS II - DIGITAL AUDIO, LEVEL 1 (0)

This course introduces digital audio. Students create and/or edit digital audio files in various formats and styles. (27 hours)

221CE MULTIMEDIA PRESENTATIONS II - DIGITAL VIDEO, LEVEL 1 (0)

This course examines the power of using Digital Video for Multimedia presentation. Will cover basics of shooting and editing digital video, as well as provide a basic comprehension of aesthetic concepts for shooting digital video. (27 hours)

HEALTH EDUCATION

■ Noncredit Course Descriptions

008CE PHYSICAL FITNESS (0)

This course includes lecture on and participation in designing a personal fitness and conditioning program. Topics include fitness goals, safety, strength training, flexibility, cardiovascular health, nutrition, injury prevention and rehabilitation and various exercise programs. (36 hours)

011CE FIRST AID/CPR (0)

Emergency preparedness for and response to accidents, natural disasters, acute and chronic injuries and disease is covered in this course. CPR techniques for adults, infants and children is included with training on automated external defibrillators. Special topics include back and sports injuries. Material is consistent with American Heart Association, American Red Cross and National Safety Council certification. (54 hours)

021CE WATER SAFETY (0)

This course analyzes swimming strokes and skills found in recreational swimming and includes some common competitive swimming skills. Emphasis is placed on personal water safety, fitness, and includes stroke modifications for disabled swimmers. Motor learning theory, instructional drills, teaching/learning progressions and program development are included for those learning to become swimming instructors. (54 hours)
Open up a World of Possibilities.



NURSING AND ALLIED HEALTH

NURSING, REGISTERED

PROGRAM OVERVIEW

The Registered Nursing Program at Los Angeles Trade-Technical College combines nursing and general education courses with selected laboratory experiences during which students provide nursing care to clients in hospitals and other health care facilities. Nursing courses include medical-surgical nursing, geriatric nursing, maternal child health nursing, pediatric nursing, psychiatric nursing, pharmacology, and nursing management and leadership/preceptorship. The program is designed to be completed within four semesters after admission for non-licensed candidates and within three semesters for candidates who have a valid California LVN license.

Applicants must meet health as well as other requirements mandated by the program and affiliating hospitals/clinic prior to entry. Candidates are admitted to the program in the Fall and Spring semesters. Candidates must enter the program with a minimum overall 2.5 grade point average and a 2.5 grade point average in the science prerequisites. A candidate may file an application only after all prerequisites have been completed. At that time the student will be eligible to take the nursing entrance examination called TEAS (Test of Essential Academic Skills). If the student achieves a passing score on the TEAS he or she will be placed on the waiting list. If a student does not achieve a passing score on the TEAS he or she will be provided with remediation opportunities and permitted to retake the exam. Students may retake the entrance exam once. Program flyers with prerequisites and admission information may be obtained from the Counseling Office or the Department of Allied Health..

Nursing is a field that is in high demand and is one that is personally rewarding and constantly stimulating. Well paying jobs for nurses are available in almost every city in America. The American Hospital Association announced that hospitals across the country need 118,000 RNs. They predict that by 2014 there will be a need for 1.2 million new and replacement nurses. Salaries have been going up too. In 2002 34% of RNs were earning from \$40,000-55,000 and 22% were earning \$55,000 to \$75,000 per year. More important, nurses have the opportunity to improve and even save lives, teach people how to achieve better health and advocate for patients/clients and their families. Please visit the Department of Allied Health to learn more about this exciting field.

The Registered Nursing Program is approved by the California Board of Registered Nursing. Upon completion of the program, graduates are eligible to apply for the State Board of Registered Nursing licensing examination (NCLEX). Student graduates will be able to:

1. Use nursing process to assess, diagnose, plan, implement, and evaluate care for clients of all ages who are experiencing acute or chronic health problems.
2. Collaborate with other health care personnel to provide coordinated care for clients of all ages who are experiencing acute or chronic health problems.

3. Function within the scope of the California Nurse Practice Act.
4. Demonstrate commitment to the profession of nursing.

NURSING, REGISTERED

■ Associate in Science Degree

PREREQUISITE COURSES

A G.P.A. of 2.5 or better must be earned in all prerequisite courses. A G.P.A. of 2.5 or better must be earned in Biology and Microbiology. High school diploma, G.E.D., U.S. university degree or A.S./A.A. degree is required. Foreign education may be considered after transcript evaluation.

Requirements for the Associate in Science degree in Registered Nursing may be met by completing the required courses below and 18 units of general education courses to meet the Plan B graduation requirement.

		UNITS
BIOLOGY 20	Anatomy and Physiology	8
MICRO 1 or 20	Introductory Microbiology	5/4
PSYCH 1	General Psychology I	3
PSYCH 41	Life Span Psychology: Infancy to Old Age	3
ENGLISH 101	College Reading and Composition I	3
High School Chemistry or equivalent		
TEAS (passing grade 67%)		

REQUIRED COURSES

Nursing courses must be taken in sequence and completed with a grade of "C" or better.

FIRST SEMESTER		UNITS
NS 101	Introduction to Nursing (First 8 weeks)	3
NS 103	Nursing Process (First 8 weeks)	1
NS 102	Fundamentals of Nursing (Second 8 weeks)	3
NS 104	Nursing Communication (Second 8 weeks)	1
NS 105	Nursing Pharmacology	2

SECOND SEMESTER		UNITS
NS 106	Medical-Surgical Nursing I (8 weeks)	5
NS 109	Gerontology and Community Based Nursing (8 weeks)	2
NS 110	Psychiatric Mental Health Nursing (8 weeks)	3

THIRD SEMESTER		UNITS
NS 107	Medical-Surgical Nursing II (8 weeks)	5
NS 111	Reproductive and Women's Health (8 weeks)	3.5

FOURTH SEMESTER		UNITS
NS 108	Medical-Surgical Nursing III (First 8 weeks)	3
NS 112	Nursing Care of Child and Family (First 8 weeks)	3.5
NS 114	Nursing Leadership and Management (2nd 8 weeks)	
	(Includes 135 hr. Preceptorship)	3
TOTAL UNITS		38

RECOMMENDED ELECTIVES

		UNITS
NS 115	Basic Skills Enhancement Lab	1
NS 116	Basic Skills Enhancement Lab	2
NS 117	Basic Skills Enhancement Lab	3
RN 185	Directed Study	1
RN 285	Directed Study	2
TOTAL UNITS		9

NURSING, REGISTERED

■ Career Ladder: LVN to RN

PREREQUISITES		UNITS
Current, valid California LVN license, plus the following:		
BIOLOGY 20	Anatomy and Physiology	8
MICRO 1 or 20	Introductory Microbiology	5/4
PSYCH 1	General Psychology I	3
PSYCH 41	Life Span Psychology: Infancy to Old Age	3
ENGLISH 101	College Reading and Composition I	3
High School Chemistry or equivalent		
TEAS EXAM (passing grade 67%)		
NS 100	Transition from VN to RN	2

*Must be taken after all other prerequisites have been completed.

PROGRAM COURSES

SECOND SEMESTER		UNITS
NS 106	Medical-Surgical Nursing I	5
NS 109	Gerontology and Community Based Nursing	2
NS 110	Psychiatric Mental Health Nursing	3
UNITS		9

THIRD SEMESTER		UNITS
NS 107	Medical-Surgical Nursing II	5
NS 111	Reproductive and Women's Health Nursing	3.5
UNITS		8.5

FOURTH SEMESTER		UNITS
NS 108	Medical-Surgical Nursing III	3
NS 112	Nursing Care of Child and Family	3.5
NS 114	Nursing Leadership and Management	3
UNITS		9.5

Nursing courses must be taken in sequence and completed with a grade of "C" or better.

NURSING, REGISTERED

■ 30-Unit Option

This is an option mandated by the Board of Registered Nursing for Licensed Vocational Nurses. Candidates selecting this option are not eligible for an Associate Degree in Nursing from Los Angeles Trade-Technical College Registered Nursing Program.

Note: This educational option may not be recognized in states outside of California. Check with an individual state BRN for more information.

PREREQUISITES

A grade of "C" or better must be obtained in all courses. High school graduate or G.E.D., U.S. university degree or A.S./A.A. degree is required.

		UNITS
MICRO 20	General Microbiology	4
BIOLOGY 20	Anatomy and Physiology	8
TEAS EXAM	(passing grade 67%)	
NS 100	Transition from VN to R.N.	2

*Must be taken after all other prerequisites have been completed.

REQUIRED COURSES

SECOND SEMESTER		UNITS
NS 106	Medical-Surgical Nursing I	5
NS 109	Gerontology and Community Based Nursing	2
NS 110	Psychiatric Mental Health Nursing	3
UNITS		10

THIRD SEMESTER		UNITS
NS 107	Medical-Surgical Nursing II	5
UNITS		5

FOURTH SEMESTER		UNITS
NS 108	Medical-Surgical Nursing III	3
NS 114	Nursing Leadership and Management (Preceptorship)	3
UNITS		6

Nursing courses must be taken in sequence and completed with a grade of "C" or better.

NURSING SCIENCE

■ COURSE DESCRIPTIONS

100 TRANSITION FROM VN TO RN (2) CSU

Prerequisite: Declared major - Registered Nursing and possession of a current California license as a Vocational Nurse. This course must be taken after all other prerequisites have been completed.

Lecture: 2 hours

This bridge course provides students holding a current California Vocational Nursing license with an understanding of the role change from Licensed Vocational Nurse to Registered Nurse. The focus of the content is on ethical and legal issues affecting nursing practice, effective communication skills, transcultural assessment techniques, implementation of the nursing process and the program's conceptual framework. The course introduces the students to professional nursing and is taught in eight weeks.

101 BASIC NURSING PRACTICE (3) CSU

Prerequisite: Official admission to the Registered Nursing Program.

Corequisite: NS 103 NS 105

Lecture: 2.25 hours; *Lab:* 13 hours

This course is an introduction to the philosophy of nursing, nursing history, Maslow's Hierarchy of needs, and legal and ethical issues in nursing. Concurrent with the theory, the nursing student will have basic client care experience in the skills lab and hospital setting.

102 FUNDAMENTALS OF NURSING (3) CSU

Prerequisite: Successful completion of NS 101 and NS 103 with grade of "C" or better.

This course will be an introduction to medical-surgical nursing concepts and issues based on Maslow's hierarchy of needs. The course content will be presented within the framework of wellness-illness continuum, and normal physiological, psychological, and sociocultural needs of the client. The client care issues will range from mild to moderate. The A.T.I exam in nursing fundamentals will be administered.

103 NURSING PROCESS (1) CSU

Prerequisite: Admission to the Registered Nursing program

Corequisite: NS 101

Lecture: 2.25 hours

This course is designed to acquaint the student with the components of Nursing Process: assessment, nursing diagnosis, planning, implementation and evaluation. Students will use Nursing Process in conjunction with Maslow's Hierarchy of Needs to make appropriate nursing judgments.

104 COMMUNICATION IN NURSING (1) CSU

Prerequisite: Successful completion of NS 101 and NS 103 with grade of "C" or better.

Corequisite: NS 102

Lecture: 2.25 hours

The course is designed to acquaint the student with the elements of therapeutic communication and how communication is affected by culture and variations in wellness and illness. Included in the course is a discussion on how use of nursing process and critical thinking will assist the student to form therapeutic alliances with clients and healthcare team.

105 PHARMACOLOGY IN NURSING (2) CSU

Prerequisite: Admission to the Registered Nursing Program

Corequisite: First semester courses

Lecture: 1.75 hours, *Lab:* 1.75 hours

This course focuses on the effects of drug therapy on human body systems including the central nervous system, autonomic nervous, cardiovascular, renal, endocrine, respiratory and Gastro-intestinal systems. Anti-infective, anti-inflammatory, immune and biological modifiers, chemotherapeutic, hematological, dermatologic, ophthalmic and otic agents are also covered.

106 MEDICAL-SURGICAL NURSING I (5) CSU

Prerequisite: Successful completion of first semester courses with a grade of "C" or better.

Lecture: 6.75 hours; *Lab:* 12.5 hours.

This basic course focuses on the nursing care of the adult client with moderate stress posed by common endocrine, gastrointestinal, cardiac, musculoskeletal, neurological and respiratory disorders. The student will function as a member of the health care team and beginning leadership skills will be presented. Emphasis will be placed on classroom and clinical application of critical thinking and therapeutic nursing interventions in acute, chronic and community health care settings.

107 MEDICAL-SURGICAL NURSING II (5) CSU

Prerequisite: Successful completion of second semester courses with grade of "C" or better

Lecture: 6.75 hours *Lab:* 12.5 hours

This intermediate level medical/surgical nursing course focuses on nursing care of adult clients with high acuity problems within hospital and community settings. Students will use nursing process and Maslow's Hierarchy of needs to plan and implement nursing care. The course builds on the theory and skills presented in NS 106 and continues the focus on leadership that was introduced in NS 106. Assessment Technologies Institute (ATI) materials will be incorporated into the course.

108 MEDICAL-SURGICAL NURSING III (3) CSU

Prerequisite: Successful completion of third semester courses with grade of "C" or better

Corequisite: NS 112

Lecture: 3.5 hours *Lab:* 10.25 hours

This course focuses on the nursing care of medical-surgical clients in a variety of setting. Emphasis will be on classroom and clinical application of critical thinking and caring interventions in chronic, acute, critical care and community health care settings. Assessment Technologies Institute (ATI) materials will be incorporated into the course. The ATI med/surg proctored exam will be administered.

109 GERONTOLOGY AND COMMUNITY BASED NURSING (2) CSU

Prerequisite: Successful completion of first semester courses with grade of "C" or better

Corequisite: NS 110

Lecture: 2.25 hours *Lab:* 6.75 hours

This course focuses on nursing care of the older adult client with common health and illness needs. Emphasis will be on classroom and clinical application of critical thinking and therapeutic nursing interventions in acute, chronic and community health care settings for the elder adult population.

110 PSYCHIATRIC MENTAL HEALTH NURSING (3) CSU

Prerequisite: Successful completion of first semester courses with grade of "C" or better.

Corequisite: NS 109

Lecture: 3.5 hours *Lab:* 10.25 hours

This course focuses on nursing care of clients with common psychiatric mental health needs/disorders across the lifespan. Students will apply the nursing process, critical thinking, psychosocial theory and Maslow's Hierarchy of Needs to care of clients in acute, chronic and community-based psychiatric-mental health settings. A.T.I. exam will be administered.

111 REPRODUCTIVE AND WOMEN'S HEALTH NURSING (3.5) CSU

Prerequisite: Successful completion of second semester courses with grade of "C" or better.

Lecture: 4.5 hours *Lab:* 10.25 hours

This course focuses on the nurse as a provider of care, manager of care and a member of the profession in a variety of maternal/newborn and women's health settings. Assessment Technologies Institute materials will be incorporated into the course.

- 112 NURSING CARE OF CHILDREN & FAMILIES (3.5) CSU**
Prerequisite: Successful completion of third semester with grade of "C" or better
Corequisite: NS 108
Lecture: 4.5 hours Lab: 10.25 hours
 This course focuses on the nurse as a provider of care, manager of care and member of the profession in a variety of settings involving children and families. Course content includes physiological, psychological, developmental and socio-cultural needs of children and families. Assessment Technologies Institute materials will be included in the course.
- 114 NURSING LEADERSHIP AND MANAGEMENT/ PRECEPTORSHIP (3) CSU**
Prerequisite: NS 108 NS 112
Lecture: .5 hours Lab: 135 hour Preceptorship
 This course focuses on the transitioning role of the graduating Associate Degree nurse as a provider of care, manager of care and member of the profession. Concepts and issues to be examined include effective leadership styles, advanced therapeutic communication, delegation, conflict resolution, time management, nursing ethics and professional issues. Clinical experience is in the form of a preceptorship
- 115 BASIC SKILLS ENHANCEMENT LAB (1)**
116 BASIC SKILLS ENHANCEMENT LAB (1)
117 BASIC SKILLS ENHANCEMENT LAB (1)
Prerequisite: Enrollment in the Registered Nursing Program
 One hour of study equates to one unit. These courses may not be offered each semester. The course allows students to enhance theory, clinical skills and computer skills under the direction of a supervising instructor. May be repeated.

CERTIFIED NURSING ASSISTANT/HOME HEALTH AIDE

PROGRAM OVERVIEW

These programs prepare the student to provide physical care to patients and supportive care to their families in acute care settings, long-term care facilities, home health agencies and in the home. After completing the program, students receive a Skills Certificate from LATTC and are eligible to take the California Nurse Assistant Examination. To enroll in any of these courses candidates must be at least 16 years old, demonstrate basic reading and math computation ability, have the legal right to work in California, and complete a background check.

The Certified Nurse Assistant course is an 8-week course, which consists of 150 hours of theory and clinical experience. The Home Health Aide course is a 40-hour course that requires C.N.A. certification as a prerequisite. Often, these courses are the entry points that lead to other health care/nursing careers.

CERTIFIED NURSING ASSISTANT/HOME HEALTH AIDE

COURSE DESCRIPTIONS

- 37 HEALTH OCCUPATIONS (CERTIFIED NURSE ASSISTANT) (5)**
 This is an 8 week course of 150 hours approved by the State of California. It prepares students to perform basic nursing tasks and educates students about the role and responsibilities of the Certified Nurse Assistant. Skills include principles of safety, infection control, and basic patient care skills. After successfully completing this course students are eligible to take the State Certification Exam.
- 38 HEALTH OCCUPATION (HOME HEALTH AIDE) (2)**
Prerequisite: Health Occupations 37 - Certified Nurse Assistant Certificate.
 This 40 hour course is approved by the State of California. Students will learn to provide quality in-home care to patients and assist them with activities of daily living. Students will provide care to the client for their needs in the areas of comfort, hygiene, nutrition, elimination, sleep and rest.

PHYSICAL EDUCATION / HEALTH

PHYSICAL EDUCATION

PROGRAM OVERVIEW

The fundamental goal of the physical education program is to prepare students for the challenges of the 21st century by providing opportunities to attain the skills and knowledge to be physically active as part of a healthy lifestyle. Students should become competent in movement forms, motor skills, and social skills and learn to enjoy physical activity while not compromising safety. Participation in physical activity provides important opportunities for challenge, social interaction, group membership and serves an important role in physical maturation processes. Physical education provides enjoyment, challenge, social opportunities and a greater opportunity for self-expression and personal meaning.

Activity skills instruction includes progressive skills attainment in each particular sport or activity with emphasis on technique, strategy, etiquette, and rules, as well as physical health emphasis and importance of life-long physical well-being. The activity of physical education requires repetitive practice for the student to achieve the course objectives. For this reason, it is educationally sound and recommended for a student to repeat a physical education activity course to achieve maximum educational objectives.

Students who master these skills will reap the benefits of a physically active lifestyle; better health, higher educational achievement, better preparation for work, improved attendance, and lower health care costs. Establishment of lifelong patterns of participation in physical activity expands beyond the physical education class to the opportunities and support provided by the school and community. Physical Education, in combination with school-wide and community programs and services, encourages and supports healthy behaviors.

CONCURRENT ENROLLMENT

Concurrent enrollment in more than one section of the same course is permitted for P.E. 101, 102, 131, 203, 212, 228, 229, 230, 662, 666, 682, 690, 742.

PHYSICAL EDUCATION - AQUATICS

COURSE DESCRIPTIONS

101 SWIMMING, NON-SWIMMER SKILLS (1) UC:CSU

Lab: 3 hours

This course offers instruction and practice in the fundamental skills of swimming and water safety for non-swimmers. This class covers the five basic swimming strokes, treading water, survival floating, jumping and diving into deep water, cramp release, and elementary forms of rescue. A wonderful class for all to begin to learn how to swim.

102 SWIMMING SKILLS (1) UC:CSU

Lab: 3 hours

This course offers instruction and practice in the fundamental skills of swimming and water safety for those who have mastered the basic swimming skills and want to improve their depth and range of aquatic skills. This course will cover all competitive strokes and those recognized by the American Red Cross. It will include information on hydrodynamics, theory of propulsion in the water, principles of using levers, water safety, and elementary forms of rescue, springboard diving, and flips turns. Cardiovascular conditioning will be done as the lap swimming distance increases during the semester.

105 DIVING SKILLS (1) UC:CSU

Lab: 2 hours

Course covers basic springboard diving skills on one and three meter boards. Front, back, inward, reverse and twisting dives. No experience necessary, some swimming skills a plus.

131 AQUA AEROBICS ACTIVITY (1) UC:CSU

Lab: 3 hours

Introduction is provided in water exercise that may be used for maintenance of individual fitness programs. No swimming skills required. Water Exercise equipment are used in circuits and a variety of individual exercises to help tone the body. Other Basic Metabolic functions are covered.

160 SKIN DIVING ACTIVITIES (1) CSU

Lecture .5 hours; Lab: 1.5 hours

Advisory: PE 102 or Intermediate Swimming Skills

This course will provide the student with the basic knowledge and skills to safely undertake the sport of skin diving. Topics include physiology, medical aspects, oceanography, marine biology, equipment, activities, and safety. Field trips to area beaches and Catalina Island are optional. Students must provide their own mask, fins, and snorkel. Optional certification by NAUI is available with field trips.

473 ADAPTED SWIMMING INSTRUCTOR (2) RPT2 CSU

Lecture: 1 hour; Lab: 2 hours

Advisory: PE 701, 702

This class provides specific instructor training in aquatics programs for individuals with disabilities. Developmental activities, sports, and games suited to the capacities and limitations of students with disabilities. Successful completion of this course qualifies for the Los Angeles Red Cross Chapter Adapted Swimming Instructor Certificate.

474 ADAPTED AQUATIC FITNESS INSTRUCTOR (2) RPT4 CSU

Lecture: 1 hour; Lab: 2 hours

Advisory: PE 701, 729

This class provides specific instructor training in aquatic fitness instruction for individuals with disabilities, injuries, and/or those recovering from surgery. Overview of industry trends in such areas as Bad Ragaz, Arthritis, Watsu®, and Johara®. This class will help prepare the student to take the instructor certification exam with the Aquatic Exercise Association.

475 COACHING COMPETITIVE SWIMMING (2) RPT2 UC:CSU

Lecture: 1 hour; Lab: 2 hours

Advisory: PE 701, 702

This course will provide the student with the knowledge to coach competitive age group swimmers in United States Swimming or recreational swim environments. Emphasis is placed on safety, scientific training principles, sports psychology, and stroke mechanics. This course prepares a student to take the tests for USA Swimming or ASCA swimming coaches tests.

560 SWIMMING (1) RPT3 UC:CSU*Lab: 3 hours*

This course is designed to provide focused strength and conditioning exercises, emphasize safety and injury prevention, and present new rules and stroke technique for competitive swimming.

561 WATER POLO (1) CSU*Lab: 3 hours*

This course is designed to provide focused strength and conditioning exercises, emphasize safety and injury prevention and present new rules and game plays for Water Polo.

628 SWIM AND RUN FITNESS (1) UC:CSU*Lab: 3 hours*

This course will develop cardiovascular conditioning and fitness through running and swimming. Since both activities will usually be done each session, the transition skills will also be acquired. This is a triathlon lead-up course.

632 SCUBA DIVING (1) CSU*Lecture: 0.5 hour; Lab: 1.5 hours*

This course will provide the student with the basic knowledge and skills to safely undertake the sport of SCUBA diving. Emphasis will be placed on physics, physiology, medical aspects, oceanography, marine biology and equipment as they relate to the diver's performance. Upon completion, student will be NAUI or PADI certified. Additional fee to cover equipment rental may be necessary. Required to pass swimming exam to demonstrate safety for SCUBA.

701 ADVANCED LIFESAVING (2) UC:CSU*Lecture: 1 hour; Lab: 2 hours*

The theory and analysis of lifesaving and water safety skills are studied. This course is a requirement for the Water Safety Instructor's Course. Upon successful completion, an American Red Cross Certificate is issued.

702 WATER SAFETY INSTRUCTION (3) UC:CSU*Lecture: 2 hours; Lab: 2 hours*

This course covers the analysis of all standard swimming strokes: theory and practice in the technique of teaching swimming and diving; also the organization of an aquatics program for camps and recreation centers. Successful completion of the course qualifies the student for Water Safety Instructor Certification with the American Red Cross.

705 LIFEGUARD TRAINING INSTRUCTOR (2) UC:CSU*Lecture: 1 hour; Lab: 2 hours*

This course follows the American National Red Cross program for Lifeguard Instructor. Certification will include ability to teach first aid, CPR, lifeguard training, water front lifeguard and management programs for the Red Cross.

729 WATER AEROBICS INSTRUCTOR (3) UC:CSU*Lecture: 2 hours; Lab: 3 hours*

This course prepares the student to take the Instructor Certification Exam in the area of water aerobics from such organizations as Aquatic Exercise Association (AEA), United States Water Fitness Association (USWFA), or similar certifying body. The course does not include the certification exam but will provide information on how to get it.

774 WATER POLO THEORY (3) CSU*Lecture: 3 hours*

This course will help the advanced water polo student to acquire in depth knowledge of the various offensive and defensive theories in the sport of water polo. analysis of strategies and game situations will be emphasized as well as the use of technological tools to enhance performance and understanding of competitive play.

775 SWIMMING AND DIVING TRAINING THEORY AND ANALYSIS (2) CSU*Lecture: 2 hours*

This course will help the advanced swimmer and/or diver acquire in depth knowledge of the various swimming and diving training techniques and racing strategies. analysis of both practice and meet situations will be emphasized as well as the use of technological tools to enhance performance.

PHYSICAL EDUCATION - INDIVIDUAL AND TEAM ACTIVITIES**■ COURSE DESCRIPTIONS****096 PHYSICAL EDUCATION COMBINED ACTIVITIES (1) UC:CSU***Lecture: 0.5 hour; Lab: 1.5 hours*

Allows the student to pursue directed study in physical education activity at times flexible to his/her program on a contract basis under the supervising instructor.

097 PHYSICAL EDUCATION- PHYSICAL EFFICIENCY (2) UC:CSU*Lecture: 1 hour; Lab: 2 hours*

Includes theory, practice and techniques of developing one's own physical fitness program at any time in life based upon sound physiological principles. Course covers basic foundation of physical education principles as they relate to an optimal healthy lifestyle.

098 PHYSICAL EDUCATION- SCIENTIFIC PHYSICAL FITNESS LAB (1) CSU*Lab: 2 hours*

This course combines instruction in the conditioning aspects of strength, endurance, flexibility and muscle tone. An understanding of cardiovascular fitness and nutritional information related to exercise is emphasized. A periodic evaluation of fitness levels is included.

170 WALKING FOR FITNESS (1) CSU*Lab: 3 hours*

Walking for Fitness focuses on achieving cardiovascular fitness and a healthy lifestyle through walking. Includes such topics as shoe selection, posture, gait, walking styles, flexibility, clothing, creating a walking program and assessing fitness level. Measures of condition levels, such as Heart Rate and Body Composition and basic metabolic functions will also be discussed.

203 BADMINTON SKILLS (1) UC:CSU*Lab: 2 hours*

This course concentrates on developing the fundamental skills of Badminton including basic strokes, rules of the game, singles, doubles, and mixed doubles play and strategy. Round Robin tournaments will also be used to match opponents of equal skill and ability.

212 TENNIS SKILLS (1) UC:CSU*Lab: 2 hours*

This course concentrates on developing the fundamental skills of Tennis including basic strokes, rules of the game, singles, doubles, and mixed doubles play and strategy. Round Robin tournaments will also be used to match opponents of equal skill and ability. Students will learn the fundamentals of tennis skills and play. Open to all ability levels.

228 BODY CONDITIONING (1) UC:CSU*Lab: 2 hours*

This course teaches body fitness. It emphasizes aerobics, proper nutrition, weight control, and strength training in accordance with the American College of Sports Medicine Guidelines. A variety of exercises and techniques will be used, based on personal needs, to establish programs that will achieve these goals.

230 WEIGHT TRAINING SKILLS (1) UC:CSU*Lab: 2 hours*

This course offers instruction and practice in warm-up, stretching, and physical fitness conditioning through weight training. Class covers such topics as nutrition, body building, weight management, sport specific training, and injury prevention and response. Students develop a personal weight training plan and follow it.

241 JUDO SKILLS (1)UC:CSU*Lab: 2 hours*

Introductory course of fundamental Judo skills and warm-up exercises. This includes the basic Judo techniques of throwing, falling, and grappling (mat work). The students will also learn the history and philosophy of Judo and how it relates to today's society.

262 TRACK AND FIELD SKILLS (1) UC:CSU*Lab: 2 hours*

Introductory course that teaches the fundamentals of the variety of activities in Track and Field. Introduction to running event (both short and long), throwing events (hammer, discus) and jumping events are covered and students get a feel of what participation in these events entails.

284 BICYCLE SPINNING CLASS (1) UC:CSU*Lab: 2 hours*

This course develops cardiovascular endurance and leg strength through stationary bicycle workouts. These workouts vary in intensity and demand utilizing simulated hill climbing, downhill riding, and level-ground riding.

295 ADAPTIVE ACTIVITIES (1) UC:CSU*Lab: 2 hours*

A variety of techniques and exercises are implemented for the adaptive population. Persons with special needs or concerns who wish not to participate in regular physical education classes are guided through specialized workouts and health plans to meet their needs.

304 BASKETBALL SKILLS (1) UC:CSU*Lab: 2 hours*

Introduction to Basketball teaches basketball as both a sport and a recreational activity. Students will learn the basic skills, rules, offenses and defenses of the game.

310 PHYSICAL EDUCATION - FLAG/TOUCH FOOTBALL (1)*Lab: 2 hours*

Basic skills of punting, passing, catching, and carrying the football are taught. Course includes instructions on foot placement, positioning for blocking, tackling, ball handling (offense and defense), change of direction associated with accelerating and decelerating, hand and finger position for passing and catching the football. A balance of skill and game development through flag football games. Open to all ability levels.

322 VOLLEYBALL SKILLS (1)*Lab: 2 hours*

This course is designed to include the basic theories and practice of the team sport of volleyball. It is designed to promote the development of individual as well as team skills through the sport of volleyball. This increased knowledge will help the student display a positive attitude toward the sport of volleyball, teach them the fundamental skills of the game, teach them the rules, strategy and etiquette of the game as well as develop conditioning and fitness habits for the sport.

325 BODY SCULPTING (1)*Lab: 2 hours*

This course utilizes a combination of weight-bearing devices and activities within several series of exercises put to music. Stamina, agility, balance, and coordination (all necessary skills in dance) increase through the repetitious execution of floor work, stationary standing, and locomotive exercises all developed to deliver low weight to major muscle groups and full range of motion of joints. Over time, muscular endurance increases, thereby creating a firm and toned physique.

500 BASKETBALL THEORY (3) RPT1*Corequisite: P.E. 504**Lecture: 2 hours; Lab: 2 hours*

This course will help the advanced basketball student to acquire more depth and breadth of the various offensive and defensive theories in the sport of basketball. Analysis of strategies and outcomes will be emphasized.

504 BASKETBALL (INTERCOLLEGIATE MEN AND WOMEN) (2) UC:CSU*Lab: 10 hours*

Designed for intercollegiate basketball players, minimum of 10 hours a week.

506 CROSS COUNTRY (INTERCOLLEGIATE MEN AND WOMEN) (2) UC:CSU*Lab: 10 hours*

Designed for intercollegiate cross country runners, minimum of 10 hours a week.

513 SWIMMING (INTERCOLLEGIATE MEN AND WOMEN) (2) UC:CSU*Lab: 10 hours*

Designed for intercollegiate swimmers, minimum of 10 hours a week.

515 TRACK AND FIELD (INTERCOLLEGIATE MEN AND WOMEN) (2) UC:CSU*Lab: 10 hours*

Designed for intercollegiate runners and track participants, minimum of 10 hours a week.

516 VOLLEYBALL (INTERCOLLEGIATE MEN AND WOMEN) (2) UC:CSU*Lab: 10 hours*

This course provides the skills, training and allows for participation in the intercollegiate volleyball team minimum of 10 hours a week.

517 WATER POLO (INTERCOLLEGIATE MEN AND WOMEN) (2) UC:CSU*Lab: 10 hours*

Designed for intercollegiate water polo players, minimum of 10 hours a week.

552 PRESEASON CONDITIONING (1) UC:CSU*Lab: 3 hours*

This course involves an overview of all aspects of competitive teams with lectures and student participation.

554 INTERCOLLEGIATE SPORT STRENGTH AND CONDITIONING TRAINING - TRACK AND FIELD (1) RPT3 CSU*Lab: 3 hours*

This course is designed to provide focused strength and conditioning exercises, emphasize safety and injury prevention, and present new rules and running or field event techniques.

555 INTERCOLLEGIATE SPORT STRENGTH AND CONDITIONING TRAINING - CROSS COUNTRY (1) RPT3 CSU*Lab: 3 hours*

This course is designed to provide focused strength and conditioning exercises, emphasize safety and injury prevention, and present new rules and distance running techniques for Cross Country.

556 INTERCOLLEGIATE SPORT STRENGTH AND CONDITIONING TRAINING - BASKETBALL (1) RPT3 UC:CSU*Lab: 3 hours*

This course is designed to provide focused strength and conditioning exercises, emphasize safety and injury prevention, and present new rules and game plays for basketball.

563 STRENGTH AND FITNESS TRAINING FOR VOLLEYBALL (1)*Lab: 3 hours*

This course is designed to provide focused strength and conditioning exercises, emphasize safety and injury prevention, cover new rules, techniques and skills for the sport of volleyball. This class is designed for both beginners and advanced players.

628 RUN AND SWIM FOR FITNESS (1) UC:CSU*Lab: 3 hours*

This course will develop cardiovascular conditioning and fitness through running and swimming. Since both activities will usually be done each session, the transition skills will also be acquired. This is a triathlon lead-up course. The distance education version of the class uses the Internet, World Wide Web and personal email.

641 TECHNIQUES IN ADAPTIVE PE (2) UC:CSU*Lecture: 2 hours; Lab: 2 hours*

Evaluation instruments utilized in adapted physical education will be described and critically analyzed. Students will acquire competencies related to administration of these instruments, interpretation of results, and prescription of remedial or developmental activities.

642 ADAPTIVE FITNESS (1) UC:CSU*Lab: 3 hours*

Study of the ways in which the needs of the atypical student can be met. Particular emphasis on body alignment and other medical aspects of the handicapped. Special emphasis given to various exercise modalities and prescriptions relating to treatment.

662 BADMINTON (1) UC:CSU*Lab: 3 hours*

This course concentrates on developing the fundamental skills of Badminton including basic strokes, rules of the game, singles, doubles, and mixed doubles play and strategy. Round Robin tournaments will also be used to match opponents of equal skill and ability.

665 BASKETBALL (1) UC:CSU*Lab: 3 hours*

Students will learn the fundamentals of individual and team basketball; learn the rules, skills and structure of organized basketball, as well as provide unstructured, yet organized, play. Students will be coached to perform skills through drills and structured play.

666 BODY CONDITIONING (1) UC:CSU*Lab: 3 hours*

This course teaches body fitness. It emphasizes aerobics, proper nutrition, weight control, and strength training in accordance with the American College of Sports Medicine Guidelines. A variety of exercises and techniques will be used, based on personal needs, to establish programs that will achieve these goals.

670 JUDO (1) UC:CSU*Lab: 3 hours*

Introductory course of fundamental Judo skills and warm-up exercises. This includes the basic Judo techniques of throwing, falling, and grappling (mat work). The students will also learn the history and philosophy of Judo and how it relates to today's society.

674 HAPKIDO (2) UC:CSU*Lecture: 1 hour; Lab: 3 hours*

Hapkido is a Korean martial art centered on inner strength and coordinating energy. The techniques do not require size or strength to be effective. This total martial art combines the locking and breaking aspects of Aikido, the throwing aspects of Judo, the striking aspects of Karate and the footwork of Tae Kwan Do.

675 KARATE (1) UC:CSU*Lab: 3 hours*

Course designed to help students increase their stamina, flexibility and basic techniques in self-defense. Main course objectives: become more physically fit to enhance self-esteem; develop self-confidence to help students deal with every day situations; relieve stress by providing an outlet to "blow off steam"; and to gain self-discipline to enable students develop better study, work and life habits. Course content: Calisthenics; stretching; upper body/ lower body exercises; kata (a prearranged set of movements which deal with being attacked).

676 SELF DEFENSE (1) UC:CSU*Lab: 3 hours*

This empowering Self Defense course is designed to help students increase their stamina, flexibility, and basic fundamental techniques needed to feel confident in the ability to protect oneself against a person with a knife, gun or club. Main course objectives: become more physically fit, enhance self-esteem and gain necessary awareness of potential dangers, develop confidence and self-discipline to help deal with every day situations, relieve stress, provide resources needed to develop better study, work and life habits.

682 TENNIS (1) UC:CSU*Lab: 3 hours*

This course concentrates on developing the fundamental skills of tennis including basic strokes, rules of the game, singles, doubles, and mixed doubles play and strategy. Round Robin tournaments will also be used to match opponents of equal skill and ability. Students will learn the fundamentals of tennis skills and play. Open to all ability levels.

684 VOLLEYBALL (1) UC:CSU*Lab: 3 hours*

The purpose of this class is to develop and improve fundamental volleyball skills including passing, setting, digging, serving, spiking and blocking. Students practice offensive and defensive strategies and practice these skills and strategies during game play.

690 WEIGHT TRAINING AND CONDITIONING SKILLS (1) UC:CSU*Lab: 3 hours*

This course offers instruction and practice in warm-up, stretching, and physical fitness conditioning through weight training. Class covers such topics as nutrition, body building, weight management, sport specific training, and injury prevention and response. Students develop a personal weight training plan and follow it.

696 YOGA (1) UC:CSU*Lab: 3 hours*

This course is designed to familiarize the first time student with the basic yoga asanas (postures) and breathing techniques. Intimate class size and personal attention make it a fun and informative way to begin the practice of yoga. It is recommended for those new to yoga or those who have not practiced for some time.

697 TRACK AND FIELD SKILL ACTIVITIES (1) UC:CSU*Lab: 3 hours*

This class will help both the novice and the experienced runners improve their times and endurance. Students will be exposed to training techniques that will give them the edge over their competition. The class will expose the students to sprinting, distance, and hurdle elements of the sport of track.

742 CARDIO KICKBOXING (1) CSU*Lab: 3 hours*

A laboratory physical education fitness course designed to improve the areas of cardiovascular efficiency and muscular strength using kickboxing techniques.

PHYSICAL EDUCATION - NON-ACTIVITY**■ COURSE DESCRIPTIONS****185 DIRECTED STUDY IN PHYSICAL EDUCATION (1) UC:CSU***Lecture: 1 hour*

Allows students to pursue Directed Study in Physical Education on a contract basis under the direction of a supervising instructor.

710 OFFICIATING COMPETITIVE SPORT I (2) UC:CSU*Lecture: 3 hours*

Topics presented in this course includes theory, practice, and techniques of officiating in various activities in the sports of baseball, softball, cross country, track and field, tennis, and swimming.

711 OFFICIATING COMPETITIVE SPORT II (2) UC:CSU*Lecture: 3 hours*

Topics presented in this course includes theory, practice, and techniques of officiating in the sports of Football, Baseball, Soccer, Water Polo, and Volleyball.

712 INTRODUCTION TO PHYSICAL EDUCATION (3) UC:CSU*Lecture: 3 hours*

Introduction to the discipline of physical education; examination of the study of physical activity from the perspectives of experience, research, and professional practice. Topics include career opportunities, history, philosophy, current trends and curriculum development.

718 FUNDAMENTALS OF ATHLETIC TRAINING (3) CSU*Lecture: 2 hours; Lab: 3 hours*

This course emphasizes the principles, techniques, and ethics used by the athletic trainer in the prevention and care of athletic injuries. Emphasis is placed on the identification of common athletic injuries and ailments, their cause and preventative measures, first aid treatment, and associated follow-up care.

750 SPORT ETHICS (3) CSU*Lecture: 3 hours*

This course addresses a wide range of moral and ethical issues in sports. Topics include values, principles, racial and gender equity, coaching, commercialization, enhancing stimulants and ergogenic aids, eligibility, violence, sportsmanship and Code of Ethics in sports. Examines current and historical events, rules, laws and governing organizations.

751 EXERCISE PHYSIOLOGY FOR PERSONAL TRAINERS (3) CSU*Lecture: 3 hours*

This course will examine the physiological systems of the human body and the effects of both acute and chronic exercise on those systems. Emphasis will be on those systems pertinent to a personal training client. Attention will also be given particularly to energy systems and how they determine proper exercise programming.

752 EXERCISE TESTING AND EVALUATION (1) CSU*Lecture: 0.5 hour; Lab: 2 hours*

This course will focus on the methods of evaluating a person's physical condition and using those results to create and implement an exercise plan. Topics covered include measuring aerobic capacity, measuring body composition, assessing muscular strength and endurance, measuring flexibility, testing for special populations, health appraisal, and safety measures for testing.

753 EXERCISE PLAN AND DEVELOPMENT (2) CSU*Lecture: 2 hours*

This course will focus on exercise plan development for individuals with one or more health-related concerns. Issues such as cardiovascular disease, diabetes, musculoskeletal limitations, obesity, pregnancy, and pulmonary disease will all be included as topics to be examined.

754 ANATOMY AND PHYSIOLOGY FOR TRAINERS (3) CSU*Lecture: 3 hours*

This introductory course will focus on the fundamentals of gross human anatomy with an emphasis on those areas responsive to exercise that a personal trainer would target with a client, namely, the neuromuscular, cardiovascular, and cardio respiratory systems. The course will also focus on the scientific basis of human motion and how analysis of this process aids the personal trainer in improving a client's performance in fundamental and specialized motor skills.

755 PRINCIPLES OF EXERCISE PLAN DEVELOPMENT(3) CSU*Lecture: 2 hours; Lab: 3 hours*

This course will focus on both a scientific and creative approach to developing an exercise program. Basic fitness principles will be adhered to but students will be encouraged to be flexible in their planning. Topics covered include basic elements of exercise planning, motivation and program adherence, and sport-specific program planning.

756 BUSINESS OF PERSONAL TRAINING (2) CSU*Lecture: 2 hours*

Course will examine business concepts as they apply to the personal training profession. How to get started will be covered as well as marketing/promotions and legal/professional responsibilities, including insurance, licensure, and ethics.

761 INTRODUCTION TO THE PRINCIPLES OF ATHLETIC COACHING (3) CSU*Lecture: 3 hours*

This course addresses a wide range of topics that are specific to the field of Athletic Coaching. Topics include Principles of Coaching, Principles of Behavior, Principles of Teaching, Principles of Training, and Principles of Management. The course will examine current and historical coaching methods, laws and governing organizations.

762 ANCIENT OLYMPIC GAMES (3) CSU*Lecture: 3 hours*

This course addresses a wide range of topics that are specific to the field of the ancient Olympic games. Topics include prehistory of the games, athletics and education, the Olympic games in ancient Greece, and sport in the Hellenistic and Roman periods. Students will learn the historical and continuing effect of the ancient games on the present day Olympic movement.

763 TECHNOLOGY IN PHYSICAL EDUCATION AND SPORT (3) - CSU*Lecture: 2 hours; Lab: 2 hours*

This course is a survey of the many ways in which a professional in the field of health and physical education uses technology. Discipline specific uses of current and emerging hardware and software will be introduced, as will issues related to using the technology.

764 TRACK AND FIELD/CROSS COUNTRY THEORY (3) CSU*Lecture: 3 hours*

This course introduces a student to all aspects of coaching track and field and cross country with an emphasis on Periodization, coaching philosophy, technical aspects of all events and meet management. Discipline specific concepts and theories will be introduced, as will issues relating to coaching at all different levels of competition.

776 PREPARATORY COURSE FOR NSCA CERTIFIED PERSONAL TRAINER EXAM (2) CSU*Lecture: 3 hours*

This class will prepare LATTC's Personal Trainer Certificate candidates to sit for the National Strength and Conditioning Association's Certified Personal Trainer examination. Topics covered include exercise sciences, client consultation and evaluation, exercise technique, program design, special populations, and safety and legal issues.

777 PERCEPTUAL-MOTOR ACTIVITIES FOR PRESCHOOL AND ELEMENTARY SCHOOL (3) CSU*Lecture: 2 hours; Lab: 2 hours*

This course focuses on skill, perceptual, and motor movement for preschool and elementary school students. Provides motor development and motor learning concepts, as well as specific games and checklists from award-winning programs.

774 WATER POLO THEORY (3) CSU*Lecture: 3 hours*

This course will help the advanced water polo student to acquire in depth knowledge of the various offensive and defensive theories in the sport of water polo. analysis of strategies and game situations will be emphasized as well as the use of technological tools to enhance performance and understanding of competitive play.

775 SWIMMING AND DIVING TRAINING THEORY AND ANALYSIS (2) CSU*Lecture: 2 hours*

This course will help the advanced swimmer and/or diver acquire in depth knowledge of the various swimming and diving training techniques and racing strategies. analysis of both practice and meet situations will be emphasized as well as the use of technological tools to enhance performance.

PHYSICAL EDUCATION - DANCE**■ COURSE DESCRIPTIONS****419 MEXICAN FOLKLORIC DANCE (1) UC:CSU***Lab: 2 hours*

This course will teach skills and dances from six or more of Mexico's dance regions. Emphasis will be on the historical and cultural context of the dances development. The student will learn to execute dance steps and patterns with the style appropriate to each region. Discussion of costumes will be included

431 MODERN DANCE (1) UC:CSU*Lab: 2 hours*

This class offers instruction and practice in the basic skills and techniques of modern dance.

434 BALLET DANCE (1) UC:CSU*Lab: 2 hours*

This class offers instruction and participation in the skills and style of Classical Dance hence developing within the student a physical and intellectual comprehension of Ballet.

437 JAZZ DANCE DANCE (1) UC:CSU*Lab: 2 hours*

This course will offer instruction and participation in the skills and style of jazz dance hence developing in the student an intellectual and physical understanding of jazz dance.

452 INTRO TO CHOREOGRAPHY DANCE (1) UC:CSU*Lab: 2 hours*

This course is designed to explore movement possibilities and direct the students' creative potential in dance.

455 METHODS OF DANCE TRAINING SKILLS (1) UC:CSU*Lab: 2 hours*

This course provides theory and practice in training methods for dance. It covers various age and ability levels as well as different types of dance. It is useful in preparing to teach dance.

460 BALLET TECHNIQUES(1) UC:CSU*Lab: 2 hours*

Study of ballet techniques, principles, terminology, history and appreciation. Offers instruction and basic skills in ballet.

461 INTERNATIONAL FOLK DANCE(1) UC:CSU*Lab: 2 hours*

This course offers instruction sand practice in the basic skills and techniques of folk dance. Cultural origins and traditions of the various dances are also discussed to allow a better appreciation of folk dances' place in society.

462 MODERN DANCE (1) UC:CSU*Lab: 2 hours*

This course offers instruction and practice in the basic skills and techniques of modern dance.

463 MODERN JAZZ TECHNIQUES (1) UC:CSU*Lab: 2 hours*

This course will offer instruction and participation in the skills and style of jazz dance hence developing in the student an intellectual and physical understanding of jazz dance.

464 TAP DANCE (1) UC:CSU*Lab: 2 hours*

Offers instruction and practice in the basic skills and techniques of tap dance.

465 AEROBICS FOR DANCE (1) UC:CSU*Lab: 2 hours*

This course introduces movement skills from dance to condition the body and develop increased strength, flexibility, movement memory, balance, endurance, and coordination.

469 CONDITIONING FOR DANCE (1) UC:CSU*Lab: 2 hours*

This course introduces movement skills from dance to condition the body and develop increased strength, flexibility, movement memory, balance, endurance, and coordination.

706 THE TEACHING OF AEROBICS (3) UC:CSU*Lecture: 2 hours; Lab: 2 hours*

This course prepares students for the fitness industry work force by focusing on the theories of exercise, physiology anatomy, kinesiology, injury prevention, and the practices of exercise programming. The topics considered include aerobics instruction and body sculpting, leadership skills health screening and testing, and legal issues. Parallel preparation for additional national certification in aerobics instruction, personal training, and/or lifestyle and weight management also is emphasized.

800 INTRODUCTION TO DANCE AND DANCE HISTORY (3) UC:CSU*Lecture: 3 hours*

An introduction to dance exploring its many forms and purposes including social, ethnic, ritual, art and therapy. Opportunities to observe, study and discuss dance and to understand how dance influences our culture.

801 MODERN DANCE I (3) UC:CSU*Lecture: 1.5 hours; Lab: 4.5 hours*

This course stresses analysis of movement in terms of how and where it is produced; current anatomical alignment of the body; repetition of basic modern dance drills; knowledge of dance vocabulary; dance appreciation and cultural awareness.

802 MODERN DANCE II (3) UC:CSU*Lecture: 1.5 hours; Lab: 4.5 hours*

This course is basically an extension of Physical Education 801: it differs only in the student's ability to execute the class work on a higher performance level each successive semester and covers different text material.

803 MODERN DANCE III (3) UC:CSU*Lecture: 1.5 hours; Lab: 4.5 hours*

This course covers techniques geared to students equipped with some skill in the basics, and will include learning the inner motivations of movement phrases, rhythmic and dynamic phrasing of movement and longer combinations of movement phrases.

804 MODERN DANCE IV (3) UC:CSU*Lecture: 1.5 hours; Lab: 4.5 hours*

This course covers techniques required to execute complex dance phrases on a higher performance level than in Modern Dance III. Emphasis will be on energy of attack and musicality of phrases. Covers different text material.

805 BALLET I (2) UC:CSU*Lecture: 1 hour; Lab: 3 hours*

This course offers an in-depth study of ballet principles and techniques at the beginning level. It provides a sound basis of training for both the serious dancer and the interested layman. It also includes ballet terminology, history, and an appreciation of ballet study from the beginnings of ballet through J. Paul Noverre.

806 BALLET II (2) UC:CSU*Lecture: 1 hour; Lab: 3 hours*

This course involves a study of ballet techniques and principles including terminology, history, and appreciation of ballet dealing with study of the romantic period of ballet. It is a continuation of P.E. 805, Ballet I.

807 BALLET III (2) UC:CSU*Lecture: 1 hour; Lab: 3 hours*

Intermediate work in ballet technique combining the fundamentals learned in Ballet I and II with more difficult combinations. It also includes terminology, history and appreciation of the Diaghilev Era and Bourmonville period. It is a continuation of Ballet II.

808 BALLET IV (2) UC:CSU*Lecture: 1 hour; Lab: 3 hours*

Advanced work in ballet technique combined with the study of modern ballet trends in the twentieth century. This course is a continuation of Ballet III.

814 DANCE PRODUCTION I (2) RPT3 UC:CSU*Lecture: 1 hour; Lab: 2 hours*

Provides laboratory experience in developing the skills involved in dance production; choreography, set design, lighting, directing, and costume design.

819 CHOREOGRAPHY (3) RPT3 UC:CSU*Lecture: 2 hours; Lab: 4 hours*

This course explores the creative process of making dances, including the study of rhythm, space, dynamics and movement composition. Abstract and dramatic motivation are also covered. Students will progress from creating short phrases to a complete dance.

822 DANCE REHEARSALS AND PERFORMANCES (1) RPT3 CSU*Prerequisite: Any Dance course**Lab: 2 hours*

This course is structured rehearsal time culminating in performances. Students participate as dancers, choreographers or production personnel and may perform on campus or on tour.

HEALTH

PROGRAM OVERVIEW

The Physical Education Department is constantly searching to identify the health needs of the student population and to develop the appropriate educational programs dependent upon these findings. Educational programs are designed to be accessible to and inclusive of all students.

The Physical Education Department works to improve and sustain the highest level of physical, social, emotional, and spiritual well-being of all students. A healthy student has the potential to be a productive learner thus, achieving the goals set forth by the college while at the same time enjoying an enhanced quality of life.

Health courses are required to promote the advancement of the health of all students through education. These classes aim to provide the knowledge and services necessary to enable students to develop the skills to make healthy decisions that will last throughout their lifetime.

Note: One Health course, selected from Health 2, 8, or 11, is required of all students seeking an Associate in Arts degree.

HEALTH

COURSE DESCRIPTIONS

2 HEALTH AND FITNESS (3) UC:CSU

Lecture: 2 hours; Lab: 2 hours

This course includes a survey of basic health issues that particularly affect one's physical fitness and health. Lab activities will develop an understanding of the need for and kinds of activities that can be utilized to develop lifelong fitness.

6 NUTRITION FOR HEALTHFUL LIVING AND FITNESS ACTIVITY (3) UC:CSU

Lecture: 2 hours; Lab: 2 hours

Basic nutrition theories, information for healthful food purchasing, relationship of nutrition to disease, general health concerns of women and optional weight loss plan are discussed. Benefits of exercise and techniques for body conditioning are learned. Class time includes participation in fitness activities including aerobic, developmental and flexibility exercises.

8 WOMEN'S PERSONAL HEALTH (3) UC:CSU

Lecture: 3 hours

A study of factors affecting physical, social and emotional well-being of women in our society.

11 PRINCIPLES OF HEALTHFUL LIVING (3) UC:CSU

Lecture: 3 hours

This course offers concepts to use today and tomorrow as guidelines for self-directed responsible living. Emphasis is placed on relating health concepts for the individual's well being in personal, community, vocational and leadership roles.

12 SAFETY EDUCATION AND FIRST AID (3) UC:CSU

Lecture: 3 hours

This course follows the American National Red Cross Program of first aid and CPR. Instruction includes the immediate care given to a person who has been injured or has suddenly taken ill. Lifesaving procedures include rescue breathing and CPR for infants, children, and adults. Successful completion will lead to Red Cross certification in Community First Aid and CPR for the Professional Rescuer.

14 HEALTH ACTIVITIES (1)

Lecture: 0.5 hour; Lab: 0.5 hour

This course includes Lecture: demonstration and participation in activities for a physically fit and health lifestyle. Topics include physical, mental, and social health and well-being.

21 HUMAN SEXUALITY (3) UC:CSU

Lecture: 3 hours

Anthropological, biological, psychological, and sociological aspects of Human Sexuality. This course stresses: the various definitions of sexuality; the history of sexuality; the scientific method and sexuality; the psychology of sex; sex and gender; sexuality; behavior and relationships; sexuality across the life span; and sex as a social and medical issue.

31 FOCUS ON HEALTH: DIABETES (1) CSU

Lecture: 1 hour

This course focuses on diabetes mellitus, with an emphasis on positive self-care choices. Aspects of current diabetes management are covered including: blood glucose testing, oral hypoglycemics, insulin, exercise, and pregnancy. Prevention and recognition of diabetes complications affecting the eyes, kidneys, nerves, feet, heart/blood vessels, hypoglycemia and hyperglycemia are also covered.

32 FOCUS ON HEALTH: HEART AND CIRCULATION (1) CSU

Lecture: 1 hour

This focus on health course will cover the Cardiovascular System. It will also focus on Cardiovascular Disease what it is, what causes it and what treatment options there are. It will also cover how to prevent Cardiovascular Disease and what is new on the horizon as far as possible cures.

33 FOCUS ON HEALTH: CANCER (1) CSU

Lecture: 1 hour

This focus on health course will cover cancer, what it is, what causes it and what treatment options there are. It will also cover how to prevent cancer and what is new on the horizon as far as possible cures.

35 FOCUS ON HEALTH: PAIN MANAGEMENT (1) CSU

Lecture: 1 hour

This focus on health course will cover pain management with an emphasis on positive self-care choices and breaking the pain cycle. Effective coping skills and current multidisciplinary modalities of pain relief are included, as well as the benefits of stress reduction, diet, and exercise.

41 STRESS MANAGEMENT (1) CSU

Lecture: 1 hour

Identification of sources of stress and their impact on physical, mental and emotional well-being. Includes work-related, familial, social, internal/external, and environmental sources of stress along with stress management and relaxation techniques to increase health and wellness.

42 HUMAN SEXUALITY AND AGING: GROWING OLDER (1) CSU*Lecture: 1 hour*

This course will examine the biological, psychological, and sociological aspects of aging as they relate to a person's sexuality. The course will stress the physiological changes associated with aging, the "double standard" and aging, factors in maintaining sexual activity, and special concerns of older individuals regarding their sexuality.

43 MEN'S HEALTH (1)

This course explores men's health issues, life long health practices, attitudes and hurdles that contemporary men experience in urban areas. It studies topics important to men such as domestic abuse and violence, stress, alcoholism, disease transmission and other physical, emotional and social topics related to men's health and wellness.

44 SPORTS NUTRITION AND ERGOGENIC AIDS (3) CSU*Lecture: 3 hours*

This course will examine the nutrient classes – protein, carbohydrate, fat, vitamins, minerals, and water – and their effects on physical performance. Topics covered include basic principles, pre- and post-exercise nutrition, eating for weight control/gain, proper hydration practices, and eating disorders. Also examined are the various pharmacological, hormonal, physiological, and nutritional agents that have been proposed to have ergogenic properties.

45 ANGER MANAGEMENT (1)*Lecture: 1 hour*

Designed to help the student acquire the skills needed to better manage anger. A variety of anger management techniques, workbook exercises, and physical exercises, will be combined with classroom discussions that will help give the student a better control of their anger response.

46 COMMUNITY CPR FOR THE LAY RESCUER (1)*Lecture: 1 hour*

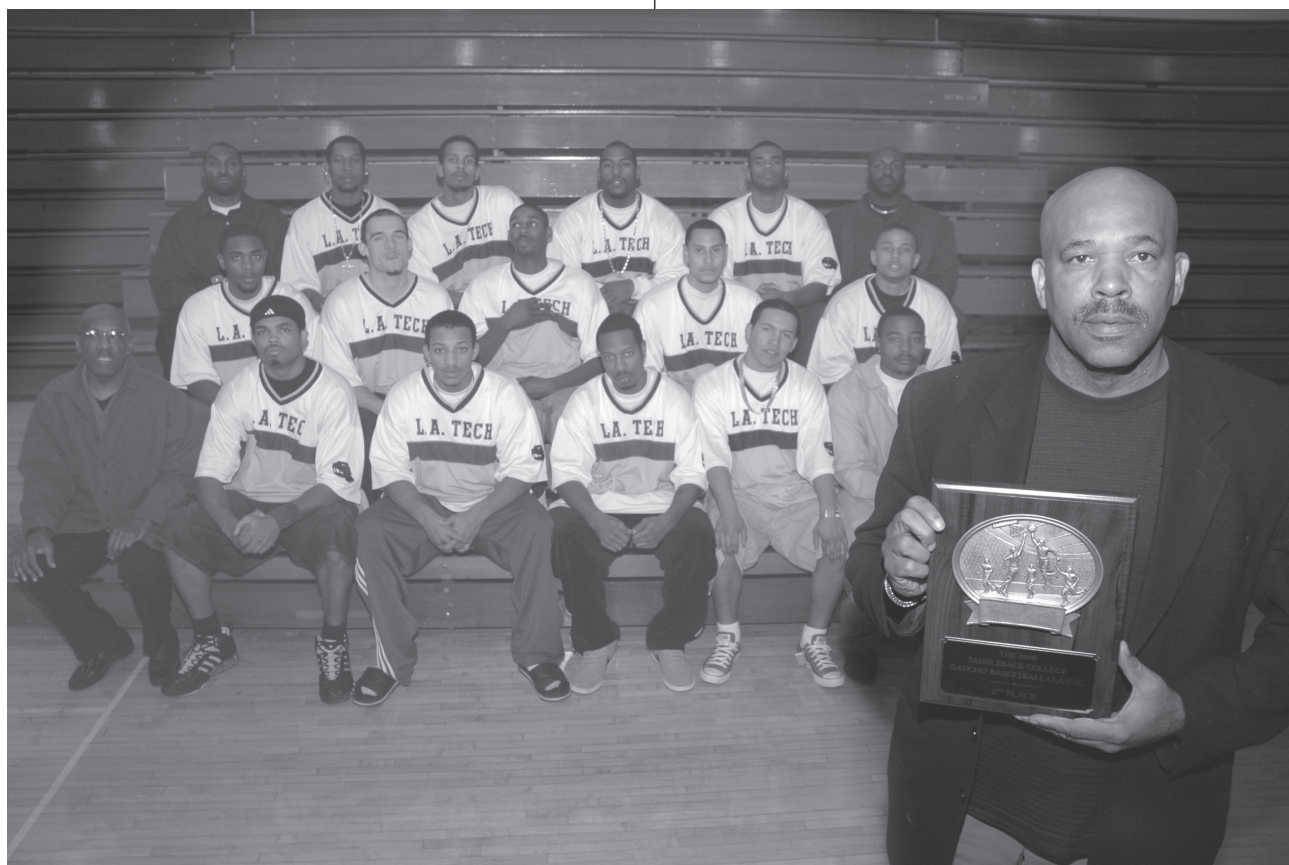
This course covers the recommendations by the American Heart Association, National Safety Council and the American National Red Cross for community members to respond to non-breathing and sudden cardiac emergencies. Includes techniques for all ages along with emergency action plans, safety, and prevention of disease transmission.

47 FIRST AID (1)*Lecture: 1 hour*

This course covers and expands standard emergency first aid to include situations where help is delayed, during natural disasters and major catastrophes. Includes emergency childbirth procedures.

50 SCHOOL EMERGENCY RESPONSE (3) CSU*Lecture: 3 hours*

This course covers the legal mandates for school safety and examines how to develop campus leadership, a comprehensive safety and emergency response plan, and coordination with the standardized emergency management system, both locally and regionally.



SCIENCES

CHEMICAL TECHNOLOGY

PROGRAM OVERVIEW

The Chemical Technician (CT) occupations are becoming the fastest growing occupational category in the United States. The chemical technician generally performs laboratory analysis or testing in a wide variety of biological and physical science settings such as; environmental, water, cosmetics and petroleum refineries; grading studies of materials, and quality control of industrial chemicals. Training is provided in chemistry, physics and mathematics as well as instrumental, industrial processes, computerized analysis and quality control. The CT program is also designed to help students prepare for a smooth transition into other science related BA/BS degree programs.

At the conclusion of this program, students will have the skills necessary for:

- Working in the chemical process industry, including treatment plants
- Monitoring safety/health and environmental regulations
- Sampling and handling chemical materials
- Measuring physical properties
- Performing chemical analysis
- Performing instrumental analysis
- Planning, designing and conducting experiments, and
- Synthesizing compounds

CHEMICAL TECHNOLOGY

■ Associate in Science Degree

Requirements for the Associate in Science degree in Chemical Technology may be met by completing the required courses, below, and 18 units of general education courses meeting Plan B graduation requirements.

REQUIRED COURSES

FIRST SEMESTER		UNITS
CHEM T 111	Applied Chemistry I	5
CHEM T 113	Applied Chemistry Mathematics I	2
CHEM T 185	Directed Study	1
PHYSICS 11*	Introductory Physics	4

*Satisfies general education requirement in Natural Sciences

SECOND SEMESTER		UNITS
CHEM T 121	Applied Chemistry II	5
CHEM T 123	Applied Chemistry Mathematics II	2
PHYSICS 29	Basic Physics for Technicians	4

THIRD SEMESTER		UNITS
CHEM T 131	Industrial Processes	3
CHEM T 132	Quantitative Instrumental Analysis I	5
CHEM T 133	Organic Chemistry I	4
CHEM T 168	Chemical Quality Control I	2

FOURTH SEMESTER		UNITS
CHEM T 141	Basic Employment Information	1
CHEM T 142	Quantitative and Instrumental Analysis II	5
CHEM T 143	Organic Chemistry II	4
TOTAL UNITS		47

RECOMMENDED ELECTIVES

		UNITS
BIOLOGY 3	Introduction to Biology	4
CHEM T 140	Laboratory Techniques in Microbiology	1
CHEM T 161	Special Projects I	1
CHEM T 162	Special Projects II	2
MATH 115	Elementary Algebra	5
MATH 125*	Intermediate Algebra	5
MATH 146	Technical Mathematics II	3
MICRO 20	General Microbiology	4
SPEECH 101	Oral Communications I	3
WATER 1	Modern Water Works I	3
WASTE 12	Wastewater Operations I	3

* Required for AS Degree

CHEMICAL TECHNOLOGY

■ Certificate of Achievement

The Certificate of Achievement in Chemical Technology may be earned by completing the 47 units of required courses listed above in the A.S. curriculum.

CHEMICAL TECHNOLOGY

■ COURSE DESCRIPTIONS

100 INTRODUCTION TO CHEMICAL TECHNOLOGY (3)*Lecture: 3 hours*

This course is a survey of Chemical Technology as a profession, career fields and work opportunities. It will also cover professional responsibilities, environmental health/safety and measuring physical properties. Industry guest speakers are scheduled.

111 APPLIED CHEMISTRY I (5) CSU*Lecture: 3 hours; Lab: 6 hours*

This course is devoted to the study of principles and concepts of chemistry and laboratory techniques used in chemistry. Introduced in this course are concepts involving the structures of matter, the mole concept, properties of solutions, chemical reactions, test for purity, introduction to physical methods of analysis involving the use of separation and instrumental methods.

113 APPLIED CHEMISTRY MATHEMATICS I (2)*Lecture: 2 hours*

Instruction is given in the application of mathematical techniques to solving problems in chemical technology including techniques used in physics and chemistry. Included are units, gases, stoichiometry, concentrations, logarithms, graphs, equilibrium, thermodynamics, oxidation-reduction, and the use of computers.

121 APPLIED CHEMISTRY II (5) CSU*Lecture: 3 hours; Lab: 6 hours*

This course covers general principles applied to chemical equilibrium, hydrolysis, concept of pH, methods of qualitative analysis, quantitative analysis, and introduction to instrumental analysis.

123 APPLIED CHEMISTRY MATHEMATICS II (2)*Lecture: 2 hours*

This course covers further applications of mathematical techniques in chemical technology including techniques used in chemistry and physics. The emphasis is on programming in BASIC and includes further topics in units, concentration, graphs, equilibrium, thermodynamics, and oxidation-reduction.

131 INDUSTRIAL PROCESSES (3)*Lecture: 1 hour; Lab: 6 hours*

Instruction is given in the fundamental theories of chemical and physical processes used in various manufacturing industries. Also, instruction is given in operation of equipment used in these physical and chemical processes.

132 QUANTITATIVE AND INSTRUMENTAL ANALYSIS I (5) CSU*Lecture: 3 hours; Lab: 6 hours*

This course is devoted to a study of the chemical and instrumental methods of analysis involving the use of gravimetric, titrimetric and instrumental procedures.

133 ORGANIC CHEMISTRY I (4) CSU*Lecture: 2 hours; Lab: 6 hours*

This course includes a systematic study of hydrocarbons, and oxygen containing compounds. Laboratory methods include identification of compounds, using various types of distillations, extractions, chromatography and spectral techniques.

140 LABORATORY TECHNIQUES IN MICROBIOLOGY (1)*(Same as Microbiology 40.)**Lab: 3 hours*

This course emphasizes the preparation of media and reagents normally used in bacteriological laboratory. Use and care of laboratory equipment and supplies are studied.

141 BASIC EMPLOYMENT INFORMATION (1)*Lecture: 1 hour*

Instruction covers safety precautions, professional ethics, health habits, responsibilities to the customer and management, personal appearance, employment trends and professional organizations. The course also includes writing resources and cover letters, and job search techniques.

142 QUANTITATIVE AND INSTRUMENTAL ANALYSIS II (5)*Lecture: 3 hours; Lab: 6 hours*

This course is an advanced continuation of Quantitative and Instrumental Analysis I.

143 ORGANIC CHEMISTRY II (4) CSU*Lecture: 2 hours; Lab: 6 hours*

The course includes a study of hydrocarbons, oxygen, nitrogen and sulfur containing compounds, organometallic compounds, natural products and synthetic polymers. Laboratory studies include synthesis and purification of organic compounds, qualitative and quantitative organic analysis using classical methods, chromatographic and spectral techniques.

161 SPECIAL PROJECTS I (1)*Lab: 3 hours*

This is a course in which the student specializes in a particular laboratory instrument, device, or procedure.

162 SPECIAL PROJECTS II (2)*Lab: 6 hours*

This is a course in which the student specializes in a particular laboratory instrument, device, or procedure.

168 CHEMICAL QUALITY CONTROL I (2)*Lab: 6 hours*

This course provides an introduction to quality control in industry, including applications in water analysis.

185 DIRECTED STUDY – CHEMICAL TECHNOLOGY (1)

Students will pursue directed study in chemical technology on a contract basis under the direction of a supervising instructor. A maximum of 1 units may be taken for credit.

285 DIRECTED STUDY – CHEMICAL TECHNOLOGY (2)

Students will pursue directed study in chemical technology on a contract basis under the direction of a supervising instructor. A maximum of 2 units may be taken for credit.

385 DIRECTED STUDY – CHEMICAL TECHNOLOGY (3)

Students will pursue directed study in chemical technology on a contract basis under the direction of a supervising instructor. A maximum of 3 units may be taken for credit.

SOLID WASTE MANAGEMENT TECHNOLOGY

SOLID WASTE MANAGEMENT TECHNOLOGY

■ Certificate of Completion

A Certificate of Completion in Solid Waste Management Technology may be earned by completing the required courses in the sequence listed below, along with sufficient core electives to meet a total requirement of 24 units. Additional elective courses to meet the 24 unit minimum requirement may be taken in any related course on approval of the Department Chairperson.

Students completing the Certificate program will be proficient in performing the duties involved in landfill management including collection, transportation, storage and disposal.

REQUIRED COURSES

	UNITS
SWM TEK 101 Introduction to Solid Waste Management	3
SWM TEK 102 Collection Systems, Routing and Management	3
SWM TEK 107 Waste Reduction and Recycling	3
SWM TEK 108 Solid Waste Facilities	3
Core Electives	12
TOTAL UNITS	24

CORE ELECTIVES

	UNITS
SUPV 2 Basic Psychology for Supervisors	3
SUPV 12 Written Communications for Supervisors	3
SUPV 13 Safety Training and Fire Prevention	3
WASTE 12 Wastewater Operations I	3
GEOLOGY 1 Physical Geology	3
MICRO 20 General Microbiology	4
CHEM 51 Introductory Chemistry	3
LABOR 2 Collective Bargaining	3
LABOR 3 Applied Labor Law	3
MGMT 2 Organization and Management Theory	3
MGMT 33 Personnel Management	3

SOLID WASTE MANAGEMENT TECHNOLOGY

■ COURSE DESCRIPTIONS

101 INTRODUCTION TO SOLID WASTE MANAGEMENT (3)

Lecture: 3 hours

This course offers instruction in the fundamentals of solid waste management including characteristics of solid wastes, refuse storage, collection, transportation, and disposal methods, financing methods and solid waste planning.

102 COLLECTION SYSTEMS, ROUTING, AND MANAGEMENT (3)

Lecture: 3 hours

This course offers in-depth instruction in the techniques and fundamentals involved in efficient solid waste routing, including topographical variables such as: alleys, one-way streets, hilly areas, downtown areas and residential communities. The course studies routing for mechanized solid waste collection activities, routing to affect increased productivity, cost reduction, and improved public relations through proper route planning and safety.

107 WASTE REDUCTION AND RECYCLING (3)

Lecture: 3 hours

This course is an introduction to the science of resource recovery. It presents a broad overview of the methods and techniques, equipment and facilities required in recovery processes. Emphasis is placed on costs and management of the recovery process. Nuclear and non-nuclear types of resource recoveries are studied.

108 SOLID WASTE FACILITIES (3)

Lecture: 3 hours

This course covers history and legislation of solid waste generation and the need for effective transfer stations and landfills. It contains an overview of the handling of materials for both resource recovery and disposition of hazardous and non-hazardous waste. The future needs of the public and private sectors are studied.

PROCESS TECHNOLOGY

COURSE OVERVIEW

The chemical process industries (CPI) are a major part of U.S. business and represent a diverse industries ranging from pharmaceuticals to large-scale processing of gasoline and plastics. Working in the CPI represents a particular challenge with regard to handling materials, which range from small quantities of specialized products to large quantities of potentially hazardous materials.

Process Technicians (PT's) team with engineers and other technicians with specialties such as instrumentation, electronics, or maintenance to adjust and optimize conditions for the production of large quantities of products. The quality of the production is dependent on the skill and knowledge of the Process Technician in carrying out the operations of the plant. PT's must be concerned with issues such as personal and co-worker safety, impact of materials on the environment, and process skills that deal with all aspects of controlling processes and maintaining equipment.

The chemical process industry is the fourth largest manufacturing industry in the United States. It encompasses plants manufacturing an almost endless range of products, such as chemicals, (both organic and inorganic), food and beverages, cleaning preparations, plastics, agricultural chemicals, paints, pharmaceuticals, cosmetics, power generation, pulp and paper, petroleum refining and wastewater treatment, to name just a few.

The LATTC Process Technology program is a member of the California Chemical and Process Technology Alliance (CCPTA) and the Pacific Technology Career Alliance, education/industry consortia of major chemical industries both public and private. The CCPTA was founded for the purpose of ensuring that Process Technology instructors and students are on the receiving end of current industry analytical methods, techniques, equipment and standards. The Alliance is also committed to providing a well skilled employee pool for chemical industry employment opportunities.

PROCESS TECHNOLOGY

■ Associate in Science Degree

The Process Technology program prepares students to become process operators in chemical industries such as:

- Petroleum refining
- Oil and gas exploration and production
- Power generation
- Alternative energy
- Pharmaceuticals
- Food and beverage
- Cosmetics
- Water and wastewater
- Chemical manufacturing
- Biological manufacturing
- and more...

Processing plants for most of the above mentioned industries can be found locally in Los Angeles County/City and adjoining counties. The Associate of Science degree in Process Technology will lead to a highly skilled, high benefits and high-wage, life-long profession.

At the end of the Associate degree in Process Technology a student will be able to perform such task as:

- Operating a process plant
- Perform all task in a safe manner, protecting plant personnel and our environment
- Operate the plant economically
- Recognize abnormal situations
- Identify plant equipment
- Explain the important functions of the plant
- Explain interrelationships between components of a system
- Analyze the overall processing system
- Diagram control systems
- Analyze information

*The student will be trained in the proper use of safety, processing, and equipment.

High school students preparing for the PTEC program are encouraged to take courses in chemistry/chemical technology, physics, English, and at least one year of Algebra.

CURRICULUM STANDARDS (CRITERIA C) PROPOSED SEQUENCE OF COURSE TITLES AND UNITS

REQUIRED COURSES FOR THE ASSOCIATE DEGREE IN PROCESS TECHNOLOGY

FIRST SEMESTER (FALL)		UNITS
PRPLTEK 100	Introduction to Process Plant Technology	3
PRPLTEK 103	Process Plant Equipment	3
Physics 11	Introduction to Physics	4
ChemTech 111	Applied Chemistry 1	5
TOTAL UNITS		15

SECOND SEMESTER (SPRING)		UNITS
PRPLTEK 102	Process Measure/Control Fundamentals	3
PRPLTEK 200	Petroleum Refining Fundamentals (Systems)	3
PRPLTEK 204	Process Instrumentation - Computer Applications	2
TOTAL UNITS		8

THIRD SEMESTER (FALL)		UNITS
PRPLTEK 206	Process Tech Adv. Instrumentation	3
PRPLTEK 210	Applied Instrumentation Analysis I	
- OR -		
ChemTech 132	Quantitative/Instrumental Analysis	4
PRPLTEK 104	Introduction to Process Plant Safety	3
TOTAL UNITS		10

FOURTH SEMESTER (SPRING)		UNITS
PRPLTEK 202	Introduction to Process Plant Troubleshooting	3
PHYSICS 29A/B	Physics for Technician	4
MATH 125**	Intermediate College Algebra	5
TOTAL UNITS		12

**18 units of general education courses are required for the associate degree in Process Technology including **Math 125, Intermediate College Algebra.

**See Graduation Plan B, for other required general electives for graduation.

RECOMMENDED ELECTIVES

		UNITS
Business 33	Tech Report Writing	3
Chem Tech 100	Intro to Chem Tech	3
CIS 701	Intro to Computers	3
English 28	Intermed. Reading and Comp	3
Per Dev 2	Inter Relations	3
Phil 6	Logical Thinking	3
Labor Stud 4	Emerging Issues	3
Speech 101	Oral Communication I	3
Engineer 101	Introduction to Science, Engineering and Technology	2

PROCESS TECHNOLOGY

■ Certificate of Achievement

The Certificate of Achievement in Process Technology may be earned by completing the required courses listed above in the A.S. curriculum.

PROCESS TECHNOLOGY

■ COURSE DESCRIPTIONS

100 (PT) INTRODUCTION TO INDUSTRIAL PROCESSES (3)

Lecture: 3 hours

The purpose of this course is to provide an overview or introduction into the field of Process Operations within the Chemical Process Industries, such as the oil refinery and wastewater industries. Students will be introduced to the roles and responsibilities of Process Technicians, the environment in which they work, and the equipment and systems in which they operate.

102 PROCESS MEASUREMENT AND CONTROL FUNDAMENTALS (3)

Lecture: 3 hours

The purpose of this course is to provide an introduction to the fundamentals of process variables and a variety of instruments used to sense, measure, transmit, and control process plant operations within chemical manufacturing, oil refineries and wastewater treatment industries.

103 PROCESS PLANT EQUIPMENT (3)

Lecture: 2 hours; Lab: 2 hours

The purpose of this course is to provide an overview into the use of Process Technology equipment within the chemical manufacturing and wastewater treatment industries. Students will be introduced to many process industry related equipment concepts including purpose, components, operation, and the Process Technician's role for operating and troubleshooting the equipment.

104 INTRODUCTION TO PROCESS PLANT SAFETY (3)

Lecture 3 hours

This course provides an introduction to the fields of environment, health and safety in the process industry. Students will be introduced to various types of plant hazards, as well as safety and environmental systems and equipment, and the state and federal regulations under which plants are governed.

111 APPLIED CHEMISTRY I (5) CSU

(Same as CT 111)

Lecture: 3 hours; Lab: 6 hours

This course is devoted to the study of principles and concepts of chemistry and laboratory techniques used in chemistry. Concepts are introduced that involve the structures of matter, the mole concept, properties of solutions, chemical reactions and tests for purity. An introduction to physical methods of analysis involving the use of separation and instrumental methods is also covered.

200 PETROLEUM REFINING FUNDAMENTALS (3)

Lecture: 3 hours

The purpose of this course is to provide an introduction to the unique combinations of equipment and systems used to separate materials in chemical manufacturing, oil refineries, wastewater treatment, pharmaceutical industries and others. The study will include process systems such as, reactions, water treatment, distillation, absorbing/stripping, evaporation, extraction and fundamental organic chemistry principles involved in process systems.

202 INTRODUCTION TO PROCESS PLANT TROUBLESHOOTING (3)

Lecture: 3 hours

This course introduces students to the troubleshooting processes involved in the investigation, identification and eliminating of the type of faults which are common to process plant operations.

204 PROCESS TECHNOLOGY INSTRUMENTATION - COMPUTER APPLICATIONS (2)

Lecture : 2 hours

This advanced course introduces students to the computerized software used to manipulate process operations in chemical industries including petrochemical, wastewater, pharmaceutical and numerous other operations.

206 PROCESS TECHNOLOGY – ADVANCED INSTRUMENTATION II (3)

Lecture : 3 hours

This course provides students with exposure to advanced process operation variables and a variety of instruments used to sense, measure, transmit and control plant operations within the chemical manufacturing, oil refinery and wastewater treatment industries.

208 PROCESS TECHNOLOGY – INSTRUMENTATION III (4)

Lecture : 4 hours

In this advanced course, students will gain the skills to identify and operate a variety of controls used by process technicians and operators in process plant industries. Topics include digital controls, programmable logic control, distributed control systems, instrumentation power supply, emergency shutdown and instrumentation malfunction.

210 APPLIED INSTRUMENTATION ANALYSIS I (4)

Lecture : 2 hours ; Lab: 2 hours

This class offers students hands-on experience with the analytical instruments used in typical laboratories, including gas chromatographs and chemical titrating instruments. Students will learn to apply various methods of sampling and analyzing to determine the composition of typical liquids, solids and gases used by the chemical industry.

214 PROCESS TECHNOLOGY IV – QUALITY PERFORMANCE (3)

Lecture : 3 hours

This course provides an introduction to the field of quality assurance in the process industry. Students will be introduced to process industry related quality concepts including operating consistency, continuous improvement, plant economics, team skills and statistical process control (SPC).

WATER SYSTEMS TECHNOLOGY

PROGRAM OVERVIEW

The US Department of Labor projects a substantial increase in jobs in the field of water systems technology, brought about by the demand for services from new housing developments as well as regulations that require more monitoring and treatment of water sources. Projected retirements of existing operators will fuel this demand as well. The net result of these shifts will be increased openings for personnel in all areas: plant operations, distribution/collection field maintenance, administration, customer service, line supervision, meter readers, engineers, and plant maintenance (source: Opflow: vol.31, No. 5, may 2005).

The Water Systems Technology program at Trade-Tech offers students a choice of two concentrations within water systems industry. The Supply Water option offers courses focused on the operation and design of water systems, wells, pumps and meters; water treatment for potable water; and technical phases of automatic controls, including power and code considerations. The Wastewater option offers courses focusing on preliminary, primary, secondary, and tertiary treatment systems as well as disinfection methods, solids treatment, and solids and effluent disposal practices.

WATER SYSTEMS TECHNOLOGY

■ Associate in Science Degree - Supply Water Technology

The Associate in Science degree in Supply Water Technology may be earned by completing the required courses listed below, along with 30 units of general education courses listed in Graduation Plan A, and 6 additional units of elective courses to meet the 60 unit requirement.

Upon successful completion students will be prepared for certification by the AWWA as well as the State Department of Health. Students will also have the background to advance in the Supply Water Industry.

REQUIRED COURSES

		UNITS
WATER 1	Modern Waterworks I	3
WATER 2	Modern Waterworks II	3
WATER 3	Water Systems Controls	3
WATER 4	Water Purification I (Potable)	3
WATER 5	Water Purification II (Potable)	3
WATER 6	Backflow Prevention Devices (same as Plumbing 31)	3
WATER 7	Plumbing Layout & Estimating (same as Plumbing 26)	3
WATER 8	Advanced Water Systems Controls	3
TOTAL UNITS		24

RECOMMENDED ELECTIVES

		UNITS
WASTE 18	Water & Wastewater Mathematics	3
WASTE 15	Wastewater Operations IV (Basic Laboratory Analyses)	4
BUS 32	Business Communications	3
BUS 33	Technical Report Writing	3
SUPV 2	Basic Psychology for Supervisors	3
SUPV 12	Written Communication for Supervisors	3
SUPV 13	Safety Training & Fire Prevention	3
MATH 115*	Introduction to Elementary Algebra I	3

* Math 125 required for A.S. Degree

SUPPLY WATER TECHNOLOGY

■ COURSE DESCRIPTIONS

1 MODERN WATER WORKS I (3)

Lecture: 3 hours

This course offers instruction to water works operators, engineers, and others involved in the operation and design of water systems. The use and operation of all major equipments, including wells, pumps, and meters, will be fully discussed.

2 MODERN WATER WORKS II (3)

Lecture: 3 hours

This is an advanced course in water distribution systems. Included are special considerations of pipe types and uses, reservoirs, maps, records applied hydraulics as applied to Distribution Systems. Emphasis will be placed on the practical layout, operation and maintenance of a water distribution system. Students are prepared for a Grade 2 Distribution Operation Certification of the AWWA.

3 WATER SYSTEMS CONTROLS (3)

Lecture: 3 hours

This course explores the use and the operation of current and future controls to create a completely automated water system with feedback and recording. Specific topics covered include technical phases of automatic controls, engineering tools, pump testing, system overall efficiency, electrical schematics, telemetering, and the use of watermain monographs.

4 WATER PURIFICATION I (POTABLE WATER) (3)

Lecture: 3 hours

This beginning course in water treatment covers public health, water quality control, and operation and maintenance. The student is prepared for the Grade 1 and 2 Treatment Certification by the State Department of Health.

5 WATER PURIFICATION II (POTABLE WATER) (3)

Lecture: 3 hours

This is an advanced course in water treatment covering public health, water quality control and operation and maintenance. The student is prepared for the Grade 3 Treatment Certification by the State Department of Health.

6 BACKFLOW PREVENTION DEVICES (1)

(Note: same as Plumbing 31)

Lecture: 1.5 hours; lab: 4.5 hours

This course presents the fundamentals of cross-connection controls including state and municipal codes, rules and regulations. Laboratory experiences are offered in operation, testing and maintenance of vacuum breakers, double check valves and reduced pressure devices.

7 PLUMBING LAYOUT AND ESTIMATING I (3)

(Note: same as Plumbing 26)

Lecture: 3 hours

This class covers symbols and abbreviations, pipe fittings and pipe measurement; orthographic, isometric and freehand drawing; blueprint reading and the fundamentals of piping layout.

8 ADVANCED WATER SYSTEMS CONTROLS (3)

Lecture: 3 hours

This course is designed for students possessing a basic electrical background. It provides them with advanced knowledge of water system controls, including power and code considerations, and qualifies student for trouble shooting operations.

WATER SYSTEMS TECHNOLOGY

■ Associates in Science Degree - Wastewater Technology

The Associate in Science degree in Wastewater Technology may be earned by completing the required courses listed below, 30 units of general education courses listed in Graduation Plan A, and 9 additional units of elective courses to meet the 60 unit requirement.

In the State of California, there are five operator grade levels of profession in operating and maintaining publicly owned wastewater treatment facilities. Each grade level requires passing an examination administered by the State, after meeting qualifying experience and educational requirements. An Associates degree and 6 years of performance of an operator duty while holding a certificate, qualifies a person to be promoted to grade five level. Upon completion of the degree, students will have the potential for securing high-paying jobs.

REQUIRED COURSES

		UNITS
WASTE 12	Wastewater Operations I	3
WASTE 13	Wastewater Operations II	3
WASTE 14	Wastewater Operations III	3
WASTE 15	Wastewater operations IV (Basic Laboratory Analyses)	4
WASTE 16	Wastewater Operations V (Mechanics, Fluids, Electricity)	3
WASTE 17	Wastewater Operations VI (Public Health, Environment & Management)	3
WASTE 18	Water & Wastewater Mathematics	3
	TOTAL UNITS	21

RECOMMENDED ELECTIVES

		UNITS
BUS 32	Business Communications	3
BUS 33	Technical Report Writing	3
SUPV 2	Basic Psychology for Supervisors	3
SUPV 12	Written Communications for Supervisors	3
SUPV 13	Safety Training & Fire Prevention	3
MATH 115*	Introduction to Elementary Algebra I	3

* Math 125 required for A.S. Degree

WASTEWATER TECHNOLOGY

■ COURSE DESCRIPTIONS

The courses listed below in wastewater technology have been approved by the California State Water Resource Control Board and are eligible for eight (8) educational points, for each 3 unit course completed toward the Wastewater Treatment Plant Operators Certification educational requirements.

12 WASTEWATER OPERATIONS I (3)

Lecture: 3 hours

This course is a survey and introductory course into wastewater systems for operations and maintenance personnel, administrative, engineering and laboratory personnel may benefit from this course.

13 WASTEWATER OPERATIONS II (3)

Recommended Preparation: Successful completion of Waste Water Technology 12 with a grade of "C" or better.

Lecture: 3 hours

A comprehensive study is made of preliminary, primary, and secondary treatment systems and operations including selected field studies.

14 WASTEWATER OPERATIONS III (3)

Lecture: 3 hours

This is a comprehensive study of disinfection methods, tertiary treatment, water reclamation, solids treatment, solids and effluent disposal practices.

15 WASTEWATER OPERATIONS IV (BASIC LABORATORY ANALYSIS) (4)

Lecture: 3 hours; Lab: 3 hours

This is an introduction into the fundamentals of chemistry and laboratory techniques used to monitor wastewater treatment operations.

16 WASTEWATER OPERATIONS V (MECHANICS, FLUIDS, ELECTRICITY) (3)

Lecture: 3 hours

The practical application of engineering fundamentals, such as hydraulics mechanics, electricity and instruments as practiced in wastewater treatment.

17 WASTEWATER OPERATIONS VI (PUBLIC HEALTH, ENVIRONMENTAL, MANAGEMENT) (3)

Lecture: 3 hours

Public health, the environment, regulations, management/ supervision and report writing as practiced in wastewater and water reclamation plants safety are covered.

18 WATER AND WASTEWATER MATHEMATICS (3)

Lecture: 3 hours

This is a review and practice of basic mathematical concepts required to solve wastewater treatment problems. (Note: this is not a remedial math class).

ASTRONOMY

ASTRONOMY

■ COURSE DESCRIPTIONS

1 ELEMENTARY ASTRONOMY (3) UC:CSU

Lecture: 3 hours

This course provides a non-mathematical survey of modern astronomy, including the properties and evolution of the solar system, stars and the universe.

2 ELEMENTARY ASTRONOMY LABORATORY (1) RPT1 UC:CSU

Recommended Preparation or concurrent enrollment: Astronomy 1 Lab: 2 hours

Provides the laboratory work to accompany or follow Astronomy 1. Includes constellation study, study of types of telescopes and other instruments, telescopic observations, simple surveying measurements, ephemeris and celestial globe study, planetary and solar system astronomy, work with optical systems and spectroscopes, and reduction of data. Requires occasional field trips to nearby astronomical facilities.

- 5 FUNDAMENTALS OF ASTRONOMY LABORATORY (1) UC:CSU**
Recommended Preparation or concurrent enrollment: Astronomy I
Lab: 3 hours
 Provides the laboratory work to accompany or follow Astronomy 1. This course uses astronomical instruments and laboratory equipment. Includes work with celestial sphere, sky charts, optical bench, telescopes, spectroscopes, and photometer. Requires field trips for evening observations.

BIOLOGY

BIOLOGY

■ COURSE DESCRIPTIONS

- 3 INTRODUCTION TO BIOLOGY (4) UC:CSU**
Lecture: 3 hours; Lab: 3 hours
 This is an introductory course dealing with the fundamental properties of living things. The structure and physiology of plants and animals, with emphasis on humans, are covered. Relationships between biological communities, genetics, and evolution are stressed.
- 6 GENERAL BIOLOGY I (5) UC:CSU**
Prerequisite: Chem 51 and Math 125 with a grade of "C" or better
Lecture: 3 hours; Lab: 6 hours
 This course is designed for all life science and pre-med majors. It focuses on the basic cellular and molecular processes of life including matter-energy relationships, metabolism, reproduction and genetics. The lower forms of life (monerans, protists, plants and animals) as their structures, physiology and behavior illustrate the origin and evolutionary development of cells and organisms are also examined.
- 7 GENERAL BIOLOGY II (5) UC:CSU**
Prerequisite: Biology 6 and Math 125 (or higher) with a grade of "C" or better
Lecture: 3 hours; Lab: 6 hours
 Continues Biology I. Designed to complete the study of the basic principles of biology, this course covers reproduction, embryology and development, population ecology, genetics, and evolution. It also examines the higher forms of life (plants and animals) as their structures, physiology and behavior illustrate the evolution of all forms of life.
- 20 HUMAN ANATOMY AND PHYSIOLOGY (8) UC:CSU**
Prerequisite: Biology 3 or 36 with a grade of "C" or better
Lecture: 6 hours; Lab: 6 hours
 The course integrates the fundamentals of human anatomy with the fundamentals of molecular, cellular and organ system physiology. It also covers molecular histology and gross anatomy and physiology of all human organ systems.
- 36 BIOSCIENCE FOR HEALTH OCCUPATIONS (4)**
Lecture: 3 hours; Lab: 3 hours
 This is an elementary course including basic chemistry, basic microbiology and anatomy and physiology. Basic chemistry, as related to health care and microbiological principles including asepsis will be treated. Anatomy and physiology, both microscopic and gross, of the human body is studied using a systems approach.

- 40 THE SCIENCE OF BIOTECHNOLOGY (3) UC:CSU**

Lecture: 2 hours; Lab: 2 hours

Prerequisite: Biology 3

This course provides a comprehensive introduction to the science of biotechnology providing theory with hands-on experience with laboratory protocols that parallel the isolation, purification, and cloning of a gene.

CHEMISTRY

CHEMISTRY

■ COURSE DESCRIPTIONS

- 40 BASIC CHEMISTRY (3) CSU**
Recommended Preparation: Math 115 or 114 with a grade of "C" or better.
Lecture: 3 hours
 This course is an elementary survey of chemical science and its relationship to other chemical sciences, leading the student to a better understanding of his/her environment. The student is introduced to the language of chemistry, chemical families, methods of chemistry, scientific reasoning and uses of chemistry in industry. This course meets the physical science requirements for those students following a curriculum not requiring laboratory work. Limits to transfer credit.
- 51 FUNDAMENTALS OF CHEMISTRY (5) UC:CSU**
Prerequisite: Math 115 or Math 113 and 114 with a grade of "C" or better.
Lecture: 4 hours; Lab: 3 hours
 This course with laboratory emphasizes the principles of inorganic chemistry and introduces elementary organic and biological chemistry. It is planned primarily for health science majors, as a preparatory course for higher-level chemistry courses, and for non-science majors requiring a one-semester course with laboratory. This course can be used for high school credit.
- 65 INTRODUCTORY GENERAL CHEMISTRY (4) UC:CSU**
Prerequisite: Math 115 or Math 114 with a grade of "C" or better.
Lecture: 3 hours; Lab: 3 hours
 This course with laboratory presents the principles of inorganic chemistry. It is primarily designed as a preparatory course for higher-level chemistry courses. This course can be used for high school credit.
- 70 INTRODUCTORY ORGANIC AND BIOCHEMISTRY (4) UC:CSU**
Prerequisite: Chemistry 51 or 65 or 101 with a grade of "C" or better.
Lecture: 3 hours; Lab: 3 hours
 This is an introductory course in organic and biochemistry. It fulfills the undergraduate requirement for organic chemistry required for Home Economics and Nursing majors.
- 101 GENERAL CHEMISTRY I (5) UC:CSU (CAN CHEM 2) (CAN CHEM SEQ A, WHEN TAKEN WITH CHEM 102)**
Prerequisite: Math 125
Lecture: 3 hours; Lab: 6 hours
 Fundamental principles of chemistry, including modern atomic structure, chemical bonding, stoichiometry, gases, solids, liquids, descriptive inorganic chemistry, and a brief introduction to equilibrium and electrochemistry. The laboratory emphasizes the quantitative aspects of chemistry and instrumentation. This course is planned primarily for science, engineering and pre-medical majors.

102 GENERAL CHEMISTRY II (5) UC:CSU

*Prerequisite: Chemistry 101 and Math 125 with a grade of "C" or better.
Lecture: 3 hours; Lab: 6 hours*

This course provides a detailed study of chemical equilibrium with qualitative inorganic analysis as part of the laboratory. Special topics including chemical thermodynamics, chemical kinetics, coordination chemistry, organic and biological chemistry with environmental emphasis, nuclear chemistry. Inorganic preparations are part of the laboratory.

211 ORGANIC CHEMISTRY I FOR SCIENCE MAJORS (5) UC:CSU

*Prerequisite: Chem 102 with a grade of "C" or better.
Lecture: 3 hours; Lab: 6 hours*

This class covers the organization of classes of organic compounds, factors involved in classification, characteristic reactions of functional groups and subgroups, the application of physical and chemical methods of characterizing organic compounds. A mechanistic approach to reactions and a focus on multi-step synthesis will be emphasized throughout the course.

212 ORGANIC CHEMISTRY II FOR SCIENCE MAJORS (5) UC:CSU

*Prerequisite: Chem 211 with a grade of "C" or better.
Lecture: 3 hours; Lab: 6 hours*

This course completes the study begun in Chemistry 211, including a focus on the organic functional groups of aldehydes, ketones carboxylic acids and amines. Specialized topics including the following: amino acids and peptides, difunctional compounds, polycyclic benzoid hydrocarbons, heterocyclic compounds, the organic chemistry of silicon, and strategies in modern organic synthesis are also covered. A mechanistic approach to reactions and a focus on multistep synthesis is emphasized throughout the course.

221 BIOCHEMISTRY FOR SCIENCE MAJORS I (5) UC:CSU

*Prerequisite : Chem 211 with a "C" or better.
Lecture : 3 hours; Lab 6 hours*

This course is part of the transfer sequence for majors in the physical, biological and health science requirement for the AS degree in chemistry or biology. This course introduces the structure and thermodynamics of the metabolism.. Laboratory experiments show modern techniques of purification, structure determination and function characterization, including chromatography, electrophoresis, spectroscopy, molecular models and molecular modeling.

185 DIRECTED STUDY – CHEMISTRY (1)

Allows students to pursue directed study in chemistry on a contract basis under the direction of a supervising instructor. A maximum of 3 units may be taken for credit.

285 DIRECTED STUDY – CHEMISTRY (2)

Allows students to pursue directed study in chemistry on a contract basis under the direction of a supervising instructor. A maximum of 3 units may be taken for credit.

385 DIRECTED STUDY – CHEMISTRY (3)

Allows students to pursue directed study in chemistry on a contract basis under the direction of a supervising instructor. A maximum of 3 units may be taken for credit.

ENGINEERING, GENERAL**ENGINEERING, GENERAL****■ COURSE DESCRIPTIONS****101 INTRODUCTION TO SCIENCE, ENGINEERING AND TECHNOLOGY (2) CSU**

Lecture: 2 hours

This course is an introduction to the field of engineering. Topics include history, careers, ethics and responsibilities, engineering calculations and problem solving examples from mechanics, dynamics and fluids. The design process is explored and guest speakers are invited to address the class.

110 ENGINEERING GRAPHICS (2) CSU

Lecture: 1 hour; Lab: 3 hours

This is a course in graphical communication, including freehand sketching, orthographic projection, section and auxiliary views, geometric construction, basic nomography and empirical equations, Descriptive geometry of lines, planes and surfaces is included. Students learn basic concepts involved in creating computer aided drawings; computer hardware and software (such as AutoCAD and VersaCAD) are used to generate CAD drawings.

131 STATIC (3) UC:CSU

*Prerequisite: Math 265 with a grade of "C" or better.
Lecture: 2 hours; Discussion: 3 hours*

Two and three dimensional vector forces, resultants, components, and moments are applied to determined equilibrium conditions in trusses, frames and machines. Center of mass, centroids, friction, and moments of inertia of area and mass are included. Both analytic and graphic solutions are considered.

151 MATERIALS OF ENGINEERING (3) UC:CSU

*Prerequisite: Math 265, Chem 101, and Physics 1.
Lecture: 3 hours*

The course covers the properties of materials as they relate to atomic and crystal structure. Topics include: atomic structure and bonding, crystalline structures, phases and phase diagrams; metals, polymers, ceramics, composites, mechanical deformation and fracture, and electrical and magnetic properties. Additional topics include optical properties, corrosion and process methods.

241 STRENGTH OF MATERIALS (3) UC:CSU

*Prerequisite: Math 265
Lecture: 2 hours; Discussion: 3 hours*

Plane stress-strain, axial, torsional, bending and shear stresses are studied including combined loads, Mohr's Circle, principal stresses and strains, and pressure vessels. Generalized Hooke's Law, material properties, allowable stresses, factor of safety, statically indeterminate members, shear and moment diagrams; moment-area, and slope by double integration, singularity functions, superposition, moment-area, and Castigliano methods are also studied. Topics include thermal expansion, indeterminate forms and column buckling.

ENVIRONMENTAL SCIENCE

ENVIRONMENTAL SCIENCE

■ COURSE DESCRIPTIONS

001 THE HUMAN ENVIRONMENT: PHYSICAL PROCESSES (3) CSU

Lecture: 3 hours

Introduction to the environmental mechanism that constitute our life support systems and the social, political and economic factors that are the ultimate cause of these problems. This includes an examination of the difference between science and technology and the limits to technological solutions to our environmental problems. The basic science required to understand how our environmental system work is presented followed by analysis of the essential issues are analyzed along with potential solution to these problems where they exist.

GEOGRAPHY

GEOGRAPHY

■ COURSE DESCRIPTIONS

1 PHYSICAL GEOGRAPHY (3) UC:CSU

Lecture: 3 hours

This course studies the physical environment of earth. Emphasis is placed on climate, soils, vegetation, land forms, maps, weather systems, oceans, and the atmosphere, and their pattern on Earth.

GEOLOGY

GEOLOGY

■ COURSE DESCRIPTIONS

1 PHYSICAL GEOLOGY (3) UC:CSU

Lecture: 3 hours

This is an elementary course dealing with the earth's surface features and the geological laws governing their origin and development.

6 PHYSICAL GEOLOGY LABORATORY (2) UC:CSU

Recommended Preparation: Physical Geology 1 with a grade of "C" or better

Lecture: 1 hour; Lab: 2 hours

This course supplements Geology 1 with additional exercises in identification of rocks and minerals, reading of maps, and study of rock structures. Studies of local geology are made based upon field trips and the collection of specimens.

MICROBIOLOGY

MICROBIOLOGY

■ COURSE DESCRIPTIONS

1 INTRODUCTORY MICROBIOLOGY (5) UC:CSU

Prerequisites: BIO 3 or 6 or 36 or 20 and Chem 51,65 or 101 with a grade of "C" or better.

Lecture: 3 hours; Lab: 6 hours

This course examines the nature, distribution and physiological activities of microorganisms; the place of microorganisms in nature; the microbiology of water, soil, dairy products and other foods, and industrial applications, including medical aspects of microbiological techniques.

20 GENERAL MICROBIOLOGY (4) UC:CSU

Prerequisites: Chemistry 51 or 65 or 101 and BIO 3 or 6 or 36 or 20 with a grade of "C" or better

Lecture: 3 hours; Lab: 3 hours

This is a comprehensive course for the Health Occupations and pre-nursing majors. It demonstrates the interdependence and impact of microorganism upon modern thought and living. Emphasis is placed upon the handling of microorganisms.

PHYSICS

PHYSICS

■ COURSE DESCRIPTIONS

1 MECHANICS OF SOLIDS (4) UC:CSU

Prerequisite: Physics 11 or equivalent and Prerequisite or corequisite: Math 265

(UC limits credit; see Counselor for details.)

Lecture: 3 hours; Laboratory/Demonstration, 3 hours

This course is designed to cover the field of mechanics, both static and dynamic, translational and rotational motion, work and energy, elasticity and simple harmonic motion, and gravitational theory.

2 MECHANICS OF FLUIDS, HEAT, AND SOUND (4) UC:CSU

Prerequisite: Physics 1 and prerequisite or corequisite: Math 266 with a grade of "C" or better or equivalent.

(UC limits credit; see Counselor for limitations.)

Lecture: 3 hours; Laboratory/Demonstration, 3 hours

This course covers the theory of fluid mechanics, both static and dynamic; wave motion and sound temperature, thermodynamics, and the kinetic theory of gases. Also included are sound and wave motion.

3 ELECTRICITY AND MAGNETISM (4) UC:CSU

Recommended: Physics 2

Prerequisite: Physics 1 with a grade of "C" or better and prerequisite or corequisite: Math 266

Lecture: 3 hours; Lab: 3 hours

This course covers the elements of electricity and magnetism, including electric and magnetic fields and circuits and their application as well as inductance, Capacitance, Gauss's law, Amperes law, Faraday's law, and resonance.

4 OPTICS AND MODERN PHYSICS (4) UC:CSU

Recommended Preparation: Physics 3 with a grade of "C" or better.

Prerequisite or corequisite: Math 267

Lecture: 3 hours; Lab: 3 hours

This course covers the fundamentals of physical optics including radiation, spectra; wave mechanics, uncertainty principle, radioactivity and nuclear physics.

6 GENERAL PHYSICS I (4) UC:CSU

Prerequisite: Physics 11 and Math 241

Lecture: 3 hours; Lab: 3 hours

This course provides a survey of physics at the pre-calculus level, with emphasis on mechanics, wave motion, fluids, heat and thermodynamics. The laboratory consists of engineering applications and problem solving.

7 GENERAL PHYSICS II (4) UC:CSU

Prerequisite: Physics 6 with a grade of "C" or better.

Lecture: 3 hours; Lab: 3 hours

This course provides a survey of physics at the pre-calculus level, with emphasis on electricity and magnetism, optics and modern physics. The laboratory consists of engineering applications and problem solving.

11 INTRODUCTORY PHYSICS (4) UC:CSU

Prerequisite or corequisite: Math 114 or 115

Lecture: 3 hours; Lab: 3 hours

This is a survey course describing the major areas of physics. Mathematical solution of simple physics problems are covered. This course is not open to students receiving credit for Physics 12.

12 PHYSICS FUNDAMENTALS (3) UC:CSU

Credit allowed for only one of Physics 12 and 11; see Counselor for limitations.

Prerequisite or corequisite: Math 114 or 115 with a grade of "C" or better.

Lecture: 3 hours

This course covers basic measurements, mechanical, thermal, and electrical phenomena at an introductory level.

14 PHYSICS FUNDAMENTALS LABORATORY (1) UC:CSU

Prerequisite or corequisite: Physics 12 with a grade of "C" or better.

Lab: 3 hours

Course covers laboratory exercises in basic measurements, mechanical, thermal, and electrical phenomena at an introductory level.

29 BASIC PHYSICS FOR TECHNICIANS (4)

Prerequisite or corequisite: Math 114 or 115

Lecture: 3 hours; Lab: 3 hours

This course addresses basic mechanical, electrical, magnetic, optical, and acoustic topics at an introductory level.

29A BASIC PHYSICS FOR TECHNICIANS A (3)

Prerequisite or corequisite: Math 114 or 115

Lecture: 3 hours

29B BASIC PHYSICS FOR TECHNICIANS B (1)

Prerequisite or corequisite: Physics 29A

Lab: 3 hours

32 LABORATORY IN APPLIED OPTICS (2)

Recommended Preparation: Physics 14 and 29B with a grade of "C" or better.

Lab: 6 hours

Includes laboratory training in basic geometrical and physical optics, theory and uses of lasers, holography, and opti-electronic devices.

32A LABORATORY IN APPLIED OPTICS A (1)

Lab: 3 hours

32B LABORATORY IN APPLIED OPTICS B (1)

Lab: 3 hours

105 INTRODUCTION TO NANOTECHNOLOGY (3) CSU

Recommended Preparation: Math 245, Physics 12, Chemistry 40 completed with a "C" or better.

This course covers the principles of nanoscience and nanotechnology, including physical principles, the quantum behavior of matter, nanoscales, nanotubes, nanodevices, molecular circuits, molecular logic, and applications of nanoscience and nanotechnology to medicine and manufacturing. It involves demonstrations with models, nanostructures, and an atom force microscope with a haptic device.

185 DIRECTED STUDY - PHYSICS (1) RPT2 UC:CSU

Allows students to pursue directed study in physics on a contract basis under the direction of a supervising instructor. A maximum of 3 units may be taken for credit.

285 DIRECTED STUDY - PHYSICS (2) UC:CSU

Allows students to pursue directed study in physics on a contract basis under the direction of a supervising instructor. A maximum of 3 units may be taken for credit.

385 DIRECTED STUDY - PHYSICS (3) UC:CSU

Allows students to pursue directed study in physics on a contract basis under the direction of a supervising instructor. A maximum of 3 units may be taken for credit.

SOCIAL AND BEHAVIORAL SCIENCES

ADMINISTRATION OF JUSTICE

PROGRAM OVERVIEW

The Administration of Justice curriculum in Correctional Science is designed to teach students how the police, custody and courts systems function as social institutions, the process of investigations, and some aspects of law. Administrative of Justice courses are recommended and oftentimes required for police academy and other law enforcement agency trainings.

ADMINISTRATION OF JUSTICE - CORRECTIONAL SCIENCE

COURSE DESCRIPTIONS

2 CONCEPTS OF CRIMINAL LAW (3) UC:CSU

Lecture: 3 hours

This course presents concepts associated with criminal law such as philosophy of law and constitutional provisions, definitions, classification of crime, research, case law and legal concepts in our society.

3 LEGAL ASPECTS OF EVIDENCE (3) CSU

Lecture: 3 hours

The origins, development and philosophy of criminal evidence. This course looks at the many different types of evidence brought into the justice system. Also covered are the rules governing the admissibility of evidence in court.

14 REPORT WRITING FOR PEACE OFFICERS (3) CSU

Lecture: 3 hours

This course presents the various types of technical writing commonly used in police reports. The appropriateness of different styles in different contexts, the conceptualization of the material, and the use of these reports by analytical officers in police agencies are emphasized. Grammatical aspects of good report writing also are included.

62 FINGER PRINT CLASSIFICATION (3) CSU

Lecture: 3 hours

This is a practical course which covers the technical terminology of fingerprinting, pattern interpretation, and classification of fingerprints, the taking of fingerprints, searching and filing procedures and laboratory work in the classroom.

75 INTRODUCTION TO CORRECTIONS (3) CSU

Lecture: 3 hours

This is a basic course dealing with the nature of the correctional systems. The aims and objectives of corrections, probation, practices, institutions, services, supervision of inmates, and career opportunities are presented.

501 A TO Z GUIDE TO CRIMINAL JUSTICE CAREERS (3) CSU

Lecture: 3 hours

This course reviews the hot jobs in the criminal justice arena and outlines a method for the student to decide on their career path. Hiring process and interview skills will be explored. Fitness for duty and other physical and physiological characteristics will be discussed. An A to Z guide to Local, State, and Federal Criminal Justice Careers will be presented.

502 INTRODUCTION TO FORENSIC PSYCHOLOGY (3) CSU

Lecture: 3 hours

This is a basic course dealing with the nature of Psychology within the criminal justice system. The aims and objectives of Forensic Psychology as applied to corrections, probation practices, institutions, services, and inmate supervision will be discussed.

503 PROBATION OFFICER BASIC TRAINING (5) CSU

Lecture: 4 hours, Laboratory 3 hours

This course presents concepts associated with criminal law such as philosophy of law and constitutional provisions, definitions, classification of crime, research, case law and legal concepts in our society.

750 CRIMINAL ETHICS (3) UC:CSU

Lecture: 3 hours

Students will learn ethics in the criminal justice system including police, courts, probation, parole, corrections and private security organizations. Strategies addressing unethical behavior by staff will also be discussed.

950 SELECTED TOPICS IN CORRECTIONS (1)

Lecture: 1 hour

This course covers selected topics in the field of corrections including issues in health and safety, law, labor, technology, contract, equipment, procedures, and professional organizations. Instruction, discussion and networking with professionals, peers, and organizational members can be combined.

ANTHROPOLOGY

PROGRAM OVERVIEW

Anthropology is the science of people. It is often divided into biological anthropology and cultural anthropology. Biological anthropology focuses on human beings as biological organisms, and deals with topics such as evolutionary theory, genetics, non-human primates, the fossil record of human evolution and variation in modern humans. Cultural anthropology studies different ways of life, including language, marriage customs, economics and spiritual and religious beliefs. Students who continue on into bachelor's and master's program can find employment opportunities as teachers, museum curators, analysts and researchers.

ANTHROPOLOGY

■ COURSE DESCRIPTIONS

101 HUMAN BIOLOGICAL EVOLUTION (3) UC:CSU

Lecture: 3 hours

Current evolutionary theory is applied to human populations, processes of race formation and evolution in the framework of population genetics and in relation to the evolution of ecosystems. Included are taxonomy, human phylogeny, primate evolution and the human fossil record.

102 HUMAN WAYS OF LIFE: CULTURAL ANTHROPOLOGY (3) UC:CSU

Lecture: 3 hours; Advisory: English 28

This course consists of a study of people and their culture on all levels from the non literate to the most complex. Among the many phases of culture considered will be races and racial relations, scientific, technological and economic progress, political organizations; morals, ethics, and religions, courtship, marriage, and family, as well as the languages and classical arts.

109 GENDER, SEX AND CULTURE (3) UC:CSU

Lecture: 3 hours; Advisory: English 28

This course provides a world-wide comparison of sexuality and gender as viewed from various perspectives, including the biological/evolutionary, the cultural, the psychological, the historic, and the prehistoric, especially as they relate to the experiences of males and females in contemporary society.

121 ANTHROPOLOGY OF THE SUPERNATURAL: RELIGION, MAGIC, AND WITCHCRAFT (3)

Lecture: 3 hours; Advisory: English 28

This course examines how supernatural beliefs take on several different forms, including religion, magic, and witchcraft.

CULTURAL GEOGRAPHY

PROGRAM OVERVIEW

Cultural geography focuses on the aspects of geography that relate to different cultures with an emphasis on cultural origins, movement and the cultural characteristics of regions. Topics covered include language, religion, ethnicity, politics, historical development, agricultural methods, settlement patterns, and quality of life. Students who continue for bachelor's and master's programs in geography can find employment as librarians, teachers, urban-regional planners, geographers, cartographers and archivists.

CULTURAL GEOGRAPHY

■ COURSE DESCRIPTIONS

2 CULTURAL ELEMENTS OF GEOGRAPHY (3) UC:CSU

Lecture: 3 hours

An overview of human cultures and cultural elements across the globe. The class covers globalization of culture, population distribution patterns, transportation and energy, language and religion, the social causes of war and global warming, etc.

HISTORY

PROGRAM OVERVIEW

History is a discipline within social science that includes research and the development of critical thinking skills. History is the study of understanding and analyzing the past, as well as explaining and assessing the present. History is the field through which the major political, economic, intellectual and cultural events and or movements of a given period in the United States and world are examined. Many students complete bachelor's and master's degrees in history and then become public school teachers or enter such professional fields as law, management, journalism, library science, public service and politics.

HISTORY

■ COURSE DESCRIPTIONS

11 POLITICAL AND SOCIAL HISTORY OF THE UNITED STATES I (3) UC:CSU

UC limits credit when History 11 and 41 are combined to one course.

Lecture: 3 hours; Advisory: English 28

This course will examine the historical development of the United States of America from 1492 to the close of the Civil War. Emphasis is placed on the relationship of regions, the role of major ethnic and social groups, the continuity of the American experience, and its derivation from other cultures, politics, economics, social movements, and geography.

12 POLITICAL AND SOCIAL HISTORY OF THE UNITED STATES II (3) UC:CSU

UC limits credit when History 12 and 42 are combined to one course.

Lecture: 3 hours; Advisory: English 28

This course will examine the historical development of the United States of America from the close of the Civil War to the present. Emphasis is placed on the role of major ethnic and social groups, the continuity of the American experience, and its derivation from other cultures, politics, economics, social movements, and its geography.

13 THE UNITED STATES IN THE TWENTIETH CENTURY (3) UC:CSU

Lecture: 3 hours; Advisory: English 28

This course presents a study of the major political, economic, intellectual, and cultural movements and events of the twentieth century.

41 THE AFRICAN-AMERICAN IN THE HISTORY OF THE UNITED STATES I (3) UC:CSU

UC limits credit when History 11 and 41 are combined to one course.

Lecture: 3 hours; Advisory: English 28

This course will examine the historical development of the United States of America from the early colonial era through the Civil War with special emphasis on the contributions of the Afro-American. Emphasis is placed on the relationship of regions, both internal and external, the role of major ethnic and social groups, the continuity of the American experience, and its derivation from other cultures, politics, economics, social movements, and its geography.

42 THE AFRICAN-AMERICAN IN THE HISTORY OF THE UNITED STATES II (3) UC:CSU

*UC limits credit when History 12 and 42 are combined to one course.
Lecture: 3 hours; Advisory: English 28*

This course will examine the historical development of the United States of America from the end of the Civil War to the present with special emphasis on the contributions of the Afro-American. Emphasis is placed on the relationship of regions, both internal and external, the role of major ethnic and social groups, the continuity of the American experience, and its derivation from other cultures, politics, economics, social movements, and its geography will be examined.

43 THE MEXICAN-AMERICAN IN THE POLITICAL AND SOCIAL HISTORY OF THE UNITED STATES I (3) UC:CSU

Lecture: 3 hours; Advisory: English 28

This course will examine the historical development of the United States of America from the period of exploration to the close of the Civil War with special emphasis on the history of the Mexican-American. Emphasis is placed on regions, both internal and external, major ethnic and social groups, the American experience, and its derivation from other cultures, politics, economics, social movements, and geography.

44 THE MEXICAN-AMERICAN IN THE POLITICAL AND SOCIAL HISTORY OF THE UNITED STATES II (3) UC:CSU

Lecture: 3 hours; Advisory: English 28

This course will examine the historical development of the United States of America from the close of the Civil War to the present with special emphasis on the history of the Mexican-American. Emphasis is placed on the relationship of regions, both internal and external, major ethnic and social groups, the American experience, and its derivation from other cultures, politics, economics, social movements, and geography.

52 THE ROLE OF WOMEN IN THE HISTORY OF THE U.S. (3) UC:CSU

Lecture: 3 hours; Advisory: English 28

This course will explore the political, social, economic and intellectual history of women in the development of the United States from the early colonial era to the present with special emphasis on their contributions, as well as issues. Also, it surveys, the U.S. Constitution and California state and local government in the context of the story of women in the history of the United States.

86 INTRODUCTION TO WORLD CIVILIZATION I (3) UC:CSU

Lecture: 3 hours; Advisory: English 28

Introductory survey of World Civilization to 1500. This course will examine and compare the social, economic, and political formations of various societies and world cultures. Major topics will include religion, philosophy, technology, and migration and settlement patterns.

87 INTRODUCTION TO WORLD CIVILIZATION II (3) UC:CSU

Lecture: 3 hours; Advisory: English 28

Introductory survey of World Civilization from 1500 to the Present. This course will examine and compare the social, economic, and political formations of various governments, societies, and world cultures. Major topics will include the development of the nation state, economic systems and technology, industrialization, colonization, and global conquest, revolutions, and migrations and settlement patterns.

POLITICAL SCIENCE**PROGRAM OVERVIEW**

Political Science is the study of governments, public policies and political behavior, through humanistic and scientific perspectives and skills to examine all countries and regions of the world. Political science students gain a versatility of skills and a marvelous range of exciting careers in federal, state and local governments, law firms, business, international organizations, and nonprofit associations and organizations. Campaign management and polling, journalism, pre-collegiate education, electoral politics, research and university and college teaching are some of the areas political science students can build their careers in.

POLITICAL SCIENCE**■ COURSE DESCRIPTIONS****1 THE GOVERNMENT OF THE UNITED STATES (3) UC:CSU**

Lecture: 3 hours; Advisory: English 28

This course will examine the principles, structure, and problems of the American government. Topics covered include: The Constitution of the United States of America, the Constitution of the State of California, political philosophies, political institutions, amendments and interpretations, the rights and obligations of citizens, federal/state, state/local, and contemporary state/local/ federal government relationships.

2 MODERN WORLD GOVERNMENTS (3) UC:CSU

Lecture: 3 hours; Advisory: English 28

This course studies a selected variety of major national states to secure a comparative picture of political philosophies, constitution, political processes and governmental institutions. Emphasis is placed on those factors as geographic, historic, demographic, and cultural, which contribute to difference in governmental experiences and behaviors.

7 CONTEMPORARY WORLD AFFAIRS (3) UC:CSU

Lecture: 3 hours; Advisory: English 28

This course examines the structure and operation of the international system. Emphasis is placed on the nature and sources of conflict and cooperation and issues of war and peace among states in the international system.

41 PRINCIPLES OF STUDENT LEADERSHIP (2)

Lecture: 2 hours

This course is for all students involved in student government (ASO) and student clubs on campus. This course will cover a broad range of areas associated with effective leadership. These include the following: leadership language, theory, and style; communication; diversity; values, ethics and legalities associated with leadership; globalization; group member behaviors; and productivity through appropriate uses of delegation, meetings, decision making models, and power.

PSYCHOLOGY

PROGRAM OVERVIEW

Psychology is a scientific discipline that employs systematic methods of inquiry to study and explain human behavior, both normal and abnormal, in terms of a variety of underlying variables. Physiological, environmental and cognitive processes; developmental factors and individual differences, and social and interpersonal influences and contexts are used to study human behavior. Topics are offered in areas such as psychobiology, learning and memory, motivation, perception, cognition, measurement, personality, clinical, social, developmental, community, and health psychology. Students who continue on into a bachelor's and master's program can find employment opportunities in the medical field, teaching, counseling and social welfare.

PSYCHOLOGY

■ COURSE DESCRIPTIONS

1 GENERAL PSYCHOLOGY I (3) UC:CSU

Advisory: English 28

Lecture: 3 hours

This survey course covers learning, motivation, intelligence, personality, and methods of adjustment, as well as sensation, disorders, therapies, social psychology, health and stress.

2 GENERAL PSYCHOLOGY II (3) UC:CSU

Prerequisite: Psychology I

Lecture: 3 hours

A study is made of the integrative relations of psychological processes to nervous, muscular, and glandular features of the response mechanism, including the structure and functions of the sense organs. Emphasis is given to recent experimental studies and research in the field of physiological psychology.

11 CHILD PSYCHOLOGY (3) UC:CSU

Note: Same as Child Development 1.

Lecture: 3 hours

This course covers the psychological development of children from infancy to adolescence, including physical, mental, emotional, and social conduct. The promotion of useful and healthy parent-child relationships is emphasized.

14 ABNORMAL PSYCHOLOGY (3) UC:CSU

Lecture: 3 hours

This course is a review of the historical as well as the recent approaches to the study of behavior disorders. Topics include definitions of normality, theories or causation and symptoms of the various traditional classifications of abnormality, and current methods of behavior modification.

17 EXCEPTIONAL CHILD (3) CSU

Lecture: 3 hours

An exploration of the field of exceptionality relative to the physical, behavioral, emotional, learning disabled, and mentally gifted or retarded child. Attention will be given to causes, diagnosis, prevention, and to program designed to address such disabilities.

32 PSYCHOLOGY OF WOMEN (3) UC:CSU

Advisory: English 28

Lecture: 3 hours

This course explores the biological and cultural determinants of women's personality development. Explores cultural stereotypes, sex role development, female sexuality, and women's health issues in terms of the implications for personal and social change.

41 LIFE SPAN PSYCHOLOGY: FROM INFANCY TO OLD AGE (3) UC:CSU

Prerequisite: Psych 1; Advisory: English 28

Lecture: 3 hours

Human development from conception to old (life span) is studied with emphasis in the areas of physical, social, intellectual, and emotional aspects of development. The varied aspects of development will focus on growth and change affecting individuals during their many life stages.

43 PRINCIPLES OF GROUP DYNAMICS I (3) CSU

Lecture: 3 hours

Introduction to the dynamics of group interaction with emphasis upon the individual's first-hand experience. Under supervision, factors involved in problems of communication, emotional responses and personal growth will be highlighted. This course elevates student's self-esteem.

69 PSYCHOLOGY IN FILM (3) CSU

Prerequisite: Psych 1; Advisory: English 28

Lecture: 3 hours

This course will survey a variety of films that portray selected disorders including neuroses and psychoses, as well as intelligence, learning, memory, health, therapy and other topics as discussed in general psychology.

SOCIOLOGY

PROGRAM OVERVIEW

The subject matter of sociology includes the study and comparison of social institutions, social relationships, group structure and behavior, social organization, cultural values, social deviance, public opinion and communication, industry inter-group relations and social conflict, social change, urbanization, and population analysis. Sociology as the science-of society provides the student with a perspective for viewing and assessing major political, economic, religious, and familial trends in contemporary social systems. Students that continue on in a bachelor's and master's degree program can find employment opportunities in teaching, social welfare, correction, probation and parole.

SOCIOLOGY

■ COURSE DESCRIPTIONS

1 INTRODUCTION TO SOCIOLOGY (3) UC:CSU

Advisory: English 28

Lecture: 3 hours

This course is a general survey of the field of sociology. Study is made of the origins, development and functioning of major social institutions, and of related social problems in a changing society.

2 AMERICAN SOCIAL PROBLEMS (3) UC:CSU

Advisory: English 28

Lecture: 3 hours

This course provides identification and analysis of contemporary social problems in the United States with an attempt to establish criteria by which an individual can judge the probable effectiveness of various schemes for social betterment.

12 MARRIAGE AND FAMILY LIFE (3) UC:CSU

Lecture: 3 hours

This course focuses on the relationship between the various members of the family and affects these have on the development of each individual. It helps the student to understand problems involved in the best of human relations in the home, by presenting facts-physical, emotional, and social-essential for the development of mature attitudes. Limits to transfer credit.

28 THE FAMILY: THE SOCIOLOGICAL APPROACH (3) UC:CSU

Lecture: 3 hours

This course provides a sociological analysis which contributes to an understanding of the origin, structure, and functions of marriage and family life. This course includes, but is not limited to, studies of sex roles, legal controls, religious attitudes, mixed marriages and financial and family planning.



LATTC

LOS ANGELES TRADE-TECHNICAL COLLEGE



- **Directory**
- **Faculty**
- **Emeriti**
- **Index**

DIRECTORY

FROM OFF CAMPUS: DIAL (213) 763-XXXX (SEE LISTED PHONE NUMBER)

INFORMATION & SERVICES

Activities	Phone No.	Room
A		
Academic Senate	763-7167	TG
Admissions & Records	763-5300	R-102
• Adding/Dropping a Class	763-5300	R-102
• Applying for Admissions	763-5300	R-102
• Academic, Administrative & Grade Change Petition	763-5314 or 5317	R-102
• General Petitions	763-5308	R-102
• Credit/No Credit	763-5300	R-102
• Graduation Application	763-5306	R-102
A – E	763-5315	R-102
F – K	763-5320	R-102
L – R	763-5302	R-102
S – Z	763-5322	R-102
• Registration Questions	763-5300	R-102
• Residency Questions	763-5300	R-102
• Transcript Request	763-5309	R-102
A – L	763-5318	R-102
M – Z	763-5321	R-102
• Verification of Enrollment	763-5303	In Person
• Withdraw from College	763-5300	R-102
Allied Health/Health Occupation	763-7170	TG
Assessment	763-5339	C-107
Associated Student Organization (ASO)	763-7200	C-108
Athletics	763-3726	J-202
B		
Basic Skills Office	763-5515	K-006
Bookstore	763-7210	K-102
• Books, Supplies, Catalog, Schedule		
Bridges to Success Center	763-5560	C-108
• K-12 Enrollment		
• Noncredit courses		
Business Office	763-7225	K-126
• Accounts Payable	763-7236	K-126
• Bus Passes and Tokens	763-7225	K-126
• Check Distribution	763-7225	K-126
• Fees Payment and Refund	763-7225	K-126
• Registration Receipt	763-7225	K-126

Activities	Phone No.	Room
• Student ID Cards	763-7225	K-126
• Student Parking Permits	763-7225	K-126
C		
Cafeteria	763-7331	H Bldg
CAHSEE to College	763-5560	C-108
CalWORKs/GAIN	763-7109	TE
Child Development Center	763-3690	N-100
College Information Center	763-5337	R-100
College Sheriff	763-3600	D-150
• Emergencies	763-3611	D-150
• Locating a Student (emergency)	763-3611	D-150
• Lost & Found	763-3600	D-150
• Parking Enforcement	763-3600	D-150
Compliance Office	763-7066	LRC-257
Continuing Education/Noncredit	763-5560	C-108
Counseling Center	763-7354	H-130
D-F		
Disabled Student Programs & Services	763-3773	E-110
EOPS Programs	763-7097	TR
EOPS/CARE	763-7117	TQ
Financial Aid Lab	763-7082	K-004
Financial Aid Office	763-7082	TN-100
• Financial Aid/ Fee Waiver		
• Loans (Government)		
• Scholarships		
G-I		
Garden Room	763-7331	H-108
Graduation Ceremony	763-7097	TF
Health/Physical Education	763-3730	J-202A
Information Center	763-5337	R-100
• Campus Information		
• Schedules/Catalogs		
• Student ID Card		
International Students	763-5345	R-100
L-P		
Labor Studies	763-7129	L-220

INFORMATION & SERVICES

Activities	Phone No.	Room
Learning Skills Center	763-3738	C-102
• Learning Skills Computer Lab	763-3738	C-102
• Open Computer Lab	763-7208	C-109
• Reading Center	763-3753	C-102
• Tutoring Center	763-3738	C-102
• Writing Center	763-3797	C-100
Library	763-3950	LRC
• Circulation	763-3950	
• Reference Desk	763-3958	
Matriculation	763-5348	K-008
• Assessment	763-5339	C-107
• Orientation	763-5337	R-100
• New Student Counseling	763-7354	H-130
• Prerequisite Clearance	763-5339	C-107
• Challenge Process	763-5339	C-107
Noncredit	763-5560	C-108
Open Computer Lab	763-7208	C-109
PUENTE Program	763-7157	E-107
R-S		
Reading Center	763-3753	C-102
Student Relations/Recruitment/ Outreach	763-5329	K-003
Student Activities	763-7205	C-108
• Awards/Honors	763-7205	C-108
• Campus Clubs	763-7205	C-108
• Notices (Posting on Campus)	763-7205	C-108
• Student Government	763-7200	C-108
Student Employment Center	763-7124	C-107A
• Job Placement	763-7124	C-107A
Student Grievance	763-7066	LRC-257
Student Health Center	763-3764	E-102
• Accidents	763-3764	E-102
• Health Services	763-3764	E-102
T-W		
Tutoring Center	763-3738	C-102
University Transfer Center	763-7154	H-134
Veterans Affairs	763-5305	R-102
Wellness Center	763-3746	E-102
Writing Center	763-3797	C-100

COLLEGE ADMINISTRATION

Name	Phone No.	Room
Dr. Roland Chapdelaine, President	763-7052	A-110
Edward Afana, Acting Dean, Research & Planning	763-7064	A-106
Dr. Rhea Chung, Acting Associate Dean, Advancement, Community, & Government Relations	763-7149	A-116
ACADEMIC AFFAIRS		
Dr. Lawrence Bradford Vice President, Academic Affairs	763-7022	A-104
Cynthia Morley-Mower, Dean, Academic Affairs	763-7074	A-119
Vincent Jackson, Dean, Academic Affairs	763-7035	A-119
ADMINISTRATION		
Dr. Mary Gallagher, Vice President, Administration	763-7040	A-108
Marcus Anglin, College Financial Administrator	763-7225	K-126
Bill Smith, Facilities Manager	763-3612	D-152
STUDENT SERVICES		
Ramon Castillo, Vice President, Student Services	763-7078	TF
Dr. Raul Cardoza, Dean, Enrollment Management	763-5301	R-102
Dr. Theda Douglas, Dean, Student Services	763-7097 or 7098	TF
Ms. Dorothy Smith, Associate Dean, Matriculation/Learning Skills/Recruitment & Outreach/21st Century Grant	763-5507	K-008
WORKFORCE & ECONOMIC DEVELOPMENT		
Marcy Drummond, Vice President, Workforce & Economic Development	763-7036	E-314
Leticia Barajas, Dean, Academic Affairs	763-7071	E-313

DEPARTMENT HEADS

Name	Phone No.	Room
Admissions & Records		
– Carolyn Clark	763-5316	R-102
Art Trades, Fashion		
– Carole Anderson	763-3640	D-222
Athletics		
– Dimitri Lagos	763-3728	J-202
Automotive Technologies		
– Rudy Serrato	763-3900	F-108K
Behavioral/Social Sciences/Child Development		
– Alicia Rodriguez-Estrada	763-3938	F-225K
Bridges to Success		
– Dr. Allison Tom-Miura	763-3759	C-108
Business/CIS/Computer Applications & Office Technology		
– Paulette Bailey	763-7258	K-225
Business Office		
– Marcus Anglin	763-7227	K-126
Child Development Center		
– Pauline Carrillo	763-3690	N-100
College Sheriff		
– Deputy Diane Dodd	763-3600	D-150
Community & Economic Development		
– Dr. Denise Fairchild	763-3757	C-210
Compliance		
– Dr. Letia Royal-Burnett	763-7066	LRC-257
Construction, Design & Manufacturing		
– William D. Elarton	763-3701	B-122
Continuing Education/Noncredit		
– Leticia Barajas	763-7071	E-314
Cosmetology		
– Marilyn Maine	763-7139	A-204
Counseling Center		
– Tom Dawkins	763-7361	H-130
Culinary Arts		
– Steve Kasmar	763-7331	H-117
Electronics Technology		
– Eric Chavez	763-3782	E-217
EOPS/CARE		
– Vacant	763-7097 or 7098	T-Q
Financial Aid Office		
– Cecilia Kwan	763-7082	TP-100
GAIN/CalWORKs		
– Linda Cole	763-7109	TE-100
Health/Physical Education		
– Joseph Ratcliff	763-3730	J-202A
Information Center/Matriculation/Assessment		
– Dorothy Smith	763-5348	K-008
Labor Center		
– John McDowell	763-7129	L-220
Language Arts/Humanities		
– Rodrigo Palacios	763-3923	F-212
Learning Skills Center/ESL		
– Dr. Ayesha Randall	763-3738	C-102
Library		
– Leslie Kite	763-3964	L-215
Math		
– Margaret Murphy	763-7320	K-203D
Noncredit		
– Dr. Allison Tom-Miura	763-3759	C-108
Nursing/Health Occupations		
– Rita Weingourt	763-7185	A-347
Physical Plant		
– Bill Smith	763-3612	D-152
Sciences		
– Xenia Wright	763-7295	K-405

FACULTY

Name	Phone No.	Room
A		
Ahmad, Jamil	763-7257	K-209
Ahn, Inhae	763-7156	A-232
Almada, Christina	763-7360	H-130
Anderson-Houlihan, Carole	763-3642	D-222
Ashby, Cynthia	763-7178	A-336
Auciello, Joseph	763-7268	K-309
B		
Babb, Dr. Jing	763-3954	H-350
Bailey, Paulette	763-7258	K-209
Baklayan, Shoushan	763-7264	K-264
Bakman, Dr. Anna	763-7299	K-203A
Barnett, Craig J.	763-3712	B-237C
Berkoff, Dr. Nancy	763-7336	H-107A
Bessler, Maida C	763-7263	K-260
Blanchard, LeRoy	763-7342	H-108
Brand-Njoku, Mary	763-3645	D-105A
Brent, Lourdes M.	763-7117	A-138
Browne, Jim	763-5524	J-204
Budinger, J E	763-3726	J-213
Burke, Dennis	763-3740	B-337C
Burnett, Maurice	763-7358	H-130
Buscaglia, Renata	763-7274	K-203F
C		
Campbell, Dr. Robert	763-3783	E-104
Campbell, Deborah	763-7359	H-130
Cavanaugh, John M.	763-3905	F-100A
Chan, Vera	763-7180	A-338
Chavez, Eric	763-3789	E-217
Chen, Lina	763-7135	A-204D
Cioffi, Gabriel	763-3714	B-238A
Cole, Linda	763-7109	TE-100
Coreas, Madeline	763-3643	D-102A
Cyrus, Shawn	763-3786	E-207
D		
Davar, Saeed	763-7300	K-203H
Dawkins, Thomas	763-7361	H-130D
De Franco-Browne, Diane	763-3732	J-210
Delrosario, Giovanni	763-7347	H-131B
Delzeit, Linda	763-3733	Pool
Denton, Dr. Timothy	763-7297	K-203A
Diaz, Martin	763-7032	K230
Dolan, Theresa	763-5502	F-240A
Drebskaya, Finna	763-3650	D-130B
Dunn, Roger	763-3704	B-104A
E		
Elarton, William D.	763-3701	B-122
El-Tawansy, Mohamed	763-7321	K-423G
Esparza, David	763-7154	H-134
Essex, Robert W	763-3933	F-240B
Evans, George	763-7372	H-230
F		
Fairchild, Dr. Denise	763-3757	C-210
Feigenbaum, Susan	763-7341	H-108
G		
Gale, Joyce F.	763-3647	D-106A
Gangel-Vasquez, J.	763-3929	F-212J
Gary, Karl	763-7255	K-203B
Gonzalez, Dr. Michael	763-7288	K203G
Gonzalez, Raymond	763-7259	K-209
Green, Lorna	763-7117	A-137
Grenot, Teresa	763-3964	L-215
Grunbaum, Dorian	763-7284	K-203E
Guthrie, Ralph	763-7367	H-204

FACULTY

Name	Phone No.	Room
H		
Hahne, Louis	763-7254	K-225
Harutunian, Dr. Vahak	763-7317	K-423E
Herbert, Pamela	763-3937	K-240D
Hollingsworth, Dr. Patricia	763-3925	F-212E
Hosseini, Ashraf	763-7157	E107
Hubbard, Larry	763-3709	B-134B
Hubbard, Roger	763-7363	H-200
Huld, Phil	763-5504	F-225
J		
Jackson, Diana B.	763-5503	F-225
Jackson, Ronald	763-3723	B-337A
Jacobs, Loreto	763-7177	A-336
Jenkinson, Debi	763-7176	A-334
Johnson, Chini	763-7167	A-239
K		
Kasmar, Steven	763-7332	H-118
Kelley, James R.	763-3915	F-118
Kerian, John	763-3919	F-126
Kim, Hyein	763-3644	D-102B
Kinyon, Kindra	763-7283	K-203E
Kite, Leslie S.	763-3969	L-244
Koritzke, Leslee	763-5505	F-225
L		
Lagos, Dimitri R.	763-3728	J-202
Lee, Alphonso	763-3790	E-219A
Lee, Dr. Kuen H.	763-7314	K-423C
Legohn, Lisa	763-3942	F-156
Lester, John B.	763-3721	B-337C
Ley, Lidia	763-7146	A-211
Lichtman, Donna	763-3773	E-110
Light, Eugene	763-7301	K-203H
Lisanti, James	763-7343	H-108
Liu, Dr. Hsiao-Ling	763-7315	K-423C
Liu, Dr. Jiang-Hong (Jenny)	763-7174	A-334
Livingston, Joyce	763-3960	L-255
Lopez, Rosa M.	763-7145	A-210
M		
Madrid, George	763-7362	H-130
Madyun, Renee	763-7318	K-423C
Maina, Dr. R. Gathoni	763-3953	H-350
Maine, Marilyn	763-7139	A-204
Mancia, Roberto	763-7286	K-203F
Marroquin, Manuel	763-3900	F-108K
McClain, Dr. Freddie	763-3936	F-225
McDowell, John	763-7129	L-220
McFall, Thomas	763-3917	F-122
Meftagh, Tayebbeh	763-7319	K-423F
Megowan, Lorraine	763-7284	K-203E
Middleton, Rosemary	763-7175	A-334
Montour, Clifford	763-7260	K-225
Morago, Fred	763-3916	F-120B
Moreno, Lisa	763-5506	F-240F
Moreno, Dr. Miguel	763-7322	K-423G
Murphy, Margaret	763-7320	K-423F
N		
Nieves, Thomas	763-3722	B-337C
Nobuyuki, Kevin T.	763-3921	F-130C

Name	Phone No.	Room
O		
Oliva, Marcela	763-3676	D-330B
P		
Padilla, Fred J.	763-7323	K-423H
Palacios, Rodrigo	763-7289	K-364A
Pantastico-Caldas, Dr. Marissa	763-7298	K-203A
Parker-Lopez, Carolee	763-7285	K-203F
Pogoler, Larry D.	763-3720	B-304A
Q		
Quinones, Hernán	763-7291	K-366A
R		
Randall, Dr. Ayesha	763-3739	C-102
Ratcliff, Joseph	763-3730	J-202A
Rauterkus, Peter	763-3941	F-166B
Reiley, Joyce	763-7179	A-336
Robinson, David	763-3718	B-301A
Robinson, Elton	763-7138	A-208
Robinson, Thurman	763-3932	F-225G
Rodriguez-Estrada, Alicia	763-3938	F-225K
Rogers, Merle	763-3724	B-337C
Roosta, Soroya	763-3922	E-207
Rosario, Glicería M.	763-7117	A-135D
Ruiz-Silva, Dr. Beatriz E.	763-7311	K-423A
S		
Sapos, Carol	763-3651	D-133B
Serrato, Rudy C.	763-3908	F-106A
Shackerford, Sondra	763-7140	A-204
Shakir, Rashidah	763-3930	F-212G
Sherer, Richard	763-7265	K-266
Shibuya, Steven	763-3946	F-150B
Skinner, Kyle	763-7117	A-138
Smith, Dorothy	763-5507	K-008
Spear, George B.	763-3907	F-104
Sullivan, Sally	763-3731	J-207
Szymanski, Gary J.	763-7378	H-236B
T		
Taylor, Melvin	763-7261	K-209
Thompson, Deborah	763-7351	H-315
Thornhill, Dorothy M.	763-7266	K-306A
Tishler, Sheila	763-7097	A-133
Tom-Miura, Dr. Allison	763-3759	C-108
Tripp, Constance	763-7175	A-334
U		
Uchida, Hiroshi	763-3719	B-304A
Uribe, John	763-3910	F-108A
V		
Vaden, Bradley	763-3927	F-240
Vega, Cecilia	763-3986	H-350
W		
Wagenbach, Mike	763-3729	J-203
Weinstock, Stanley H.	763-3711	B-202
Wells, Richard L.	763-3737	J-201
Wemischner, Robert	763-7352	H-315
Wong, Ricky K.	763-7313	K-423B
Woo, George K.	763-3703	B-104A
Woo, William F.	763-3920	F-128
Wood, Deirdre	763-3926	F-212A
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ASE Master Certified

Shackelford, Sondra (2000)

Associate Professor, Cosmetology
A.A., Pasadena City College
B.S., University of South Illinois
M.A., Cambridge College
Licensed Cosmetologist, State of California

Shakir, Rashidah (2000)

Associate Professor, English
B.A., Spelman College
M.A., Michigan State University

Sherer, Richard S. (1972)

Professor, Business Administration
B.S., CSU, Northridge
M.A., CSU, Los Angeles

Shibuya, Steven T. (1999)

Associate Professor, Manufacturing Technology
A.A., *Ventura College*
B.S., *CSU, Long Beach*

Simpson-Rodgers, Nii (2008)

Assistant Professor, Mathematics
B.S., M.S., *CSULB*

Skinner, Kyle D (1996)

Counselor, EOPS
Instructor, Counseling
B.A., U.S.C.
M.A., *Loyola Marymount University*

Smith, Dorothy (1977)

Associate Dean of Matriculation and Recruitment
B.A., M.A., *North Carolina A&T State University*

Soles, Barbara (2006)

Instructor, Nursing
A.A. *LA Southwest College*
BSN, MSN, *University of Phoenix*

Spear, George (1976)

Assistant Professor, Automotive Technology
A.S., *Los Angeles Trade-Technical College*

Spence Roslyn (2008)

Instructor Culinary Arts
Grand Diplome: *Cordon Bleu Culinary School, Paris*
B.A., *California State University, Long Beach*

Sullivan, Dr. Sally, (1997)

Associate Professor, Health & Physical Education
A.A., *Santa Monica College*
B.A., M.A., PhD., *USC*

Szymanski, Gary J (1999)

Instructor, Art
B.A., *UC Santa Cruz*
M.F.A., *UC Irvine*

Taylor, Melvin (1994)

Associate Professor, Real Estate
Professor, Graphics Communications
B.S.M., *Pepperdine University*
M.A., *CSU, Los Angeles*

Tishler, Sheila D. (1992)

Associate Professor, Counseling
Counselor, EOPS Director
B.A., *University of California, Los Angeles*
M.A., *Azusa Pacific University*

Thompson, Deborah (1989)

Professor, Baking
A.A., *Los Angeles Trade-Technical College*
B.A., *CSU, Dominguez Hills*

Thornton, Delia Moya (2004)

Associate Professor, Fashion Design
B.A., *Regents College of New York*

Thornhill, Dorothy M. (1976)

Professor, Office Administration
B.S., *Tennessee State University, Nashville*
M.S., *Northern Arizona University, Flagstaff, Arizona*

Tom-Miura, Allison (2004)

Instructor, Noncredit Basic Skills
B.A., *UC Santa Barbara*
M.P.L., D.P.D.S., *University of Southern California*

Tripp, Constance R. (1995)

Associate Professor, Registered Nursing
R.N., B.S.N., *Tuskegee University*
M.N., *UCLA*

Uchida, Hiroshi (1985)

Professor, Electrical, Construction & Maintenance
B.A., *Claremont McKenna College*

Uribe, John (1998)

Instructor, Automotive Technology
A.S., *Los Angeles Trade-Technical College*

Vachon, Jerry (2008)

Instructor Culinary Arts
AS Culinary Institute of America
BS Ohio Dominican

Vaden, Dr. Bradley D. (2001)

Instructor, Political Science
B.A., *Brigham Young University*
Ph.D., *University of Hawaii*

Vega, Cecilia (2004)

Instructor, Child Development
B.A., M.A., *CSUN*

Vessella, Tom (2006)

Assistant Professor, Carpentry
B.A., *CalPoly San Luis Obispo*
M.A., *CSU Los Angeles*

Villora, Rosalie (2007)

Instructor, Nursing
B.S.N., M.N., *UCLA*

Wagenbach, Andrew Mike (1994)

Instructor, Health & Physical Education
Coach, Physical Education
B.A., M.A., *CSU, Long Beach*

Washington, Carolyn A. (2007)

Instructor, Nursing
B.S.N., *CSUDH*
M.S., *CSUDH*

Watanabe, Chikako "Ruth" (2004)

Instructor, Fashion Design
A.A., *Los Angeles Trade-Technical College*
B.A., *San Diego State University*

Weingourt, Dr. Rita (2004)

Associate Professor, Nursing
Director, Allied Health
B.S. *CSULA*
MN, *UCLA*
PhD, *Greenwich University*

Weinstock, Stanley H. (1980)

Professor, Plumbing
A.S., *Plumbing, Los Angeles Trade-Technical College*
Backflow Certification
Contractor's Licenses, B, C36 & SC-44

Wells, Richard L. (1979)

Assistant Professor, Physical Education & Health
B.A., *Whittier College*
M.A., *Asuza Pacific College*

Wemischner, Robert B. (1992)

Instructor, Culinary Arts
B.A., *University of Pennsylvania*

Winston, Ray (1984)

Instructor, Music
B.A., *UC Santa Cruz*
M.M., *Austin, UT*

Wong, Ricky K. (1992)

Associate Professor, Biology & Microbiology
B.S., *University of Hawaii at Manoa*
M.S., *CSU, Los Angeles*

Woo, William F. (1989)

Instructor, Automotive Technology
A.A., *East Los Angeles College*

Wood, Deirdre (2002)

Instructor, Speech
Articulation Officer
B.A., M.A., *CSU Northridge*

Wright, Xenia V. (1980)

Chair, Science Department
Professor, Biology
B.A., *Cornell University*
M.A., *UCLA*

ADJUNCT FACULTY

Abd El Aal, Mohamed A. (1991)

Water Systems Technology

Abdul-Mumin, Jah'Shams (2006)

Community Planning & Economic Development

Abkian, Varouj (1991)

Water Systems Technology

Abraham, Angeles (2005)

Counseling

Adams, Esther (1991)

Nursing

Adams, Ludmilla (2006)

Fashion Design

Adelstein, David (1988)

Labor Studies

Ajie, Dr. Henry (2005)

Chemistry

Alfred, Tangelia (2000)

Counseling

Alcala, Carlos (2008)

Fashion Design

Alcala, Enrique (1998)

Op-Ma Apprentice

Allen, Gene E. (1983)

Refrigeration & Air Conditioning

Allen, Joyce F. (1995)

Learning Skills

Amir-Teymoor, Abbas (2001)

Water Systems Technology

Anderson, Dr. Fred

Health Education

Anderson, Virginia M. (1990)

American Sign Language

Aston, Todd (1999)

Cabinetmaking & Millwork

Atoofi, Saeid (2007)

ESL

Avalos, Lindamarie (2001)

Counseling

Awainisyan, Aida Dr. (2004)

Mathematics

Babaside, Rasaa Michael (2007)

Process Plant Technology

Baccari, Nicholas

Tailoring

Banner, Michael

Community Planning & Economic Development

Barceloona, Jessica (2008)

Labor Studies

Barrow, Orrin L. (1989)

Mathematics

Bayssa, Beyene (2008)

Mathematics

Beaird, Helen

Counseling

Benjamin, Michelle (2004)

Child Development

Bentley, Mara (2006)

Psychology

Blackburn, Robert (2006)

Counseling

Blackwell, Pamela A. (1997)

Art

Blake, George (2002)

English

Blount, Paul (2002)

Solid Waste Management

Bly, Kim (2008)

Athletics, Women's Basketball Coach

Bodis, Tracy (2007)

Physical Education

Borne, Alvin C. (1962)

Speech

Bradshaw, Barbara (1995)

English

Brady, Patrick A. (1992)

Refrigeration & Air Conditioning/Steam Plant

Brame, Temisha (2007)

Physical Education

Brkic, Ferdo (1998)

Electrical Construction & Maintenance & Machining Technology

Brockmann, Erika (2005)

Microbiology

Brooks, Marva (1999)

Fashion Design

Buck, Dagmar (2002)

Library

Buck, Douglas (1995)

Science/Mathematics

Buonauro, John M. (1993)

Refrigeration/Air Conditioning

Burgin, Mark Dr. (2000)

Mathematics

Bursick, Robert (1990)

Liberal Arts

Burton, Wanda (2006)

CAOT

Cain, Lisa (2006)

Psychology

Calderon, Joaquin (2008)

Labor Studies

Cameron, Lynette

Mortgage Finance

Canaman, Evangeline Binongo (1994)

English

Cantore, Robert A. (1996)

Labor Studies

Carbone, Egidio (2005)

Business, Accounting

Carter, Michael, (2006)

Anthropology

Cantu, Isaías

Community Planning & Economic Development

Carbonell, Elvira (2002)

Mathematics

Chapman, Joseph

Plant Process Technology

Chammas, Marwan (2000)

Mathematics

Chapple, Reginald

Community Planning & Economic Development

Chau, Cuong

Athletics - Women's Volleyball Coach

Chen, Charles K. (1981)

Mathematics

Chelstrom, Avra (2002)

Child Development

Cherner, Henry (1999)

Fashion Merchandising

Chu, Eleanor (1971)

Computer Applications/Office Technologies

Chuah, Cheng (1990)

English as a Second Language

Chung, Rhea (2006)

Learning Skills

Cohen, Al, (1976)

Op-Maint Apprentice Instructor

Colazas, Xenophon Constantine (1974)

Geology

Connor, Michael Donnel (1986)

English as a Second Language

Conrow, Teresa (1996)

Labor Studies

Cook, Ray (1977)

Op-Ma Apprentice Instructor

Cooper, Ruth (2006)

Fashion Design

Corbin, Bobby (1999)

Refrigeration/Air Conditioning Mechanics

Corneal, Aisha (2007)

American Sign Language

Cornelio, Deogracia (2008)

Labor Studies

Coulter, Lionel (2000)

Political Science

Crawford, Bruce C. (2000)

Electrical

Crunkleton, J.D.

Business/CAOT/CIS

Cunnigan, Dixie (1999)

Fashion Design

Curtin, Kevin (1981)

Electrical Construction & Maintenance

Dagher, Ghassan Nicolas (1989)

Mathematics

Darmany, Pavel Dr. (2006)

Chemistry

Datis, Angelo (2002)

Refrigeration/Air Conditioning Mechanics

Dean, Craig R. (2003)

Plumbing

De la Pena, Norma (1999)

ESL

Del Valle, Katarina (2001)

Labor Studies

Dello, John (2005)

Labor Studies

Delp, Linda (1985)

Labor Studies

Demers, William (1989)

Labor Studies

Dezgarin, Mohamed (2001)

Child Development

Dickerson, Denise (2002)

Child Development

Dominguez, John (2005)

Electrical Construction & Maintenance

Donovan, David, (2004)

Electrical Lineman Apprentice Instructor

Drake, Mildred (1992)

Learning Skills

Draper, Kevin (2005)

Electrical Construction & Maintenance

Egan, Richard (1997)

Philosophy

Ehrstein, Phil (2004)

History

El-Tawansy, Mohamed (1985)

Mathematics

Elias, Jason (2001)

Labor Studies

Elliot, Joy

Comm. Plan. & Econ. Dev.

Emerson, Victoria M. (2006)

CAOT

Endman, D. James (1974)

Business Law

Eng, Michael (2005)

Labor Studies

Espinoza, Albert (1982)

Refrigeration/Air Conditioning Mechanics

Estroff, Debra (2003)

Child Development

Estroff, Ronald (2005)

Learning Skills

Fairchild, Denise G.

Community Planning & Economic Development

Ferre, Brian (2006)

Automotive Collision Repair

Foral, Dorothy (2000)

Fashion Design

Ford, Scott (1998)

Labor Studies

Franklin, William (2002)

Political Science

Freeland, Dave, (1972)

Drafting

Freidenberger, Karen (2004)

Plumbing

Friedman, Bruce (2000)

History

Gallegos, Patricio (2004)

Architecture / Drafting

Galindo, Maryanne (2006)

Community Planning & Economic Development

Galvan, Willie (2007)

Plumbing

Gamble, Susan (2001)

Learning Skills

Garcia, Emmanuel (2004)

Drafting

Garcia, Jaime (2001)

Sociology

Gamble, Susan (2001)

Learning Skills

Garcia, Ronald J. James (2003)

Mortgage Finance / Sociology

Gasca, Jesse (1990)

Spanish

Gbonegun, Olu Dr. (2006)

Biology

Gerosis, Mr. Nasr N. (2008)

Biology

Giessinger, Lambert Marlowe (1989)

Architectural Technology

Givhan, Gjenai Enciso (2004)

Mortgage Finance

Godoy, Omar (1996)

Geography

Goldwhite, Phil (2008)

Sign Graphics

Goluza, Brano (2006)

Electrical Construction & Maintenance

Gomez, Evelyn (2005)

Child Development

Gomez, Gabriela, (2007)

Admin Justice

Goodman, Todd (2005)

Physics

Goy, Bruce Allen (1977)

Automotive Technology

Gray, Karnale (2000)

Counseling

Green-Womack, Roma (1994)

Nursing

Grissett, Robert

Automotive Tech.

Guerra, Jesus (2001)

Diesel Technology

Guerra, Ricardo (2005)

Automotive & Related Technology

Gunderson, Mark (2000)

Learning Skills

Gunderson, Sunay (2007)

Learning Skills

Gutierrez, Edgar O. (2005)

History

Harnsberger, Therese (Coscarelli) (1972)

Reference Librarian

Harrington, William Joseph (1978)

Operation & Maintenance

Haymon, Sharon

Computer Applications/Office Technology

Harris, Felix (2007)

Mortgage Finance

Harris, Jacqueline

Community Planning & Economic Development

Herrin, Ivory L. (1981)

Solid Waste Management Tech

Hicks, Carl (2007)

Labor Studies

Hinoki, Ron, (2000)

Carpentry

Hissey, James

Culinary Arts

Holguin, Graciela

Dance/Physical Education

Hosseini, Sayed M. (2003)

Microbiology

Hudachek, Robert, (1993)

Op-Ma Apprentice Instructor

Hunt, Robert (2006)

Labor Studies

Iapaolo, Nino (2007)

Tailoring

Jackson, Deryl, (2007)

Admin Justice

Jacob, Norman (1973)

English

Johnson, Bert (2008)

Sign Graphics

Johnson, Debbie (2001)

Fashion Design

Johnson, Glenn

Health & Physical Education

Jean-Marie, Fred (2007)

Culinary Arts

Jeffress, David A. (1984)

Chemistry

Jimenez, Connie (1996)

Nursing

Johnson, Ed (1976)

Business

Johnson, Roberta (2007)

Accounting

Jones, Latricia (2006)

American Sign Language

Jow, Ying (1988)

Electrical Construction & Maintenance

Kahng, Paul (1987)

Refrigeration & Air Conditioning Mechanics

Kanamake, James (2007)

Culinary Arts

Kang, Dr. Henry R. (2007)

Chemistry

Kapaku, Okima (1991)

Computer Applications/Office Technologies

Kaplan, Irv (1999)

Child Development

Karasik, Paul (2008)

Mathematics

Karthas, Nicholas George (1965)

Electrical Construction & Maintenance

Kaye, Zohara (2006)

Library

Keller, Maria

Mortgage Finance

Kelley, Suzanne (2007)

ESL

Keleman, Joseph, (1999)

Op-Ma Apprentice Instructor

Kiel, Wilma (2000)

Child Development

Kincses, Gabor (2004)

History

King, Dr. Graves

Health Education

Klippel, Jody (2002)

Labor Studies

Kobler, Mark A.

English

Konrad, Christian (2002)

Professional Baking

Kranz, Jack (2008)

Physical Geography

Kumada, Rumi (2000)

Mathematics

Kwok, JoAnn (1998)

Library

Landau, Daniel M.Dr. (2001)

Geography

La Torre, Jacqueline, (2007)

Architecture

Lafoon, Darice, (2000)

Street Maintenance

Lau, Philip (2004)

Accounting

Lavinger, Stephen W. (1981)

Biology

Lawrence, Reed (1987)

Carpentry

Le, Kenadi (2007)

Labor Studies

Lehman, Daniel

Librarian

Lee, Mary

Mortgage Finance

Lehman, Daniel (2004)

Library

Leon, Carlos (2004)

Labor Studies

Leonard, Richard E. (1957)

Reference Librarian

LeVeque, Victoria (1985)

English as a Second Language

LeVine, Miriam (1972)

Art

Levy, Lewis (1989)

Labor Studies

Leyva, Connie (2006)

Labor Studies

Lewis, Jill (2003)

Architecture

Lindsey, Michael P. (2008)

Computer Application Office Technology

Lindsay, Gladys P. (1986)

Library Science

Long, Nguyen (2007)

Health Education

Loop, Craig B. (1990)

Mathematics

Love, Jack D.

American Sign Language

Lovett, Mildred (1999)

Child Development

Luna, Richard M.

Welding Gas & Electric

Lunt, Charles (1984)

Plumbing

Maalouf, Eli (2004)

Electrical Construction & Maintenance

Maffei, Gosha (1999)

Labor Studies

Mah, Allison

Electrical Construction & Maintenance

Majors, Derek (2004)

Counseling

Manchanda, Dr. Yash P. (1978)

Mathematics

Marasigan, Elizabeth Mauleon (1989)

English as a Second Language

Martinez, Adriana (2005)

Counseling

Martinez, Mario (2007)

Mathematics

Martinez, Ronald

Mortgage Finance

Maritnov, Valdimir (2004)

Operational Maintenance Engineer

Marques, Jessica (2008)

Labor Studies

Mayer, Dvora (2008)

Labor Studies

Mayfield, Mike

Physical Education

McAndrew Bob (2003)

Carpentry

McDougal, Stuart J (1990)

Machining Technology

McLaughlin, Regina (2005)

Child Development

McMahon, June (1989)

Labor Studies

Medina, Miguel, (2006)

Admin Justice

Mejia, Martin (2008)

Labor Studies

Melin, Linda A. (1990)

Pattern Making & Design

Mendoza, Laura (2006)

Visual Communications

Mercado, Dyana G. (1998)

Cosmetology

Miller, Erika (2001)

Psychology

- Mizuno, Aki (1992)**
Japanese
- Monge, Jacqueline**
Cosmetology
- Moore, Donald Walter (1983)**
CIS
- Moore, Liz (2005)**
Labor Studies
- Morales, Daniel (2007)**
Computer Information Systems
- Morris, Frederick (1988)**
Visual Communications
- Munoz, Ana (2005)**
Counseling
- Murdock, Scott (2004)**
Architecture
- Murkadian, Sarkis (2000)**
Instructor, Tune-Up
- Nakano, Melvin (1996)**
Mathematics
- Nasrallah, Ghassan B. (1988)**
Electrical Construction & Maintenance
- Natale, Anthony (2008)**
American Sign Language
- Navarro, Abraham (1988)**
Street Maintenance
- Neddermeyer, Karl (2008)**
Biology
- Newell, Rene. (2005)**
Instructor, Welding Gas & Electric (Sculpture)
- Nguyen, Long B. (2007)**
Health Education
- Nikodem, Marianne (2005)**
Computer Applications Office Technology
- Nishimoto, Masako N. (1988)**
Mathematics
- Nwoko, John C.A. (1999)**
Learning Skills/Counseling
- O'Connell, William (1997)**
Library
- Olivas, Armando (1992)**
Labor Studies
- Olsen, Bruce D. (2000)**
Biology
- Olszewski, John**
Athletics & Physical Education
- Onishi, Ryoko (2008)**
ESL
- Osuna, Corrie (2008)**
Fashion Design
- Ota, Pauline (1996)**
Art
- Owen, Margaret (2002)**
Library
- Paige, Bernard A. (1977)**
Mathematics
- Palacios, Valda T. (1995)**
CAOT
- Paller, Joseph (1996)**
Labor Studies
- Parkin, Steve Dr. (2005)**
Chemistry
- Pauley, Rose G. (1995)**
Library
- Payne, Vajezatha (2001)**
Sociology
- Penn, Maryann (1992)**
Nursing
- Peter, Pauli (1999)**
Mathematics
- Petrie, Iris**
Fashion Design
- Perlut, Ronnie (2006)**
American Sign Language
- Pfiffner, Brian**
Health & Physical Education
- Phillips, Christian (2009)**
Labor Studies
- Phillips, G.W.**
Business/Office Administration/Computer Information Systems
- Poplawski, Gary, (1981)**
Electrical Lineman Apprentice Instructor
- Porter, Alfred B (1995)**
Learning Skills
- Porter, Henry (1992)**
Carpentry
- Powers, Dr. Richard (1996)**
Physics
- Price, Robert (1990)**
Motorcycle Mechanics
- Proctor, Ernest (1990)**
Business/Computer Applications Office Technology/
Computer Information Systems
- Puchalski, Anthony (1985)**
Professional Baking
- Ramaraj, Pandurangan Dr.(2006)**
Biology
- Ramirez, Roberto (1981)**
Electrical Construction & Maintenance
- Reddy, Raahi (2007)**
Labor Studies
- Rendon, Edward (2008)**
Labor Studies
- Rivera, Louis**
Health & Physical Education
- Roberts, Ronald (1975)**
Business
- Robles, Bill (1991)**
Visual Communications
- Rodriguez, Caesar (2008)**
Visual Communications
- Rodriguez, Gloria (1997)**
Child Development
- Rojas, Carlos**
Instructor, Automotive Technology
- Romero, Nancy (1996)**
Labor Studies
- Ross, Rose Mary (1973)**
Spanish
- Rostami, Maryam (2001)**
Child Development
- Royal-Burnette, Letia (2006)**
Business/Paralegal/Law
- Sachdev, Dr. Vineeta (2007)**
Chemistry
- Salisbury, Don R. (1991)**
Construction Law
- Saito, Patrick, (1992)**
Op-Ma Apprentice Instructor
- Samudio, Jeffrey Bryan (1989)**
Architectural Technology
- Sanchez, Roxana (2005)**
Counseling
- Sanchez, Salvador (2004)**
Political Science
- Sandoval, Cecilia**
Community Planning & Economic Development
- Sanks, Jennifer, (2006)**
Psychology
- Santillanes, Vinona K. (1994)**
Special Education
- Saucada, Nazario**
Street Maintenance
- Saulny, Eric**
Physical Education/Health
- Saunders, Kim (2005)**
Fashion Merchandising
- Schulte, Francis J. (1997)**
Humanities
- Schwartz, Gregory (2007)**
Geography
- Scudder, Stuart Barrett (1972)**
Business
- Seck, Steven E. (1981)**
Physical Education
- Seetao, David**
Computer Applications Office Technology
- Seitz, John**
Electrical Construction & Maintenance
- Shank, Barbara A. (1988)**
Biology

Scherer, David (2005)
Culinary Arts

Sherer, Richard (1986)
Mathematics

Sherman, James (2007)
Library

Shaw, M.D. (1970)
Economics

Shields, Virgil (2008)
Plant Process Technology

Siegel, Lou (1990)
Labor Studies

Sigman, Michael (1997)
Humanities

Slade, Tim (2006)
Plumbing

Smith, Dorothy (2002)
Speech

Smith, Felicia
Cosmetology

Smith, Norma (2008)
Learning Skills

Speech, Trina (2005)
Nursing

Spence, Roslyn (1995)
Professional Baking

Stafford, William (1998)
Pattern Making & Tailoring

States, Randy, (1971)
Electrical Lineman Cable Splice Apprentice
Instructor

Stern, Adam (1998)
Labor Studies

Stenhouse, Douglas (2005)
Architecture

Stevens, A. (1973)
English

Stevens, Richard, (1975)
Op-Ma Apprentice Instructor

Stewart, Ella (1991)
Speech

Sussman, Dan, (2005)
Electrical Construction & Maintenance

Sutton III, Cash (2006)
Process Plant Technology

Swatek, Cheryl
Physical Education

Sweigart, Terry (2004)
Plumbing

Taylor, Pamela (1990)
Business/CAOT

Taylor, Roslyn L. (2007)
CAOT

Tabakian, John Paul (2004)
Political Science

Takiguchi, Ronald T. (1996)
Electrical Construction & Maintenance

Tee, Vincent (1989)
CIS

Tenckhoff, Frank J (1961)
Architecture/Drafting

Teng, Susan (2007)
Library

Tesfai, Michael (2007)
Computer Information Systems

Thornton, Delia M. (1996)
Pattern Making & Design

Tishler, Sheila (1997)
Counselor, CalWORKs/EOPS

Tom-Miura, Allison (2004)
Mortgage Finance

Torda, Jr. Benito Santero (1989)
Tailoring

Torres, Benjamin
Community Planning & Economic Development

Tourea, Yolanda (1984)
Business

Towhidlow, Mark (1991)
Mathematics

Tracy, Theresa (1995)
Street Maintenance

Tran, Le (2008)
Mathematics

Triggs, Deborah (2006)
Vocational Education

Udeochu, Mercy (2002)
Child Development

Vallejo, Wendy (2004)
Physical Education Men's & Women's Track &
Cross Country Coach

Velez, Magda (2007)
American Sign Language

Veley, Victor Frederick (1977)
Electronics Technology

Visi, Mandana Z. (2008)
Chemistry

Vo, Chuong (1997)
Machining Technology

Wade, Gary, (1980)
Electrical Lineman Apprentice Instructor

Wallach, Mark (2006)
Psychology

Wang, Pei (2006)
Political Science

Walker, James (1997)
Labor Studies

Wallrich, Carolyn (2007)
Mortgage Finance

Warriner, Donald (2006)
Culinary Arts

Watanabe, Chikako "Ruth" (1995)
Fashion Design

Webster, Mary Ann (1972)
English

Whitehead, Linda
Health Education

Weigand, Carl R. (1965)
Electrical Construction & Maintenance

White, Jackie (1989)
Labor Studies

Williams, Edward, (1992)
Op-Ma Apprentice Instructor

Williams, Florence (2000)
Nursing

Williams, Lance (1992)
Humanities

Williams, Starlene (2005)
Labor Studies

Williams, Timothy (2007)
Refrigeration & Air Conditioning

Wing, Ella (2000)
Counselor

Winston, Ray (1984)
Electrical Construction & Maintenance

Wolff, Goetz (2007)
Labor Studies

Wong, Jan (2008)
American Sign Language

Wong, Dr. Tom (1996)
History

Yasuda, Kathleen (2003)
Labor Studies

Yates, Bob (1988)
Plumbing

York, David E. (1996)
Machining Technology

Young, Carolyn
Cosmetology

Zigman, Lou (1989)
Labor Studies

Zinenberg, Victor (2002)
Mathematics

EMERITI FACULTY

Adams, Earl, Counseling
 Adams, Esther, Nursing
 Albrecht, Don, Drafting Technology
 Alerich, Walter, Electrical-Mechanical Technology
 Ambers, Billie, Counseling
 Arens, Wayne, Electronics
 Armstrong, Helen, Fashion Design
 Armstrong, Kenneth, Electronics
 Arnheim, Nancy, GAIN
 Arnold, Evan, Automotive Technology
 Ashton, Lillian, Cosmetology
 Austin, Brenda, Nursing Education
 Avazian, Dorothy, Fashion Design
 Azat, Issa, Psychology
 Bailey, George, Offset Presswork
 Bailey, Melbourne E., Elect Const & Maint
 Banda, Paula, Counseling
 Barbarossa, Fred, Diesel & Truck Technology
 Barberio, Tony, Dance/Health
 Barham, Edna R., Counseling
 Barillier, Bill, Ass't Dean of Students
 Barrett, Blanche, Cosmetology
 Bartlett, Steve, Automotive Technology
 Bastone, John, English
 Baumgardner, Betty, Apparel Arts
 Beck, Julius, Culinary Arts
 Becker, Richard, Machine Shop - CNC
 Bercseny, Alice, Nursing
 Biasi, Roger, Auto Mechanics
 Biggs, Burcott D., Printing Technology
 Billings, George, Photography
 Bliss, Rolly, Business & Industrial Supervision
 Bonzo, Al, Ass't Dean Culinary Arts
 Borio, Courtney, Physical Education
 Buonauro, John M, Refrigeration/Air Conditioning
 Bowe, Harry L., Refrigeration/Air Conditioning
 Bragg, Arland, Visual Merchandising & Display
 Brassine, George, Drafting Technology
 Bright, Marie, Nursing
 Brinkman, Fred, President
 Broulard, Inge, Fashion Design
 Brown, Mel, English
 Brown, Pete, Physical Education
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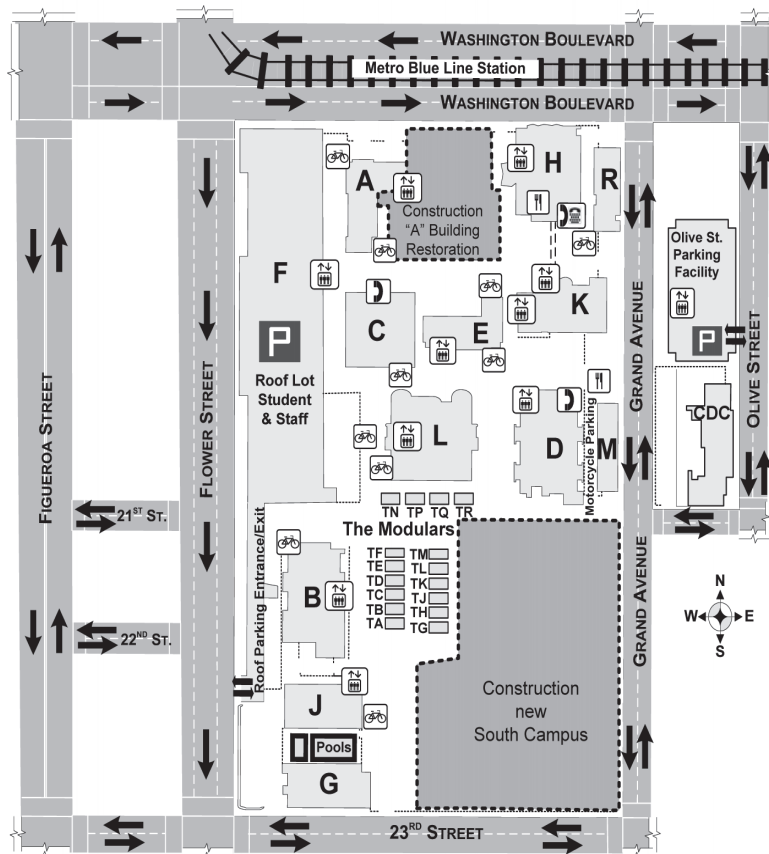
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Financial Aid
Nursing/Health Occupations
Student Services
Temporary Classrooms



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PLEASE NOTE: At the time of this publication, every effort was made to indicate available parking at the college. On-going construction will create a need to alter parking availability. Information on parking changes will always be available through the College Sheriff's Office, D150, (213) 763-3600, 24 hours a day, 7 days a week.

"LATTc provides adequate parking for students, staff and visitors. However, since student parking becomes extremely impacted during the first 3 weeks of Fall and Spring Semesters, our neighbor and community partner, LA Mart at 1933 S. Broadway, provides overflow parking to LATTc students in their East Lot (accessible from Broadway Ave. or Main St., just south of Washington Blvd.) NOTE: LA Mart, East Lot parking is available at no cost to LATTc students for the first 3 weeks of Fall and Spring Semesters ONLY. Beginning with week 4, this lot is no longer available to LATTc students since student parking provided in all other designated lots for college becomes more accessible."

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