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ALBUQUERQUE TECHNICAL - VOCATIONAL INSTITUTE



A COMMUNITY COLLEGE

VOLUME XXVIII

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MAIN CAMPUS
525 BUENA VISTA SE
ALBUQUERQUE, NM 87106-4096
505 224 3000

JOSEPH M. MONTOYA CAMPUS
4700 MORRIS NE
ALBUQUERQUE, NM 87111-3704
505 224 5500

RIO RANCHO/INTEL CAMPUS
STATE ROAD 528 AND SARA ROAD
RIO RANCHO, NM 87124
505 892 7113

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A Community College

ABOUT THIS CATALOG

The Catalog is the student's official guide to programs, courses and policies of T-VI. Beginning with an introduction that includes the T-VI mission statement, the Catalog covers:

- ▲ general information about T-VI: a summary of academic offerings; information about admission, registration, expenses and financial aid; academic regulations and student services; and

- ▲ instructional programs: details about T-VI's seven departments, including course descriptions and requirements for earning degrees and certificates.

This Catalog also includes lists of T-VI Governing Board members, administrators and faculty, as well as maps of the Main, Montoya and Rio Rancho/Intel campuses and a campus telephone directory. Other information about T-VI is published in:

- ▲ the class schedule, which is mailed to continuing students and distributed prior to registration for each term in the admissions offices and instructional departments at all campuses;

- ▲ the Student Handbook, available in campus bookstores;

- ▲ the Student Financial Aid Guide;

- ▲ the Student Job Placement Services Handbook; and

- ▲ flyers from instructional departments and other offices.

The T-VI Catalog is a summary of information of interest to students; it is not a complete statement of policies and rules. (Additional policies are printed in the Student Handbook.) Information in the Catalog is subject to change.

Not all programs and classes listed in the Catalog are offered at all campuses or every term. If fewer than 12 persons have applied to begin a program, it may be canceled that term. After a program begins, no required class will be canceled, regardless of enrollment, although support classes may be canceled due to insufficient enrollment.

This Catalog is available in alternative formats from the Special Services office on Main Campus.





INTRODUCING T-VI

New Mexico's fastest growing post-secondary school, Albuquerque T-VI is an accredited community college offering courses in a variety of occupational, college credit, developmental/preparatory and adult education subjects. In 1993-94 T-VI's programs include:

- ▲ certificates: full-time programs in 31 business, health, technologies and trades occupations;
- ▲ associate degrees: available in 24 occupational fields and liberal arts;
- ▲ college credit: courses in 24 liberal arts disciplines transferable for freshman and sophomore credit at four-year institutions;
- ▲ developmental studies: remedial, preparatory and developmental classes for students preparing to meet admission requirements at T-VI or other institutions; and
- ▲ adult education: basic skills, including English, reading and math; preparation for GED exams; English as a second language; and skill-building enrichment clusters.

Other T-VI programs include: special services for students with disabilities; tutoring services and self-paced learning centers; classes at local high schools and other facilities; skills workshops tailored for working people; and support for small business. In addition, T-VI offers custom training programs for local employers.

In 1965 T-VI held its first classes in surplus barracks and a vacated elementary school. Today's enrollment exceeds 19,000. The Main Campus occupies 60 acres near downtown Albuquerque, and the 42-acre Joseph M. Montoya Campus is in the Northeast Heights. Classes also are offered at the Rio Rancho/Intel Campus and at the University of New Mexico. Planning has begun for additional West Side facilities.

T-VI's classrooms, libraries and laboratories are modern and comfortable. Each student has access to state-of-the-art equipment, especially computers. T-VI programs, facilities and services are accessible to the disabled.

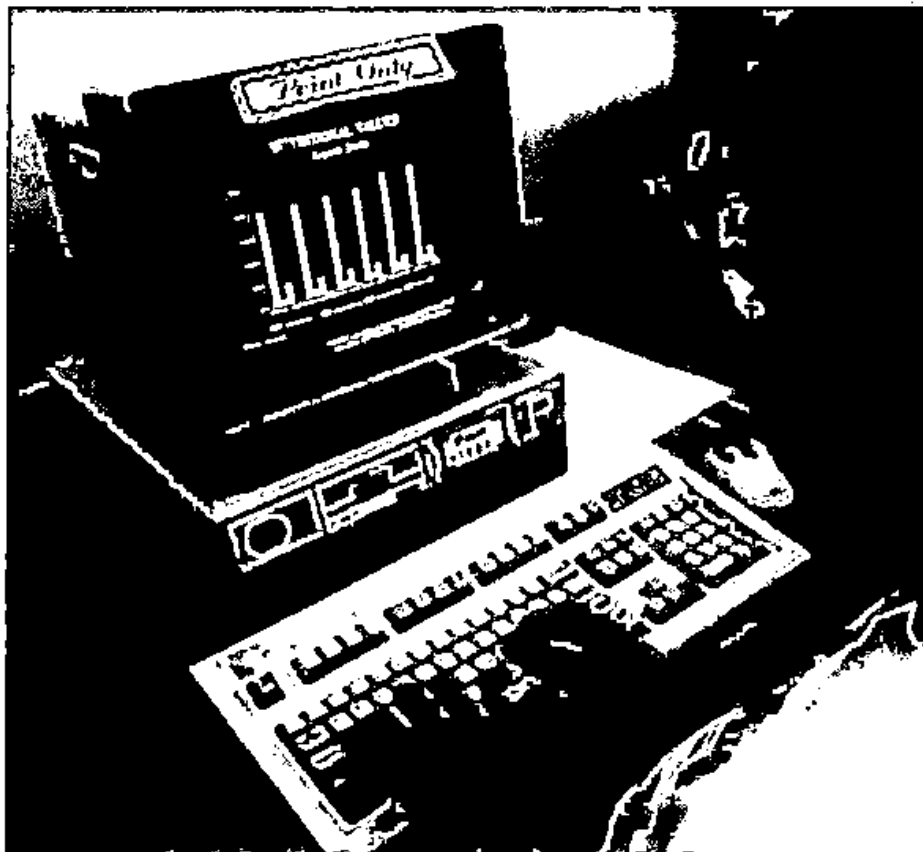
Advisory committees from local businesses help assure that T-VI students acquire the skills needed for success on the job, and T-VI helps graduates find jobs. The Institute also cooperates with other two- and four-year schools on course articulation and student transfer.

T-VI's seven Governing Board members are elected at-large by voters in the Institute district, which includes all of Bernalillo County and part of Sandoval County.

Funding for T-VI programs and most construction and equipment comes from a local property tax and an annual appropriation by the New Mexico Legislature. Tuition and fees are moderate, and financial aid is available to many students.

T-VI meets year-round with the year divided into three full terms of 15 or 16 weeks: fall, winter and summer. (Short sessions also are held in the summer.) Breaks between terms range from 10 days to two weeks. Most programs admit beginning students each term—in January, May and September.

Under extreme weather conditions T-VI may close or operate on an abbreviated schedule, with classes beginning at 10:30 a.m. (earlier classes are canceled). Information is announced on local radio stations.



Philosophy

The Albuquerque Technical-Vocational Institute, a community college, believes that each individual, regardless of economic status, should be provided the educational opportunity to develop to the maximum extent possible. The Institute believes that post-secondary occupational education is necessary for an ever-increasing portion of the citizens of New Mexico. The Institute believes in occupational, basic, general and related education to enable each student to develop competence, self-awareness and social responsibility to compete successfully in a chosen field.

Mission Statement

The Albuquerque Technical-Vocational Institute provides coursework leading to occupational certificates and the Associate in Applied Science, Associate in Arts and Associate in Science degrees, and opportunities for transfer credit to other degree-granting institutions.

The primary mission of the Institute is occupational education. To achieve its primary mission, the Institute plans and provides an occupational curriculum to enable each student to gain definable job skills consistent with work force needs of the nation, state and communities of New Mexico.

To complement its primary mission, the Institute provides basic and general education to strengthen and expand intellectual foundations, preparing students to appreciate and perform productively within modern society as well as the world of work. The Institute also participates in partnerships to promote economic development in the community.

Goals

1. The Institute, consistent with work force needs, will offer relevant, occupationally oriented, post-secondary education to develop its students to the desired level of competence.
2. The Institute will use its degree-granting powers to enhance the quality of the occupational education offered and to support a statewide plan for the delivery of education in concert with other two- and four-year colleges and universities.
3. The Institute will take steps to ensure that its liberal arts courses and, where applicable, its occupational courses meet the standards required for transfer credit to other degree-granting institutions.
4. The Institute will offer occupationally oriented continuing education consistent with identified needs.
5. The Institute, in responding to unmet needs, will provide educational programs to support the social, cultural and personal development of the individual.
6. The Institute will strive for access, equity and diversity that will allow citizens of the State of New Mexico to gain occupational competence regardless of their financial resources or previous educational experience.
7. The Institute will work with business, government and other institutions to support the economic development of the community.



Accreditation

T-VI is accredited to grant certificates, diplomas and associate in applied science, associate in arts and associate in science degrees by the Commission on Institutions of Higher Education of the North Central Association of Colleges and Schools.

In addition, specific programs have accreditation or approval by appropriate agencies.

▲ The Accounting, Administrative Assistant and Business Administration associate in applied science degree programs are accredited by the Association of Collegiate Business Schools and Programs.

▲ The Legal Assistant Studies program is approved by the American Bar Association.

▲ The Practical Nurse and Associate Degree in Nursing programs are accredited by the National League for Nursing.

▲ The Respiratory Therapy Technician, Respiratory Therapist and Medical Laboratory Technician programs are accredited by the American Medical Association's Committee on Allied Health Education and Accreditation.

▲ The Design Drafting Engineering Technology and Electronics Engineering Technology programs are accredited by the Accreditation Board for Engineering and Technology.

▲ The Automotive Technology program is accredited by the National Automotive Technicians Education Foundation, Inc.

▲ The Truck Driving program is accredited by the Professional Truck Driver Institute of America, Inc.

▲ The Tutorial/Learning Centers are accredited by the College Reading and Learning Association.

Equal Opportunity Policy

The Albuquerque Technical-Vocational Institute affirms that it will not discriminate on the basis of gender, race, color, national origin, religion, age or disability in any of its practices or procedures in accordance with applicable federal, state and local laws, nor will it condone any act of illegal discrimination or harassment on the part of its employees. This provision includes, but is not limited to, employment, admissions, testing, financial aid and educational services.

Any person who wants to file a complaint based on these laws should contact the equal opportunity officer, Delma Molina, in the Personnel Office, Main Campus, 2018 Coal Place SE, 224-4600.

In accordance with the Americans with Disabilities Act (ADA) and Section 504 of the Rehabilitation Act of 1973, Albuquerque T-VI provides notice that no qualified individual with a disability shall, on the basis of the disability, be excluded from participation in, be denied the benefit of, or otherwise be subjected to discrimination related to any of the institution's educational programs or activities.

If a student has concerns about T-VI's compliance, he or she should contact A. Paul Smarrella in Special Services, P Building, Main Campus, 224-3259.

General Education Statement

The Albuquerque Technical-Vocational Institute, a community college, provides basic, occupational and general education for a population which includes a broad spectrum of ages, cultural backgrounds and intellectual abilities. The Institute is committed to general education and related courses as an integral part of certificate and associate degree programs. The general education courses include mathematics, communication skills, social and natural sciences, humanities, foreign languages and fine arts. It is believed that general education enhances students' personal and professional attitudes, habits and skills as they pursue lifelong continuum of learning.

In certificate programs, related education courses cover competencies in communication, math and human relations to better prepare students for the world of work.

In associate degree programs, students are required to complete a minimum of 15 semester credit hours of general education in addition to courses in their major field of study. The required general education courses have been selected to enhance students' personal and professional habits, attitudes and skills. These courses are chosen to increase students' abilities to understand and participate more effectively as members of the community and to give breadth to their chosen careers.

The general education courses in the transfer liberal arts degree reflect the common requirements of the state's six universities and approximate the universities' core curriculum in the freshman and sophomore sequence.

1993-1994 ACADEMIC CALENDAR

Fall Term, 1993

Classes begin	August 30
Last day to enroll	
Full term classes	September 3
Short session classes	third day of the session
Last day to change from audit to CR/NC or a traditional grade	
Full term classes	September 3
Short session classes	third day of the session
Labor Day holiday (no classes)	September 6
Applications for fall graduation due	September 13
Midterm	October 22
Employee Professional Development Day (no classes)	October 29
Last day to change to audit	
Full term classes	November 19
Short session classes	Friday after mid-point of the class
Last day to change from CR/NC to a traditional grade	
Full term classes	November 19
Short session classes	Friday after mid-point of the class
Last day to withdraw	
Full term classes	November 19
Short session classes	Friday after mid-point of the class
Thanksgiving holiday (no classes)	November 25-26
Last day (consult department for details)	December 17

Winter Term, 1994

Classes begin	January 3
Last day to enroll	
Full term classes	January 7
Short session classes	third day of the session
Last day to change from audit to CR/NC or a traditional grade	
Full term classes	January 7
Short session classes	third day of the session
Applications for winter graduation due	January 14
Martin Luther King Day (no classes)	January 17
Presidents' Day (no classes)	February 21

Midterm	February 25
Last day to change to audit	
Full term classes	March 25
Short session classes	Friday after mid-point of the class
Last day to change from CR/NC to a traditional grade	
Full term classes	March 25
Short session classes	Friday after mid-point of the class
Last day to withdraw	
Full term classes	March 25
Short session classes	Friday after mid-point of the class
Graduation	April 24
Last day (consult department for details)	April 20

Summer Term, 1994

Classes begin	May 2
Last day to enroll	
Full term classes	May 6
Short session classes	third day of the session
Last day to change from audit to CR/NC or a traditional grade	
Full term classes	May 6
Short session classes	third day of the session
Applications for summer graduation due	May 13
First day, A&S 12-week session	May 16
Memorial Day holiday (no classes)	May 30
Midterm	June 24
Independence Day holiday (no classes)	July 4-5
Last day to change to audit	
Full term classes	July 22
Short session classes	Friday after mid-point of the class
Last day to change from CR/NC to a traditional grade	
Full term classes	July 22
Short session classes	Friday after mid-point of the class
Last day to withdraw	
Full term classes	July 22
Short session classes	Friday after mid-point of the class
Last day, A&S 12-week session	August 5
Last day (consult department for details)	August 17



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GRADUATE JOB PLACEMENT, 1992

BUSINESS OCCUPATIONS	TOTAL GRADUATES	Could Not Locate	Not Seeking Employment	Continuing School ¹	Available for Work	Employed in training-related job	Unemployed but seeking	Percent employed (training-related job; graduates available)	Working in New Mexico	Average hourly rate in training-related jobs	Average annual salary in training-related jobs based on 40-hour work week
Accounting, AAS	14	2	7	2	5	5	-	100%	5	\$8.15	\$16,959
Administrative Assistant	46	3	9	6	34	30	4	88%	30	\$7.49	\$15,575
Administrative Asst, AAS	1	-	-	-	1	-	1	-	-	-	-
Business Administration	4	-	-	-	4	3	1	75%	3	7.92	\$16,468
Business Admin, AAS	20	3	5	5	12	12	-	100%	9	\$7.28	\$15,147
Court Reporting, AAS	41	4	8	7	29	26	3	90%	25	\$7.30	\$15,179
Legal Asst Studies, AAS	1	-	1	-	-	-	-	-	-	-	-
Sales and Cashiering	50	2	13	5	35	27	8	77%	27	\$7.60	\$15,818
Secretarial Studies	21	-	2	4	19	19	-	100%	19	\$4.77	\$9,924
Secretarial Studies, AAS	21	3	7	5	11	8	3	73%	8	\$7.45	\$15,506
Secretarial Studies, AAS	16	1	2	3	13	12	1	92%	12	\$8.82	\$18,352
HEALTH OCCUPATIONS											
Health Unit Clerk	42	4	7	6	31	23	8	74%	23	\$6.36	\$13,230
Licensed Practical Nurse	8	2	1	-	5	5	-	100%	5	\$8.57	\$17,833
Medical Lab Tech, AS	13	-	1	1	12	11	1	92%	11	\$9.41	\$19,580
Nursing, AS	100	5	4	1	91	90	1	99%	90	\$13.17	\$27,394
Nursing Assistant	93	11	27	12	55	44	11	80%	44	\$5.82	\$12,113
Phlebotomist	25	1	5	3	19	15	4	88%	15	\$6.79	\$14,123
Respiratory Therapist, AS	12	-	-	-	12	12	-	100%	12	\$10.20	\$21,219
Respiratory Therapy Tech	8	-	-	-	8	8	-	100%	8	\$9.33	\$19,412

TECHNOLOGIES

Arch/Engineering Drafting Tech .....8	-	4	3	4	3	1	75%	3	\$8.82	\$18,339
Arch/Eng Draft Tech, AAS .....29	4	6	4	19	17	2	89%	17	\$8.52	\$17,726
Business Computer Prog Tech .....26	3	5	3	18	10	8	56%	10	\$7.78	\$16,175
Design Drafting Eng Tech, AAS .....7	-	-	-	7	6	1	86%	6	\$12.65	\$26,321
Electromech Drafting, AAS ² .....3	1	1	-	1	1	-	100%	1	-	-
Electronics Eng Tech, AAS .....13	-	2	2	11	9	2	82%	9	\$8.15	\$16,961
Electronics Technology .....20	2	5	4	13	9	4	69%	9	\$7.66	\$15,928
Electronics Tech, AAS .....12	2	2	-	8	8	-	100%	8	\$11.85	\$24,646
Instrumentation/Control Tech .....25	2	2	2	21	17	4	81%	17	\$10.21	\$21,234
Instrum/Control Tech, AAS .....7	-	3	2	4	4	-	100%	4	\$15.33	\$31,886
Laser Electro-Optic Tech .....8	1	1	1	6	5	1	83%	4	\$8.62	\$17,923
Laser Elec-Optic Tech, AAS .....12	1	4	2	7	6	1	86%	6	\$13.06	\$27,168

TRADES & SERVICE OCCUPATIONS

A/C, Heating, Refrigeration .....38	-	6	5	32	31	1	97%	30	\$7.02	\$14,605
Automotive Body Repair .....11	1	-	-	10	10	-	100%	10	\$6.28	\$13,052
Automotive Technology .....18	1	8	6	9	9	-	100%	9	\$7.65	\$15,912
Baking .....25	1	14	10	10	10	-	100%	9	\$6.08	\$12,641
Carpentry .....23	2	7	4	14	13	1	93%	13	\$6.45	\$13,416
Commercial Printing .....18	-	5	3	13	10	3	77%	10	\$5.39	\$11,217
Criminal Justice, AAS .....14	1	5	4	8	5	3	63%	5	\$10.74	\$22,333
Diesel Equipment Tech .....7	-	-	-	7	7	-	100%	7	\$7.07	\$14,706
Electrical Trades .....25	-	2	-	23	23	-	100%	22	\$5.96	\$12,403
Environ Protection Tech, AAS .....17	-	9	1	8	7	1	88%	7	\$9.40	\$19,559
Fire Science, AAS .....5	-	3	-	2	2	-	100%	2	-	-
Machine Tool Technology .....25	-	7	5	18	15	3	83%	15	\$6.08	\$12,653
Mechanical Technology, AAS .....1	-	-	-	1	1	-	100%	1	-	-
Plumbing .....13	1	1	1	11	9	2	82%	9	\$7.39	\$15,375
Quantity Food Preparation .....26	1	15	12	10	10	-	100%	10	\$5.64	\$11,722
Sportscraft/Small Engine Mech .....4	-	2	1	2	2	-	100%	2	\$6.00	\$12,480
Truck Driving ³ .....39	1	2	-	36	34	2	94%	27	-	-
Welding .....12	-	2	2	10	10	-	100%	10	\$6.32	\$13,150
TOTAL .....1,027	66	222	-	739	653	-	88%	-	-	-

¹ Counted in Not Seeking Employment or Available for Work.

² Not offered as separate program; graduates may return to complete degree.

³ Compensation based on miles driven.

AS: Associate in Science degree AAS: Associate in Applied Science degree

Note: Additional information is available from Student Job Placement Services.



ADMISSION AND REGISTRATION

Admission is the process of applying and being accepted to T-VI. Registration (see page 22) is the process of selecting courses, receiving a schedule of classes and completing enrollment at T-VI.

ADMISSION

The Albuquerque Technical-Vocational Institute has an open admission policy which provides all interested individuals the opportunity to enroll in the Institute's certificate or degree programs as well as individual courses. Students are considered for admission to T-VI without regard to gender, race, color, national origin, creed, religion, age, physical or learning disability or medical condition.

Most programs admit new students each term: January, May and September. Students may enter T-VI for any term but are urged to apply for admission at least two months before registration opens for that term.

Most full-time students attend school year-round until they finish their programs. In most programs, it is possible to take a term off, if necessary. However, students who interrupt their programs may not be able to resume their studies at the time they want, because classes they need may not be offered every term. An interruption in enrollment may also mean a change in program requirements upon the student's return.

General Admission Requirements

Any person wishing to apply for admission to T-VI must meet *one* of the following criteria:

- ▲ be at least 18 years of age; or
- ▲ have the General Education Development (GED) diploma or the high school equivalency certificate; or
- ▲ have completed high school; or
- ▲ qualify under Concurrent Enrollment.

Note: Many Trades & Service Occupations and Health Occupations programs have special admission requirements.

Admission Status

A student's admission status is determined by the student's primary goal for taking courses at T-VI.

Certificate/Degree Status: Certificate/degree students are those who have chosen a program of study and intend to earn a certificate or degree from T-VI.

Non-Degree Status: Those who do not wish to earn a degree or certificate or have not yet chosen a major (degree or certificate program) are non-degree students. Students who enter T-VI in non-degree status may request to change to certificate/degree status, declare a major and transfer credits earned in non-degree status by completing a Declare a Major form.

Note: Non-degree status will not satisfy eligibility requirements for financial aid, veterans' educational benefits or other assistance.

Concurrent Enrollment: Qualified high school juniors and seniors may be allowed to enroll in a maximum of two vocational and/or academic courses per term. Students may attend courses on the T-VI campus or at their high school. Admission for concurrent enrollment is in non-degree status. Credits earned as a non-degree student may be applied toward a certificate and/or degree only after the student has been accepted into a program at T-VI. Information regarding the Concurrent Enrollment program and specific admission requirements is available in the Admissions Office at any T-VI campus and from the student's high school counselor or vocational coordinator.

Applying to T-VI

Prospective students who meet the general admission requirements should complete the following:

RETURNING STUDENT: A returning student (any student who has previously attended T-VI in certificate/degree or non-degree status and has been out for at least one term, summer term excluded) must visit the Admissions Office to update his/her status. Students who have been absent for more than one year will be required to complete a new admissions application.

NEW STUDENT: An applicant who has never attended T-VI in certificate/degree or non-degree status:

Application for Admission

1. Complete a T-VI Application for Admission form, available from the Admissions Office.
2. Return the application to the Admissions Office. The application may be mailed 30 days before the term begins; after that, it must be hand delivered to the Admissions Office.

Advisement and Counseling

Admissions advisors and counselors are available to assist applicants with identifying and/or meeting their educational goals. Advisement and counseling services are also available for continuing students through the Admissions Office and instructional departments.

Program and Course Placement

1. **High School/GED Requirement:** Students who have not earned a high school diploma and are interested in entering a certificate or degree program may be required to take the ASSET exam. The results of this exam may affect the student's eligibility to enter his/her chosen program.

2. **Health Requirement:** An applicant will be discouraged from entering a program where chances of success are poor because of a health or physical condition. An applicant can be denied admission to a program where health or physical condition can be dangerous to the applicant or others. In such cases, the admissions counselor or advisor will help the applicant select another program.

3. **Preparatory Course Placement:** Preparatory courses are available to students needing and/or wanting preparatory work to help them meet course and program requirements.

4. **Program and/or Course Requirements:** Students may be required to take placement advisement tests, complete appropriate tests for a program and/or complete course prerequisites (requirements for enrollment in a course). Students who have completed course prerequisites may be required to provide proof through transcripts or test scores.

Most entry-level courses have prerequisites for math, English or reading. The following are alternatives to meet entry-level course prerequisites.

Courses listing ENG 099 as a prerequisite:

ENG 099 or above with passing grade

GED Writing Skills score of 40 or above

Enhanced ACT English score (as of November 1989) of 14 or above

ACT English score (prior to November 1989) of 11 or above

SAT Verbal score of 260 or above

ASSET Writing Skills score of 35 or above

English Placement Exam Score of 17 or above

Courses listing ENG 100 as a prerequisite:

ENG 100 or above with passing grade

GED Writing Skills score of 55 or above

Enhanced ACT English score (as of November 1989) of 19 or above

ACT English score (prior to November 1989) of 17 or above

SAT Verbal score of 350 or above

ASSET Writing Skills score of 45 or above

English Placement Exam score of 22 or above

Courses listing MATH 099 as a prerequisite:

MATH 099 or above with passing grade

GED Math score of 40 or above

Enhanced ACT math score (as of November 1989) of 13 or above

ACT Math score (prior to November 1989) of 7 or above

SAT Quantitative score of 300 or above

ASSET Numerical Skills score of 34 or above

T-VI Advisement Math Exam, Part I, with approved scores

Courses listing MATH 100 as a prerequisite:

MATH 100 or above with passing grade

GED Math score of 55 or above

Enhanced ACT math score (as of November 1989) of 16 or above

ACT Math score (prior to November 1989) of 12 or above

SAT Quantitative score of 350 or above

ASSET Numerical Skills score of 34 or above and ASSET

Elementary Algebra score of 43 or above

T-VI Advisement Math Exam, Part I, with approved scores

Algebra Placement Exam score of 8 or above

Courses listing RDG 099 as a prerequisite:

RDG 099 or 100 with passing grade

GED Literature Exam with passing grade

Enhanced ACT Reading score (as of November 1989) of 15 or above

SAT Verbal score of 300 or above

ASSET Reading Skills score of 35 or above

Nelson-Denny Reading score of 7 or above

Other college lecture-type courses 101 or higher with C or better

(social sciences, humanities, biological and physical sciences,
English, etc.)

Courses listing RDG 100 as a prerequisite:

RDG 100 with passing grade

GED Literature Exam with score of 55 or above

Enhanced ACT Reading score (as of November 1989) of 18 or above

SAT Verbal score of 350 or above

ASSET Reading Skills score of 45 or above

Nelson-Denny Reading score of 9 or above

Other college-lecture-type courses 101 or higher with C or better
(social sciences, humanities, biological and physical sciences,
English, etc.)

Although T-VI does not administer the ACT, the following cutoff scores have been established for placement purposes:

<u>ACT Taken Prior to November 1989</u>	<u>ACT Taken After November 1989</u>
English 17	English 19
Math 12	Math 16
Social Sciences 14	Reading 18
Natural Sciences 18	Scientific Reasoning.. 19
Composite 15	Composite 18

ACT and SAT scores may not be more than five years old. T-VI course/program placement exam scores may not be more than one year old.

Transfer of Credit

Traditional Credit: Credits earned at other institutions by certificate or degree-seeking students at T-VI may be transferred and applied toward program requirements in accordance with the following guidelines:

1. An official transcript from each institution must be sent directly to the T-VI Records Office for transfer credit evaluation. (Transcripts should be requested from the records office at the institution(s) previously attended.)

a. Credit for arts and sciences courses earned at regionally accredited post-secondary institutions will be evaluated automatically upon receipt of the official transcript. Courses with D or better grades earned at New Mexico institutions will be considered for transfer credit; courses from institutions outside New Mexico must have C or better grades to be considered for transfer credit.

b. To receive transfer credit for occupational courses, the student must request that T-VI's Records Office refer the transcript(s) to the department for review. An interview, demonstration of competence or both may be required before the decision regarding credit is made. Courses will be evaluated according to the occupational program to be followed at T-VI and may be substituted for T-VI requirements as approved by the department dean.

2. Remedial courses and upper-division courses are not generally accepted in transfer.

3. Students may appeal the decision on acceptability of transfer credit. The student should contact his/her department counselor to begin the appeal process.

Non-Traditional Credit: Students may be allowed to establish credit based on prior training. Specific criteria for acceptance of occupational credit have been established by each instructional department. Students interested in this option should contact their department counseling office.

Continuing Education Credit: Current students who completed credit courses in T-VI's Continuing Education Division prior to the winter 1991 term may apply to have that credit transferred to their T-VI transcript. Interested students must request, through the Records Office, that an official copy of their Continuing Education record be sent to the department in which the course was offered. The student should contact the department counseling office to initiate the transfer process.

Challenge Exams

Challenge examinations have been developed for some courses in Arts & Sciences, Business Occupations, Health Occupations and Technologies, and for all courses in Trades & Service Occupations. The following restrictions apply:

▲ A student may attempt a challenge only once per course.

▲ A student may not take the challenge exam if the student received an unsatisfactory midterm or final grade in the course or was enrolled in the course at any post-secondary institution.

▲ A student's transcript will reflect a grade of TR (credit) for those courses successfully challenged. TR grades are not computed in the student's grade point average.

▲ Courses successfully challenged may count toward graduation but not the residency requirement.

▲ Challenge exam credit may not be accepted by other post-secondary institutions.

A \$15 fee is charged for each exam. Information about occupational challenge exams is available in department counseling offices.

Arts & Sciences Exams

Students may earn up to 30 credit hours toward Arts & Sciences requirements through challenge exams, Advanced Placement tests and College Level Examination Program tests. The restrictions listed above apply. Arts & Sciences challenge exams are scheduled during the last week of each term. Information is available in the admissions and Arts & Sciences offices.

Challenge Exams

BIO 123/124L—Biology for Health Sciences/Lab (*must be challenged together*)

BIO 237/247L—Anatomy and Physiology I/Lab (*must be challenged together*)

BIO 238/248L—Anatomy and Physiology II/Lab (*must be challenged together*)

CSCI 101—Computer Literacy

NUTR 125—Nutrition

To challenge a course, a student must:

▲ obtain a Challenge Exam form from an admissions advisor or a department counselor (approval will be given only after the counselor or admissions advisor checks for restrictions listed above);

▲ pay a fee of \$15 per credit hour at the Cashier's Office;

▲ submit the form and schedule the exam through the Arts & Sciences office; and

▲ present a picture I.D. at the exam site.

Advanced Placement

T-VI Course	AP Exam	Minimum Score	Credit Hours
ART 101	Art History	4	3
BIO 121L/122L	Biology	3	8
CHEM 121/122L, 122/122L	Chemistry	3	8
CSCI elective	Computer Science	4	4
ENG 101	English Language & Composition	3	3
ENG 102	English Language & Composition	4	3
ENG 101	English Literature & Composition	3	3
ENG 102	English Literature & Composition	4	3
FREN 101, 102, 201, 202	French Language	3	12
FREN 101, 102, 201, 202	French Literature	3	12
HIST 101, 102	European History	4	6
HIST 161, 162	American History	4	6
MATH 162	Calculus AB	3	4
MATH 162, 163	Calculus BC	3	8
PHYS 151/153L	Physics B	4	4
PHYS 160/163L	Physics C	4	4
SPAN 101, 102 and	Spanish Language	3	6
SPAN 201, 202	Spanish Language	4	12

AP scores must be forwarded to the T-VI Records Office. Scores will only be accepted if they are:

- ▲ sent directly from the AP Testing Center, or
- ▲ original scores forwarded to the student, or
- ▲ AP scores included on high school or college transcripts as part of the student's permanent record.

College Level Examination Program

T-VI Course	CLEP Exam	Minimum Score	Credit Hours
CHEM 121/121L, 122/122L	General Chemistry	52	3
ECON 200	Introduction to Macroeconomics	55	3
ECON 201	Introduction to Microeconomics	55	3
FREN 101	College French	40	3
FREN 101, 102	College French	45	6
HIST 101, 102	Western Civilization I, II	50	3
MATH 121	College Algebra	56	3
MATH 123	Trigonometry	61	2
MATH 162	Calculus w/Elementary Functions (objective and problem portions)	60	4
PSCI 200	American Government	55	3
PSY 105	General Psychology	50	3
PSY 220	Human Growth and Development	52	3
SOC 101	Introduction to Sociology	52	3
SPAN 101, 102	College Spanish	45	6
SPAN 101, 102, 201, 202	College Spanish	54	12

CLEP scores must be forwarded to the T-VI Records Office. Scores will only be accepted if they are:

- ▲ sent directly from the CLEP Testing Center, or
- ▲ original scores forwarded to the student.

REGISTRATION

Students are required to register for each term they plan to attend. Registration and payment of fees must be made in accordance with the instructions published in the Schedule of Classes.

Registration for new and returning students begins approximately two months before the start of a term. Continuing students receive information about pre-registration. Registration is held through the fifth day of the term for full-term classes and through the third day for short-session courses.

Schedule of Classes: A class schedule is published prior to each term. Starting and ending dates, registration instructions, payment information, meeting times and locations are listed in the schedule, which is available in the Admissions and department counseling offices.

Course Load: The normal course load each term is 12 to 18 credit hours, 12 constituting a full load. Students wishing to take more than 18 credit hours must meet the following conditions:

- ▲ have a cumulative T-VI grade point average of 2.5; and
- ▲ have no grade lower than C in the previous term; and
- ▲ secure the written permission of the department counselor (non-degree students must secure permission from an admissions counselor).

No student may take more than 22 credit hours per term.

Corequisites: A corequisite is a course which must be taken in combination with a specific course. Corequisites are listed with each course description in the Catalog.

Prerequisites: A prerequisite is a requirement which must be completed before a student may enroll in a specific course. Course prerequisites are listed with each course description in the Catalog. A student who receives an I (incomplete), NC (no credit), PR, D or F as a final grade may not enroll in any class for which the former is a prerequisite. A student may be disenrolled if the prerequisites have not been met.

Permission of Instructor: Students may enroll in some courses only by permission of the instructor. Forms are available in the admissions, department deans' and department counseling offices. Permission of an instructor to enroll does not constitute a waiver of a course, does not allow a course to be overfilled or grant credit for another course.

Changes in Enrollment and Grading Options

Cancellation of Enrollment Before the Term Begins: If a student is not able to attend T-VI when planned but has registered for classes, the student must cancel his or her registration at the Records Office on the Main Campus before the beginning of the term. All fees, except for the non-refundable registration fee, will be returned if registration is canceled before classes begin.

Adding Courses: Students may enter Developmental Studies self-paced math courses through the tenth week of the term. All other T-VI courses may be added or

sections changed only through the fifth day of full-term classes and the third day of short-session classes.

Adding, Changing, Declaring Majors: Students may add, change and/or declare a major (program) at any time during the term. In order to graduate with a specific major, students must either declare a major at the time of admission or complete a Declare a Major form in their department counseling office.

"Stepbacks": Students may, with department approval, "step back" into most developmental courses through the third week and into some lower level occupational courses (in the same discipline) through the fifth week of the term. Students may, however, step back into a self-paced, developmental math course through the tenth week of the term. Students who are having difficulty in a class and are considering this option should contact their department counselor.

Dropping Courses or Withdrawing: To drop a course or withdraw from T-VI a student must complete an official form. Drop and Withdrawal forms are available in the admissions and department counseling offices.

Full-term courses may be dropped through the 12th week of the term, short-session courses through the Friday following the midpoint of the course. Students are ultimately responsible for initiating a course drop. However, students may be dropped from some classes for non-attendance (see page 40). Students who are not officially dropped from a course will receive a final grade in the course.

Full-term, first-half term and second-half term courses dropped on or before the 15th day of the term or session (including Saturdays) do not appear on the student's T-VI transcript. A "W" grade will appear on the student's record for full-term, first- and second-half term courses dropped after the 15th day and for all other courses dropped after the first day of the session.

Changing Grade Options: Grade options are listed on page 41. A change from the audit grade to a traditional (A, B, C, D or F) grade may be made through the fifth day of the term for a full-term course and the third day of a short-session course. A change from credit/no credit (CR/NC) to a traditional grade may be made through the end of the 12th week of the term for a full-term course and the Friday after the midpoint of a short-session course.

A change to audit may be made through the end of the 12th week of the term for a full-term course and the Friday after the mid-point of a short-session course.

A change from audit to CR/NC may be made through the fifth day of the term for a full-term course and the third day of a short-session course. A change from a traditional grade to CR/NC may be made through the end of the 12th week of the term for a full-term course and the Friday after the mid-point of a short-session course.

ESTIMATED STUDENT EXPENSES

The budgets below are estimated expenses for tuition, food, housing, transportation, school and personal expenses for full-time students at T-VI for 1993-94. The Financial Aid Office uses these figures to calculate the amount of financial aid a student will receive.

For Students Without Rent/Mortgage Expenses

	1 Term	2 Terms	3 Terms
Tuition, Fees	\$201	\$401	\$602
Room, Board	\$673	\$1,350	\$2,023
Books, Supplies	\$166	\$331	\$497
Personal Expenses	\$564	\$1,127	\$1,691
Transportation	\$403	\$805	\$1,208
Total	\$2,007	\$4,014	\$6,021
Non-resident Total	\$2,630	\$5,261	\$7,891

For Students With Rent/Mortgage Expenses

	1 Term	2 Terms	3 Terms
Tuition & Fees	\$201	\$401	\$602
Room, Board	\$2,562	\$5,126	\$7,688
Books, Supplies	\$166	\$331	\$497
Personal Expenses	\$611	\$1,221	\$1,832
Transportation	\$449	\$899	\$1,348
Total	\$3,989	\$7,978	\$11,967
Non-resident Total	\$4,612	\$9,225	\$13,837

Note: These figures are only estimates and are subject to change without notice. See pages 26-30 for specific information on tuition and fees.

NEW MEXICO RESIDENCY

A student is classified as a resident or non-resident for tuition purposes based on information supplied at the time of admission or readmission. A continuing non-resident student who has satisfied requirements for New Mexico residency may file a Petition for New Mexico Residency in the Records Office. Residency petitions will be accepted through the 15th day of each term (including Saturdays). No petitions will be approved unless all requirements for residency are met before the first day of the term. To become a legal resident of New Mexico, four basic requirements must be satisfied:

1. The 12-Month Consecutive Residence Requirement: A student must physically reside in New Mexico for the 12 consecutive months immediately preceding the term for which the petition is submitted.

Note: Students whose parents or guardians reside out of state cannot begin to complete the 12-month requirement until their 19th birthday.

2. The Financial Independence Requirement: Students cannot be approved for residency if they are financially dependent on their parents or legal guardians who are non-residents of New Mexico. At the time the student applies for residency (if under 23 years of age), a copy of his or her parents' or guardians' 1040 or 1040A U.S. income tax form for the previous year may be required.

3. The Written Declaration of Intent Requirement: The student must sign a written declaration of intent to relinquish residency in another state and establish it in New Mexico.

4. The Overt Act Requirement: Residency regulations require the completion of several overt acts which support the student's declaration of intent to become a permanent resident. Examples of such acts are securing a New Mexico driver's license or automobile registration and registering to vote in New Mexico.

Note: Any act considered inconsistent with being a New Mexico resident—such as voting, securing and/or maintaining a driver's license and automobile registration in another state—will cause the request to be denied.

OTHER RESIDENCE REGULATIONS: Persons and their dependents who move to New Mexico to work full-time, practice a profession or conduct a business full-time (and who provide appropriate evidence) are not required to complete the 12-month residence requirement before applying for resident status. They must, however, satisfy the other requirements of residency.

Members of the armed forces stationed on active duty in New Mexico, their spouses and dependents are eligible for resident student rates. A certification form is required for all new and returning students.

Non-citizens who are lawfully in the United States and have obtained permanent status from the INS or non-citizens who serve on active duty in the armed forces of the United States may establish residency by meeting the durational and intent requirements. Any non-citizens on other visas (student, diplomatic, visitor or visiting scholar visa, including spouses and dependents) are non-residents for tuition purposes.

Persons, their spouses and dependents who move to New Mexico for retirement and who provide evidence of formal retirement shall not be required to complete the 12-month durational requirement. They must, however, satisfy the other requirements of residency.

An individual married to a legal resident of New Mexico who provides evidence of marriage shall not be required to complete the 12-month durational requirement but must satisfy all other requirements.

All enrolled members of the Navajo Tribe who reside on the Navajo Reservation, as certified by the Navajo Department of Higher Education, will be assessed in-state tuition rates.

A brochure explaining all requirements for establishing New Mexico residency for tuition purposes is available in the Records and Admissions offices.

TUITION AND FEES

Tuition is charged according to a student's residency status and the number of credit hours carried. Some courses have required fees. Audit students pay the same fees as students enrolled for credit.

Upon registering for courses, students receive a registration invoice. In order to complete registration, all charges must be paid. Payment deadlines are printed in the Schedule of Classes each term. Failure to pay all charges in full will result in the deletion of the student's schedule.

Authorized agencies that have agreed to pay a student's training expenses are billed by the Institute.

Registration Fee: There is a \$20 registration processing fee required each term.

Tuition: Tuition rates for 1993-94 (subject to change without notice) are:

	Resident	Non-Resident
<i>Arts & Sciences courses</i>		
1 to 11 credit hours and more than 18 credit hours	\$25.25 per credit hour	\$70.25 per credit hour
12 to 18 credit hours	\$303	\$843
<i>Occupational courses</i>		
1 to 11 credit hours and 12 to 18 credit hours	none	\$70.25 per credit hour
	none	\$843

Consumable books, such as workbooks and manuals, must be purchased by students at the T-VI Bookstores.

Late Graduation Fee: A \$20 late graduation fee will be charged to students who do not submit an Application for Graduation by the established deadline.

Refunds

Registration Fee: The registration fee is a processing charge that is non-refundable unless T-VI cancels all classes in which a student has registered.

Tuition/Fees: Tuition is refundable only if T-VI cancels a class or if the student withdraws by the 10th day of the term/session. Equipment and tool fees are not refundable after equipment and/or tools are issued.

Tuition, supply and lab fee refunds after the term/session begins are pro-rated as follows:

Withdrawal prior to the start of the term/session 100%

Withdrawal during the first ten days of the term/session 80%

Course Fees

Many T-VI programs require students to buy personal equipment, such as uniforms in Health Occupations and tool kits in Trades & Service Occupations and Technologies. The equipment is issued early in the program and becomes the student's personal property.

Several programs charge a supply fee to cover the cost of expendable items provided by T-VI. Lab fees also are charged for some Arts & Sciences and Health Occupations classes. Equipment, supply and lab fees for 1993-1994 are as follows:

Arts & Sciences (all lab fees unless otherwise noted)

BIO 111L	\$20	BIO 231L	\$20	CHEM 130L	\$20
BIO 121L	\$20	BIO 239L	\$20	MATH 150	\$5
BIO 122L	\$20	BIO 247L	\$20	(equipment fee)	
BIO 124L	\$20	BIO 248L	\$20	MATH 162	\$5
BIO 139L	\$20	BIO 260L	\$20	(equipment fee)	
BIO 200L	\$20	CHEM 112L	\$20	PHYS 153L	\$20
BIO 223L	\$20	CHEM 121L	\$20	PHYS 154L	\$20
BIO 224L	\$20	CHEM 122L	\$20	PHYS 163L	\$20

Business Occupations (all supply fees)

AA 101	\$15	AA 230	\$5	BA 156	\$5
AA 102	\$20	AA 234	\$10	BA 157	\$5
AA 103	\$10	AA 250	\$15	BA 158	\$5
AA 104	\$10	ACCT 254	\$15	BA 255	\$15
AA 105	\$15	ACCT 255	\$15	BA 257	\$15
AA 111	\$5	BA 150	\$15	CR 103L	\$5
AA 133	\$20	BA 151	\$5	CR 104L	\$5
AA 136	\$10	BA 152	\$5	CR 133	\$10
AA 200	\$20	BA 153	\$5	CR 210L	\$10
AA 202	\$20	BA 154	\$5	CR 220L	\$10
AA 207	\$20	BA 155	\$5	CR 230L	\$25

CR 250L	\$40	MMS 134	\$20	MMS 259	\$ 5
CR 260	\$40	MMS 150	\$5	BOLC (all courses) \$40	
LAS 231	\$15	MMS 200	\$5		

Health Occupations

Course	Equipment	Supply	Lab
NURS 124C	\$86		
NURS 225C	\$10		
NURS 224C	\$10		
Advanced Placement ADN	\$12		
RT 210	\$20		
RTT 110	\$90		
LPNR 155L	\$10	\$25	
RNR 255L	\$10	\$25	
HUC 121C	\$30		
MLT 110L	\$83		
MLT 112L			\$20
MLT 201L			\$20
MLT 202L			\$20
MLT 203L			\$20
MLT 204L			\$20
NA 110L	\$35		
PRNS 255L	\$10	\$25	
PHLB 101L	\$50		
EMS 160L	\$25	\$15	
CDV 203	\$10		
Pharmacy Technician			\$35

Technologies (all supply fees)

ARDR 107L	\$15	ARDR 215	\$15	CP 271L	\$10
ARDR 118L	\$15	ARDR 220L	\$15	CP 272L	\$10
ARDR 180	\$15	ARDR 295	\$15	CP 274L	\$10
ARDR 181	\$15	CP 101A	\$10	CP 276	\$10
ARDR 182	\$15	CP 101L	\$10	CP 278	\$10
ARDR 203L	\$15	CP 111A	\$10	CP 280L	\$10
ARDR 207L	\$15	CP 111L	\$10	CP 281L	\$10
ARDR 209L	\$15	CP 174L	\$10	DDET 106L	\$15
ARDR 210L	\$15	CP 175L	\$10	DDET 114L	\$15
ARDR 214L	\$15	CP 176L	\$10	DDET 115L	\$15
ARDR 212L	\$15	CP 213	\$10	EET 107L	\$15

EET	113L	\$15	ELEC	204L	\$15	PC	213L	\$30
DIG	211	\$30	ELEC	217	\$15	IC	204L	\$15
ELEC	103A	\$15	ELEC	276L	\$15	IC	213L	\$20
ELEC	103L	\$15	PC	202	\$20	MSP	101L	\$25
ELEC	116L	\$15						

Trades & Service Occupations (all tool fees unless otherwise stated)

ACHR	101L, 102L or 103L	\$104
ACHR	111L, 112L or 113L	\$81
ACHR	201L, 202L, 203L or 204L	\$81
AUBO	102L, 103L, 104L or 105L	\$116
AUBO	112L, 113L, 114L, 115L or 116L	\$86
AUBO	202L, 203L, 204L, 205L or 206L	\$58
AUTC	101L, 102L, or 103L	\$116
AUTC	111L, 112L or 114L	\$104
AUTC	201L, 202L or 203L	\$104
BKNG	103L, 104L, 105L or 106L	\$116
BKNG	112L, 113L, 114L, 115L or 116L	\$35
CARP	102L, 103L or 104L	\$116
CARP	112L, 113L or 114L	\$81
CMPR	103L, 104L, 105L or 106L	\$35
DETC	103L, 104L, or 105L	\$150
DETC	113L, 114L, or 115L	\$150
DETC	201L, 202L or 203L	\$116
ELTR	103L or 104L	\$116
ELTR	114L or 115L	\$99
ELTR	204L or 205L	\$58
ELTR	213L or 214L	\$58
MATT	103L, 104L or 105L	\$116
MATT	117L or 118L	\$93
MATT	208L or 209L	\$81
PLMB	101L, 102L, 103L or 106L	\$116
PLMB	111L, 112L, 113L or 114L	\$81
QUFD	103L, 104L, 105L or 106L	\$116
QUFD	112L, 113L, 114L, 115L or 116L	\$93
SCSE	102L, 103L or 104L	\$116
SCSE	112L, 113L, or 114L	\$110
SCSE	202L, 203L or 204L	\$104

TRDR	101	\$200	(supply fee)
TRDR	102L	\$100	(supply fee)
TRDR	103L	\$100	(supply fee)
TRDR	105L	\$400	(supply fee)
WELD	104L, 105L, 106L or 107L	\$116	





FINANCIAL AID

T-VI is committed to helping needy students meet the rising costs of education by providing financial assistance. Although primary responsibility for educational costs rests with the student and his or her family, T-VI, the U.S. government and the state of New Mexico all contribute money to help needy students pursue a higher education.

Students applying for financial aid should complete a Free Application for Federal Student Aid (FAFSA). Financial aid applications are available at T-VI's two financial aid offices. One is located at Jeannette Stromberg Hall on the Main Campus and is open 8 a.m. to 4:30 p.m. Monday through Friday. The other is located in Tom Wiley Hall on the Joseph M. Montoya Campus and is open from 8 a.m. to 4:30 p.m. Monday through Friday. Financial aid personnel are available at both offices to help students complete financial aid applications.

A student does not have to be accepted for admission to T-VI before applying for financial aid. Students are encouraged to apply as early as possible, since processing may take up to 10 weeks. Transfer students applying for financial aid must provide financial aid transcripts from every post-secondary school they have previously attended, even though they may not have received any financial aid. Financial aid transcript request forms are available at both Financial Aid offices.

General Eligibility Requirements

To receive financial aid students must meet the following requirements:

▲ Enroll as a regular student in an eligible program (see the *T-VI Financial Aid Guide* or contact the Financial Aid Office for a list). Many programs also require that students be enrolled at least half time (six credit hours or more).

- ▲ Be a U.S. citizen or an eligible non-citizen.
- ▲ Maintain satisfactory academic progress.
- ▲ Must not be in default on any educational loans at any school previously attended.
- ▲ Must not owe a refund on a grant at any school previously attended.
- ▲ Sign a statement of educational purpose, stating that the money will go toward educational purposes only.
- ▲ If male, sign a statement of registration indicating that he has registered or is not required to register with the Selective Service.

Students should refer to the *T-VI Student Financial Aid Guide*, available at both campuses, for detailed information.

Types of Aid

Students at T-VI can receive aid through grants, scholarships, loans, work study and other programs, most of which are based on financial need. Once the Financial Aid Office determines how much and what kind of aid you are eligible to receive, a financial aid package is assembled to fit the student's needs. Aid programs include:

Federal Pell Grant: This program provides federal grants to students who have not received a bachelor's degree. Pell Grant awards range from \$400 to \$2,300 per year, depending on a student's enrollment status, cost of attendance and family contribution. Students may pick up their Pell Grant checks on the last class day of the first month of each term. Supplemental distributions are generally scheduled on the last class day of each month for students whose financial aid file was not complete by the regular distribution date.

Federal Supplemental Educational Opportunity Grant (SEOG): SEOG provides federal grants to needy students to help pay for their post-secondary education. Federal money for the program is limited and available only to students with exceptional financial need. Students with exceptional need are those who receive a Pell Grant, have the lowest family contribution and have unmet need. SEOG awards at T-VI range between \$200 and \$600 a year, and the checks are generally distributed in the middle of each term.

New Mexico Student Incentive Grant (NMSIG or SSIG): New Mexico residents who are full-time students, have received a Pell Grant and have the highest unmet financial need are eligible for SSIG awards. If funds are available, part-time students may also be eligible. Awards at T-VI range from \$500 to \$1,500 per year. Checks are generally distributed in the middle of the term.

Federal Stafford Loan (formerly GSL): Students must apply for a Pell Grant before applying for a Stafford Loan. The maximum annual loan is \$2,625 for first-time students and \$3,500 for second-year students. Borrowers must apply for a

subsidized Stafford Loan before applying for an unsubsidized loan. An unsubsidized Stafford loan does not qualify for federal interest subsidies. Cost of attendance minus estimated financial aid equals the amount a student may borrow in an unsubsidized loan up to the maximum loan limits. First-time borrowers must wait 30 days after the term begins to pick up their check. Previous borrowers will receive subsequent disbursements on the 18th day of class. Interest rates on Stafford Loans are variable but do not exceed 9 percent. Check with the Financial Aid Office for more information on interest rates and to acquire a list of participating lenders. Students must begin repaying the principal on their loans six months after they leave school or drop below half-time status. The minimum monthly payment is \$50 per month.

Federal Supplemental Loans for Students (SLS): Students must apply for a Pell Grant and Stafford Loan before applying for an SLS. Only self-supporting students can apply for an SLS and only after they have exhausted all other resources. To apply for an SLS a student must have either a high school diploma or GED (General Educational Development); therefore, students admitted under ability to benefit are not eligible to receive an SLS. All first disbursements to first-time borrowers of SLS loans are made 30 days after the term begins. Previous SLS borrowers will receive subsequent disbursements on the 18th day of class. Students enrolled in a program three terms or longer may borrow up to \$4,000 per academic year. A student enrolled in a two-term program may only borrow up to \$2,500. Students enrolled in a one-term program may only borrow up to \$1,500.

Federal Parent Loans for Undergraduate Students (PLUS): Students must apply for a Pell Grant and a Stafford Loan before their parents can apply for PLUS. PLUS is designed to help the parents of dependent students who need additional funding after a student has exhausted all other resources.

New Mexico Nursing Student Loan (NMNSL): New Mexico residents preparing for a licensed practical nurse certificate or an associate degree in nursing may apply for a New Mexico Nursing Student Loan. The most a student can borrow is \$2,500 per year. Loan recipients must agree to repay the loan with service in an underserved area in New Mexico. NMNSL loans are generally disbursed on the 18th day of class.

Perkins Loan: T-VI does not participate in the Perkins Loan Program.

Work Study: T-VI offers three kinds of work study jobs: Federal Work Study, New Mexico Work Study and T-VI Work Study. Work study is part-time on-campus employment that provides students with a chance to earn money to help pay educational expenses. Most of T-VI's work study programs are based on financial need and are subsidized by the state and federal government. Students may work up to 40 hours per pay period and earn from \$4.50 to \$5.50 per hour, depending on the job. Work-study students are paid every two weeks.

Scholarships: T-VI offers several scholarships. The Three Percent Scholarship pays for tuition and the registration fee. Applicants must be New Mexico residents and meet scholastic requirements along with other criteria. The New Mexico Scholars Program covers tuition, fees and books. Applicants must be New Mexico high school graduates and residents, and they must meet scholastic requirements along with other criteria. The Vietnam Veterans Scholarship covers tuition, fees and books. Applicants must be New Mexico residents and Vietnam veterans.

Departmental scholarships are also offered at T-VI. Students should contact specific academic departments for scholarship amounts and requirements.

Students interested in receiving financial aid from the following programs must apply directly with the agency.

Veterans Administration: The Veterans Administration has approved most full-time programs at T-VI. Students planning to apply for VA benefits must have their class schedule approved and their enrollment certified by a T-VI VA certifying official. Students who fail to complete a course during a term in which they have received VA benefits must repay the full amount unless they can prove to the VA that mitigating circumstances were involved. Veterans transferring from other institutions of higher learning must provide official academic transcripts from every post-secondary school they have previously attended. Information on eligibility is available at any Veterans Administration office. The Albuquerque office is located at 500 Gold SW (766-3361).

New Mexico Division of Vocational Rehabilitation (DVR): Disabled persons may be eligible for education and training benefits from DVR. The Albuquerque offices include: 11811 Manual NE, 87112, 841-4560; 3311 Candelaria NE, 87107, 841-8800; 2929 Coors NW, Suite 102, 87120, 841-8752.

Job Training Partnership Act (JTPA): This program helps students with education and training if they are unemployed, underemployed or economically disadvantaged. Students should contact the New Mexico Employment Security Department at 841-9362, or the Albuquerque Job Corps Center at 842-6500, or Work Unlimited at 768-6060 for information on eligibility. Native Americans should contact the National Indian Youth Council (NIYC) Employment and Training Project at 247-2251 or their tribal offices for the same information.

Stay in School: Stay in School is a federal program designed to help needy students pay for their education by placing them in part-time, temporary government jobs. Most of the jobs are located at Kirtland Air Force Base or the U.S. Forest Service. The student may work up to 20 hours per week, and the pay depends on the job assignment. Many positions pay more than minimum wage. Eligible students must be at least 16 years old, prove economic hardship and enroll as a full-time student. Interested students may pick up applications and ask for information at the Financial Aid Office at either campus.

Financial Aid Check Disbursements

Most financial aid checks are distributed through the Cashier's Office between 8 a.m. and 4:30 p.m. Monday through Friday. Loan recipients who are repeat borrowers and students receiving a second or third loan disbursement are paid on the 18th day of class. First-time borrowers receiving their first disbursement are paid 30 days after classes begin; otherwise, loan checks will arrive four to six weeks after a student has submitted an application.

Standards of Satisfactory Academic Progress

Financial aid students must meet certain academic standards to be eligible for financial aid. To ensure financial aid recipients are making satisfactory academic progress, academic transcripts are reviewed each term. All terms of attendance, including periods when students did not receive financial aid, are reviewed. Financial aid recipients are placed on financial aid probation after the first term they fail to meet the standards outlined below or placed on financial aid suspension after they fail to meet the standards for two consecutive terms. If students exceed the maximum time frame (see below) they are automatically placed on financial aid suspension.

1. **Qualitative Progress:** Students must maintain a cumulative grade point average of at least 2.0 (a C average). Grade point values for financial aid eligibility are:

A = 4.0, B = 3.0, C = 2.0, D = 1.0, F = 0, I = 0.

Preparatory (Developmental Studies) grades, credit and no credit grades, as well as W, AU and TR grades are not calculated in the GPA. (W stands for withdrawal, AU for audit and TR for grades given for credit by challenge exam or transfer.)

The average is computed by multiplying each final grade point value by the number of credit hours, totaling all grade points and dividing the total points by the total number of credit hours for which there are final grades.

2. **Maximum Time Frame:** Students must complete a program within a maximum time frame. Students enrolled in a program with fewer than 80 credit hours must complete their program within 90 credit hours. Students enrolled in a program that requires 80 credit hours or more must complete the program within 100 credit hours. Financial aid will not be paid to students who have exceeded the maximum time frame. All terms of attendance including periods when students did not receive financial aid are counted in the total number of attempted credit hours; prep hours are excluded. In addition, students may not receive financial aid for more than 30 credit hours of attempted preparatory course work. Transfer credits are not counted toward the maximum time frame limit.

3. **Incremental Progress:** Students must complete a minimum number of credit hours each term. The following chart shows the minimum number of credit hours a student must complete each term based on the number of hours initially registered for.

The figures in the table below do not necessarily reflect what a student should complete to finish a program within the maximum time frame. For satisfactory academic progress purposes, any course in which the grading option has been changed to audit after aid has been disbursed will be treated as a withdrawal. In addition, any class in which a student receives no credit will also be treated as a withdrawal.

<u>Enrollment Status</u>	<u>Minimum Number of Credit Hours That Must Be Completed Per Term</u>
Full time (12 credit hours or more)	9 credit hours
Three-quarter time (9-11 credit hours)	7 credit hours
Half time (6-8 credit hours)	4 credit hours
Less than half time (5 or fewer credit hours)	3 credit hours or all attempted if fewer than 3 credit hours

Student Loans: Students borrowing from any one of the following programs—Stafford, SLS, PLUS or NMNSL—must observe the following standards in addition to those listed above:

▲ The student must carry and complete at least six credit hours during the loan period. If not, all future disbursements during that loan period will be canceled. This is final and cannot be appealed.

▲ If a student drops to less than half time or withdraws from all classes during a term in which he/she received money from a loan, the student may not apply for another loan until successfully completing a term, carrying at least six credit hours.

Financial Aid Probation: If a student does not maintain a 2.0 grade point average or does not maintain incremental progress, the student is put on financial aid probation for one term. If a student is not making satisfactory progress at the time he/she applies for financial aid, the student will be placed on probation for the first term of financial aid. While on probation, the student will continue to receive financial aid. Students expecting a student loan should check with a student loan advisor to see if they are eligible to receive a loan on probation.

If a student on financial aid probation does not meet the above standards by the end of the probationary term, the student is suspended from receiving further financial aid. Terms spent on financial aid probation are counted in the maximum allowable time frame the student has to complete a degree or certificate program.

Financial Aid Suspension: Students who have been placed on suspension do not receive any financial aid. Students on financial aid probation who do not meet satisfactory academic progress standards by the end of the probationary term will be suspended from receiving further financial aid.

Financial aid will be reinstated when the student completes one term meeting all of the satisfactory academic progress requirements. Terms spent in financial aid suspension are counted in the maximum allowable time frame the student has to complete a degree or certificate program.

The Appeal Process: Students suspended from financial aid may appeal. The director of financial aid or his designee bases reinstatement on mitigating circumstances that directly contributed to deficient academic performance. However, in the case of a student loan, if the aid is reinstated, the loan term will not be backdated to cover the term in which the deficiency took place.

Students may pick up an appeal form from either Financial Aid Office. After completing the form students should make an appointment to see a financial aid advisor. The appeal will be reviewed at that time and forwarded to the director of financial aid. The director of financial aid or his designee will then do a final review and approve or disapprove reinstatement of financial aid. The student will be notified of the director's decision within ten working days from the day the appeal was submitted.

Deferments: Students awarded enough financial aid to cover their tuition and other costs may defer those costs until their financial aid check arrives. If the student's financial aid cannot meet all the costs, the balance is the student's responsibility. For those who deferred their costs, T-VI deducts what they owe from their check when it arrives. The student receives the difference.

It is also a student's responsibility to pay for tuition, equipment fees, textbooks and/or any other T-VI charges if his or her financial aid check does not arrive or is canceled for any reason. If a student's balance is not paid on or before midterm, a hold will be placed on the student's registration and academic records and his or her account may be turned over for collection.

Students on financial aid probation or suspension are not eligible for deferments until final grades are posted and satisfactory academic progress has been established.

To apply for a Financial Aid deferment, students should contact the Financial Aid Office. See the T-VI Student Financial Aid Guide for detailed information regarding deferments.

Refunds and Repayments

First-Time Students Pro Rata Refund Policy: The following refund provisions apply only to students attending T-VI for the first time and who withdraw before they have attended 60 percent (nine weeks of class) of the enrollment period (term).

T-VI is required to have a fair and equitable refund policy for Title IV programs under which the Institute refunds students or parents for a PLUS loan, unearned tuition, fees, room and board, and other charges for periods of time if a student does not register, withdraws or otherwise fails to complete the period of enrollment.

A pro rata refund is defined as a refund to a student of not less than that portion of the tuition, fees, room and board, and other charges equal to the portion of the enrollment period for which the student has been charged that remains on the last recorded day of attendance by the student (rounded down to the nearest 10 percent) less any unpaid charges and a five percent administrative fee.

T-VI uses the following formulas when calculating pro rata refunds:

$$\text{School Charges} \times \frac{\text{Weeks Remaining in Enrollment Period}}{\text{Total Weeks in Enrollment Period}} * = \text{Amount Retained by T-VI}$$

* Rounded down to nearest 10%

$$\text{School Charges} - \left(\text{Amount Retained by T-VI} + \text{Unpaid Student Charges} + \text{5\% Fee} \right) = \text{Refund}$$

The refund is then returned to Title IV programs according to the refund formula below.

All Other Title IV Recipients Refund Policy: If a student withdraws from school, the student may be due a refund according to T-VI policy (see page 27). If a student due a refund received Title IV funds, the Financial Aid Office must return a portion of that refund to the applicable Title IV programs. T-VI uses the following formula to determine the portion of the refund to be returned. College Work Study is excluded from the calculation.

Refund Formula:

$$\text{Amount of Refund} \times \frac{\text{Total Title IV Funds}}{\text{Total Financial Aid}} = \text{Amount to be Returned To Title IV Programs}$$

Repayment of Cash Disbursements: If a student received cash for living expenses and the student withdraws from school and the cash the student received is greater than the cost of living expenses up to the student's withdrawal date, the student must repay a portion of the amount he or she received. Living expenses are calculated in increments of one month. T-VI uses the following formula to determine

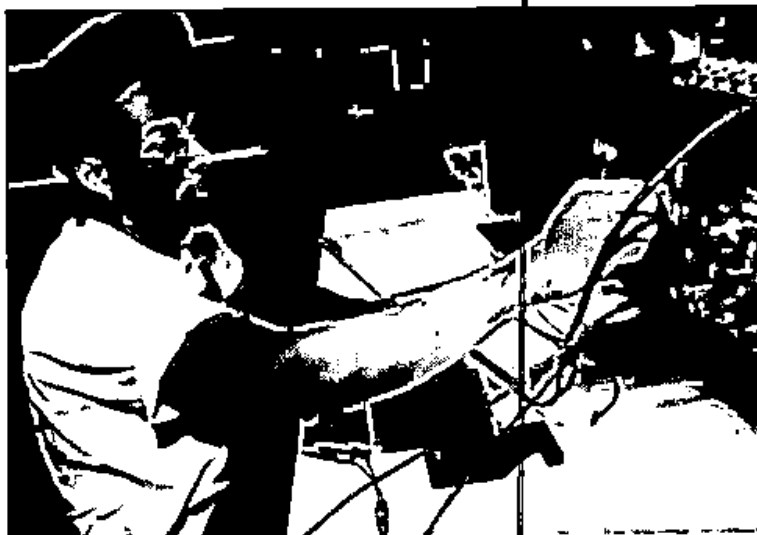
the portion of the repayment to be returned to the applicable Title IV program(s). Title IV programs include Pell Grant, SEOG, SSIG, College Work Study, Stafford Loan, SLS and PLUS. Excluded from this calculation are College Work Study, Stafford Loan, SLS and PLUS.

Repayment Formula:

$$\text{Amount of Repayment} \times \frac{\text{Total Title IV Funds}}{\text{Total Financial Aid}} = \text{Amount to be Returned To Title IV Programs}$$

Distribution Policy: Refunds are credited to the following programs in the following order:

1. Outstanding balances on Part B, D and E loans
2. Federal Pell Grant Program
3. Federal SEOG Program
4. Other Title IV programs
5. Student





ACADEMIC REGULATIONS

Definition of Terms

Academic Year: The academic year is divided into three full terms of 15 or 16 weeks: fall, winter and summer.

Credit Hour: Credit in courses offered by T-VI is awarded in terms of hours of credit. Each hour of credit in a lecture class requires a minimum of 750 minutes of instruction per term; each hour of credit in a laboratory class requires a minimum of 1,500 minutes of instruction per term. For transfer purposes, one T-VI credit hour generally equals one semester credit hour at other institutions.

Course Numbering: Courses numbered 1 through 100 are developmental or preparatory; 101 through 299 are intended for freshman and sophomore-level students.

Classification of Students: The following are standards for the academic classification of students:

- ▲ freshman: A student who has completed fewer than 30 credits at T-VI
- ▲ sophomore: A student who has completed 30 or more credits at T-VI
- ▲ part-time: A student carrying fewer than 12 credit hours per term
- ▲ full-time: A student carrying 12 or more credit hours per term

Identification Cards: Each term a student is enrolled at T-VI, he/she is issued a student identification card. ID cards entitle students to a variety of services and privileges including checking out library books and using the Health Center, as well as student discounts within the community.

Attendance: Students enrolled for credit or audit are expected to attend all class sessions. Instructors will take attendance.

Any student who misses the first three days of a scheduled occupational or Developmental Studies class may be withdrawn automatically. Such changes could affect a student's financial aid, scholarship and/or refunds.

A student with excessive absences (15 percent of total class hours) *may* be dropped from the class. A student withdrawn for attendance reasons may apply to re-enter T-VI the following term.

Absences do not relieve students of the responsibility for missed assignments and exams. Students must take the initiative in arranging with their instructors to make up missed work.

(See the Health Occupations student handbook for specific rules in those majors.)

GRADES

Progress reports (grades) are given at midterm for all full-term courses. These grades are not a part of the student's permanent record. Final grades are mailed to students at the end of each term, recorded on the student's transcript and calculated in both a term grade point average (GPA) and a cumulative GPA.

A student who receives an I (incomplete), NC (no credit), PR (progress), D or F as a final grade may not enroll in any class for which the former is a prerequisite.

GPA is based on the grading system listed below:

<i>Developmental Studies</i>			<i>All Other Courses</i>		
Grade		Grade points per credit hour	Grade		Grade points per credit hour
CR	Credit	(none)	A	91-100	4.0
PR	Progress	(none)	B	81-90	3.0
NC	No Credit	(none)	C	71-80	2.0
			D	61-70	1.0
			F	Failing	(none)
			I	Incomplete	(none)
			CR	Credit	(none)
			NC	No Credit	(none)
			W	Withdrew	(none)
			AU	Audit	(none)
			TR*	Credit	(none)

*Designation of grade given for transfer credit, external examination credit or non-traditional credit (see page 18).

Grade Options

Traditional Grade: Students may choose to enroll in Arts & Sciences and occupational courses for a traditional (letter) grade (A, B,C, D, F). Traditional grades are used in calculating GPAs. Students interested in transferring their T-VI course work to another institution are encouraged to enroll in courses for a traditional grade.

Audit: Students may register in occupational or Arts & Sciences courses for audit if they have met the prerequisite(s) for the course. Students may not enroll in Developmental Studies courses for audit. Courses taken for audit will appear on the student's transcript as AU with no credits recorded and no grades assigned. Courses taken for audit are not included in the student's total course load for enrollment certification. Tuition and fees for audited courses are the same as for credit courses.

Students who enroll for audit are expected to attend all class sessions but have no responsibilities for completing assignments. A student who fails to attend class may be dropped at the instructor's request.

Credit/No Credit: Students may elect to take Arts & Sciences courses for credit/no credit (CR/NC) rather than for a traditional grade. CR/NC is not an option for General Honors or occupational courses. All Developmental Studies courses are graded on a CR/NC basis. A maximum of nine credit hours graded CR/NC will be allowed toward the Arts & Sciences requirements in certificate or associate degree programs.

CR (Credit): Students must meet all minimum requirements for the course. CR is the equivalent of at least the grade of C. Although the student will receive credit for completing the course, a grade of CR will not be computed in the GPA.

NC (No Credit): Students who do not satisfactorily complete minimum course requirements will receive NC. A grade of NC will not be computed in the GPA and the student will not receive credit for the course.

Note: Courses with grades of CR will not be allowed in some business occupations majors (programs). Certain consequences may result from choosing the CR/NC option. Some schools, scholarship committees and honorary societies do not accept this grading system and/or convert grades of CR to C and NC to F. Students planning to transfer to another institution should talk to an advisor at that institution about possible consequences of CR/NC grades.

Incomplete Grade Assignment and Removal: A grade of I (incomplete) is given when circumstances beyond the student's control have prevented completion of the work for a course within the official dates of a term. In no case is an I to be used to avoid a failing grade or to allow extra time to complete work normally expected.

Removal of an I grade can only be accomplished by completing the work in a manner acceptable to the instructor no later than the 10th day of the following term.

An I not made up by the 10th day of the following term will automatically revert to an F or NC on the student's record and cannot be changed by work completion or course repeat.

Repeating Courses: A student may choose to repeat a course for a better grade. Each course enrollment and all grades will appear on the student's transcript, but only the higher grade will be used to calculate the GPA. If a course is taken once for a

traditional grade and once for CR/NC, the traditional grade will be used in calculating the student's GPA. This policy applies only to courses with identical course abbreviations and course numbers and does not affect any courses taken prior to Fall 1991.

Note: Certain forms of financial aid will not provide assistance to students who repeat courses previously completed successfully. Compliance with such regulations is the student's responsibility.

Grade Appeals: Students may formally appeal only final grades of NC or F. Appeal forms are available in department offices. The following steps must be followed:

Step 1: Appeal must be made to the instructor in writing specifying the student's reasons or substantiation for the requested grade change. The appeal must be made by the end of the first week of classes in the following term. If the matter is not satisfactorily resolved at this level, the student may appeal to the department dean.

Step 2: Appeal to the department dean must be made in writing by the student within five days of the instructor appeal conference. The dean will appoint a board (two faculty members and one student) to hear the appeal within one week. The written decision of the board is final.

Academic Standards

Honor Roll: The Vice President's Honor Roll is compiled each term, listing students whose cumulative GPA is 3.6 to 4.0 and who have completed 16 or more credit hours in courses with traditional grades.

Probation: A student whose cumulative GPA (based on at least 16 credit hours attempted at T-VI) falls below 1.75 in a given term will be placed on probation effective with the following term of enrollment. Students are continued on probation if they withdraw from T-VI while on probation. Notification of academic probation appears on the student's grade report at the end of each grading period.

Suspension: After two consecutive terms of probation a student will be suspended from T-VI when both the term and cumulative GPA are below 1.75. The duration of the initial suspension is one term; for subsequent suspensions, one year. Notification of academic suspension appears on the student's grade report at the end of each grading period and in a notification letter sent to the student.

If a suspended student has preregistered for the next term, his/her schedule will be deleted and a refund of all fees and tuition will be authorized. A suspended student may be eligible to enroll in Developmental Studies courses during the student's initial suspension period.

Graduation

T-VI conducts one graduation ceremony each year following the completion of the winter term. A student graduates in the term in which all graduation requirements are completed even if there is no graduation ceremony scheduled that term.

General Requirements: To be eligible to receive a degree or certificate, students must meet the following requirements as well as those listed under the specific major (program) they wish to pursue:

- ▲ an overall cumulative GPA of 2.0 or better and completion of all program and course requirements;
- ▲ completion of the last term of course work in residence at T-VI;
- ▲ completion of a minimum of 60 credit hours with a minimum of 15 credit hours in residence after a degree becomes available;
- ▲ enrollment in the major in which the student plans to graduate (see page 23 for information on adding, changing and declaring majors); and
- ▲ completion and submission of an Application for Graduation.

A maximum of nine credit hours of CR may be counted toward certificates or degrees in majors which allow the CR/NC option. Students in degree or certificate programs must complete an Application for Graduation form by the 10th day of the term in which all graduation requirements will be completed. Application forms are available in the department counseling offices and must be returned there. Students requesting a certificate or degree in more than one major must submit an application for each major to the appropriate department counseling office. No application will be processed after the 10th week of the term.

Students who do not submit an application by the 10th day deadline must pay a \$20 late graduation fee before submitting their application.

All debts to T-VI must be paid in full before graduation.

Graduation with Honors: Students earning cumulative GPAs of 4.0 graduate with highest honors. Students with cumulative GPAs of 3.6 to 3.9 graduate with honors. Degrees and certificates note these awards.

Choice of Catalog: The application form for a degree or certificate requires a student to specify the catalog year listing degree or certificate requirements. Students may choose to graduate under the catalog that was in effect when they officially entered the specific major or any subsequent catalog, provided the selected catalog is not more than five years old when the degree or certificate requirements are completed and the student has been in continuous enrollment. Those whose enrollment is discontinuous graduate under the catalog that is current upon their return.

Continuous Enrollment: In order to maintain continuous enrollment for graduation purposes, a student's transcript must show enrollment in each successive term. (Full-term, first-half and second-half term courses dropped on or before the 15th day of the term or session (including Saturdays) do not appear on the student's T-VI transcript. If an interruption in enrollment of one or more terms (excluding summers) occurs, graduation requirements applicable at the time of re-enrollment will apply.

Student Academic Records

Official academic records are maintained by the Records Office. These records include the admissions application, high school and/or college transcripts, grades and academic standing.

T-VI's policy for maintaining confidentiality of student academic records is in accordance with the Family Educational Rights and Privacy Act of 1974 (P.L. 93-380, 512). Copies of the Rights and Privacy Act are available for examination in the Records Office at the Main Campus and the Admissions Office at the Montoya and Rio Rancho/Intel campuses.

Access to Student Academic Records: All currently enrolled and former students may have access to their academic records. Other individuals and agencies who may have access to students' records include:

- ▲ T-VI faculty and staff performing job responsibilities related to academic and educational programs;
- ▲ scholarship, third-party funding sources and other financial aid organizations supporting the student;
- ▲ federal, state and local officials who by law must receive information from T-VI;
- ▲ organizations carrying out any accrediting program recognized by T-VI;
- ▲ employers and officials of other educational institutions;
- ▲ any party designated by judicial order or subpoena, provided T-VI notifies the student of the subpoena; and
- ▲ any person with the written consent of the student or the parent or legal guardian of students under 18.

Public Directory Information: T-VI has defined public directory information as: a student's name, major field of study, classification, dates of attendance, and honors and degrees/certificates awarded. This information is available to the public and will be released unless an annual written request to withhold the information is on file in the Records Office. Request forms may be obtained at the Records Office at the Main Campus or the Admissions Office at the Montoya and Rio Rancho/Intel campuses and must be submitted by the 10th day of the term in order to be honored that term.

Challenge of Contents: Students have the right to challenge the content of their record if they feel the information is misleading or inaccurate. However, the fairness of a grade may not be challenged under this provision. Any dispute over the contents of the record will be handled through informal discussions between the student and Records Office manager or registrar. If such informal meetings are not satisfactory, the student has the right to a formal hearing before an appeals committee.

Release of Transcripts: To request T-VI transcripts, students must contact the Records Office on the Main Campus or the Admissions Office at the Montoya and Rio Rancho/Intel campuses. Transcripts are free of charge. No transcript is issued until all institutional obligations are paid.

Change of Name: Name changes will be processed only for currently enrolled students. Students must bring appropriate documentation (at least two types of identification showing the new name) to the Records office on the Main Campus or the Admissions Office at the Montoya and Rio Rancho/Intel campuses. Examples of such documentation are: marriage certificate, birth certificate, driver's license, original social security card or court order for legal name change.

Change of Address: The student is expected to keep T-VI informed of his or her current address. Any change of address should be reported immediately to the Records Office on the Main Campus or the Admissions Office at the Montoya and Rio Rancho/Intel campuses.





STUDENT SERVICES

T-VI provides a wide range of academic and other support services to help students meet their educational goals. Additional information about these services is in the T-VI Student Handbook, which is available in both campus bookstores, and from the campus deans.

Counseling and Other Support Services

Professional counselors in the admissions areas and individual departments provide comprehensive support services to enhance students' educational experience at T-VI. The counseling staff also works with other T-VI departments to assist students. Among the services provided are:

- ▲ educational advisement to applicants and students
- ▲ individual counseling
- ▲ career exploration including aptitude, interest and personality assessment
- ▲ crisis intervention and referral

Special Services

The Special Services staff works to meet the needs of students from a variety of backgrounds. Included among those who may need special assistance are students with physical or mental disabilities, those who are educationally or economically disadvantaged, displaced homemakers, single parents and others.

T-VI services to these students include career counseling, individual program planning, vocational assessment, ancillary services, coordination with community support agencies and individualized instruction. For students enrolled in developmen-

tal, certificate and associate degree courses, limited curriculum adjustments can be made to accommodate disabling conditions. Follow-up services such as counseling, tutoring and job-seeking help are also provided.

Referral to Special Services can be arranged through the student's department counselor or advisor, a support agency, an admissions counselor or advisor or directly by the student.

Health Care

The Health Center, located in Room 126 of the A Building on Main Campus, offers basic primary care services, including physical examinations, care for acute conditions and various laboratory tests. Most services are free except for complete physical exams, fitness assessments and Hepatitis B immunizations. On a limited basis, counseling is provided for mental health concerns.

First aid and emergency care also are provided through the Health Center. If it is necessary to transport an ill or injured student to a medical facility, the student is responsible for transportation costs.

T-VI is not responsible for property loss or damage or for personal injuries. Students are encouraged to purchase health and property insurance. Details about private-provider health insurance are available from the Student Activities Office at Main Campus.

Academic Support Services

These services are available free to all students and, in most cases, to the public. Libraries and other facilities are generally open weekdays and, when classes are in session, evenings and Saturdays.

Libraries: The libraries at both T-VI campuses offer books, maps, pamphlets, newspapers, magazines, encyclopedias and dictionaries, as well as computerized information retrieval systems. Special collections are maintained in all T-VI occupational subjects. Services include help in locating materials, instruction in using a library, study facilities, interlibrary loans, magazine back issues and coin-operated copying machines.

The Main Campus Library is on the fourth floor of Jeannette Stromberg Hall; the Montoya Campus Library is in J Building.

Tutorial/Learning Centers: These open-entry labs provide individualized assistance, videotaped lectures and other media, and self-paced learning materials. Tutors hold scheduled sessions on preparatory, liberal arts and vocational subjects in the centers, and lists of other tutors are maintained. The centers are open to the public, offering self-paced computer literacy, academic skills improvement and test preparation.

The Main Campus T/LC is adjacent to the library in Stromberg Hall. At Montoya, the T/LC is in H136.

Adult Learning Laboratories: Individualized instruction and independent study in reading, math, language arts, English as a second language, GED and Spanish GED are offered at these drop-in labs. Although special assistance is available for students who speak English as a second language and for those preparing to take the GED exam, the labs are open to all T-VI students.

The Main Campus lab is in BV20A, at 901 Buena Vista SE. The Montoya lab is northeast of the J Building. (Also see Adult Education page 292.)

(Also see Business Occupations Learning Centers, page 90.)

Instructional Media Resources (Audiovisual Services): This office maintains T-VI's film and videotape collections and all AV equipment. Materials are available for classroom and individual viewing.

Instruction in the operation of AV equipment is available to students and staff. Other services include educational film location, preview arrangements and assistance in the design, preparation and application of audiovisual materials.

The Main Campus office is on the third floor of Jeannette Stromberg Hall; a satellite office is in Max Salazar Hall. At Montoya, it is in K Building.

Testing Services

T-VI's Testing Centers, in Stromberg Hall at Main Campus and Wiley Hall at Montoya, offer a variety of tests, most free of charge. Study guides for most exams are available in the Admissions offices. Testing accommodations for individuals with disabilities are available upon request; documentation and prior notice are required.

Among the examinations administered at T-VI are:

ASSET Exam: This exam is required for T-VI applicants who do not have a high school diploma or GED. T-VI is required by federal law to administer the exam under the ability-to-benefit guidelines. The exam contains sections on English, reading and math. No fee is required.

Career Advisement Tests: Aptitude, personality and interest tests are available to assist applicants and students in choosing a program of study. A current registration fee must be on file before the exams will be given.

Certificate Program Advisement Tests: Basic math and vocabulary tests are administered to applicants to determine, with the help of a counselor, program and course placement. No fee is required.

English and Reading Tests: The English placement exam is a short exam administered to students enrolling in English courses. A short reading test is also available for meeting course prerequisites and placement into preparatory reading courses. No fee is required.

Algebra and Trigonometry Placement Tests: The algebra placement test must be taken by all students who want placement in MATH 120 or above but have not taken the prerequisite course. Students wanting to enroll in MATH 162—Calculus I, must take both the algebra and trigonometry placement tests. No fee is required.

Nursing Basic Math Test: This exam is required of all applicants to the associate degree in nursing, medical laboratory technician and practical nurse programs. Referrals to take the exam must be obtained from the Health Occupations counseling office. The exam is not timed and no fee is required.

Spanish Placement Exam: This exam is intended for students wishing to enroll in SPAN 101 or above. No fee is required.

ACT, SAT and CLEP: The American College Test assessment tests for placement are no longer offered at T-VI. Students wishing to take the tests must register for a national test date; information and registration packets are available in the Testing Centers. T-VI accepts ACT scores from all students for placement in certain courses. T-VI also honors SAT and CLEP scores but does not administer these exams; for further information contact the Testing Centers. (Also see page 18.)

GED Exam

Anyone at least 17 years old who is not enrolled in high school may take the General Educational Development (GED) exam at T-VI for a high school equivalency certificate. The exam contains sections on writing, reading, science, social studies and math. No fee is required.

A 17-year-old may take the exam only if released from the state compulsory school attendance law and granted a GED Underage Permission Form. No currently enrolled high school student, and no one 16 years old or younger, may take the exam. A Spanish-language GED is offered, and special testing is available for disabled students.

Interested persons may pre-test to determine readiness for the five-part exam. Those who want or need more study before taking the test may enroll in free GED preparatory classes, offered day and evening at both campuses and other locations in the Albuquerque area. For information on the classes, see page 289.

Re-Testing and Time Limits

Placement exams can only be taken twice within one year. The GED can be taken only three times in one year. Career tests are not limited. Re-testing is not available for the NURS 110 challenge exam or the nursing mobility profile.

Students wishing to repeat an exam may do so after a waiting period has elapsed. A 10 calendar day waiting period applies to all exams except the GED, which is 60 days. There is no waiting period for career advisement or aptitude exams. Students are advised to brush up at the Tutorial/Learning Centers (see page 48), prior to re-testing.

Most test scores are good for one year from test date. ACT, SAT and GED scores used for course placement have a five-year limit.

Appeal Process: Questions and other matters related to testing and placement procedures should be addressed to the Director of Assessment Programs at Main Campus.

T-VI's Testing Centers endorse the Code of Fair Testing Practices in Education.

Job Placement

The Student Job Placement Services office and the instructional staff provide job-seeking assistance to T-VI students and graduates.

Student Job Placement provides referral cards for jobs listed by employers who want to hire T-VI students and graduates. The job listings are posted in labs and on bulletin boards and at the SJPS offices at both campuses. The Main Campus office is at 616 Buena Vista SE, and the Montoya Campus liaison office is in Room H-128. Job openings also are available on the SJPS job hotline, 843-9696.

Other services available to students and graduates include assistance in preparing resumés and use of reference materials, including industry directories, out-of-state phone books and government listings. In addition, students who are candidates for graduation with passing grades at midterm may register for resumé typing services and on-campus interviews.

(Also see internship and cooperative education courses in Business Occupations, Technologies and Trades & Service Occupations.)

Campus Life

Student Activities: T-VI students have the opportunity to participate in student government and numerous organizations, including sports clubs and campus chapters of professional societies. Information is available from the Student Activities Office in the A Building on the Main Campus.

Bookstores: The T-VI Bookstores sell all textbooks required for purchase by T-VI students. The stores also sell a full range of school and office supplies and miscellaneous items such as dictionaries, backpacks, sportswear, computer software and accessories and novelties. The Main Campus store is in the A Building; the Montoya Campus store is in Tom Wiley Hall.

Due to state tax law, the T-VI Bookstores are not open to the general public. Students may be asked to show their identification.

Parking: Student parking lots are provided free at both T-VI campuses. Handicapped parking spaces are designated, and there are areas for motorcycles and bicycles. The lots are unsecured, and T-VI is not liable for theft, vandalism or other losses.

A parking permit sticker is required in T-VI lots. Stickers are available free in the NT Building on Main Campus and in Tom Wiley Hall at the Montoya Campus. Violation of parking regulations may result in disciplinary action.

Bus Passes: Economical passes for post-secondary students are available for Suntran city buses. Students may purchase a regular bus pass for unlimited rides during one calendar month from the Cashier's Office at either Main or Montoya campus. Term bus passes are also available at a discounted price.

Students attending at least half time (six credit hours) with a 2.0 grade point average or higher may purchase a discounted bus pass at the Cashier's Office.

Shuttle Bus: A free shuttle bus makes regular trips between the Main and Montoya campuses while classes are in session. Schedules are available in the Admissions offices.

Campus Conduct

Substance Abuse: Abuse of alcohol and drugs impairs work and academic performance, poses a threat to the health and safety of the T-VI community and undermines the learning environment. T-VI is committed not only to maintaining a drug-free campus but also to helping students and staff solve drug- and alcohol-related problems. The unlawful manufacture, distribution, dispensing, possession or use of controlled substances or alcohol on T-VI property or as part of any of its activities by any member of the T-VI community is strictly prohibited.

As a condition of continued registration and enrollment, all students shall abide by this policy. Violation of this policy shall result in disciplinary action, up to and including expulsion.

Disruptive Behavior: Unsafe or disruptive behavior anywhere on campus property is grounds for suspension or dismissal from T-VI. This policy applies to any field trip taken under the supervision of a T-VI employee.

Smoking: In accordance with Albuquerque City Council ordinances and T-VI Governing Board policy, smoking is prohibited in all T-VI buildings.

Plagiarism and Cheating: A student guilty of plagiarism and/or cheating will receive a grade of F or U in the course involved. A pattern of cheating will result in suspension.

Computer Crime: Under the state Computer Crimes Act, a person who intentionally and without authorization accesses, alters, damages, copies or destroys any computer system or data stored within is subject to criminal prosecution on charges ranging from misdemeanor to third-degree felony. Such conduct also will lead to suspension or dismissal.

Dangerous Substances: Carrying, possessing or storing dangerous substances or materials on campus is prohibited.

Weapons and Firearms: Carrying, possessing or storing weapons and firearms on campus is prohibited. Exceptions to this policy are law enforcement officers authorized by state law to carry firearms and students participating in law enforcement instruction requiring the use of firearms who are under the supervision of a certified law enforcement instructor.

Food and Beverages: Drinking and eating are prohibited in all classrooms, labs and libraries.

Animals: Animals except those assisting sensory-impaired persons are not allowed in T-VI buildings.

Children: Students are not permitted to bring children to classroom or laboratory settings. Children left unattended on campus will be brought to the attention of the appropriate law enforcement agency.

Misrepresentation: Non-disclosure or misrepresentation in filling out applications or other educational records will make a student liable for disciplinary action, including possible dismissal from the Institute.

(Other campus conduct policies are covered in the Student Handbook.)







DEVELOPMENTAL STUDIES

Main, Montoya, Rio Rancho/Intel
and University of New Mexico Campuses

The Department of Developmental Studies (DDS) offers day and evening courses at the T-VI Main, Montoya and Rio Rancho/Intel campuses and at the University of New Mexico. Students are placed in courses that best meet their needs, interests and abilities. Students' scores on advisement tests help determine appropriate course placement.

Developmental Studies courses help students meet admission requirements for T-VI's certificate and associate degree programs and for transfer to other degree-granting institutions. Some courses help students acquire skills needed in the first term of occupational programs leading to a certificate. Students also may take the courses to strengthen basic skills while they are enrolled in certificate and associate degree programs.

Courses taken in DDS are graded credit (CR), progress (PR) and no credit (NC); the PR grade is not an option at UNM. Courses may not be audited. Courses are not credited toward a certificate or degree program at T-VI nor do they transfer to other degree-granting institutions. However, grades are recorded on students' permanent records and may serve to fulfill prerequisites for required courses for a certificate.

Students who wish to enroll in DDS courses and receive financial aid as full-time students must enroll for at least 12 credit hours. Students should ask financial aid advisors whether their intended program in the DDS qualifies them for financial assistance.

DDS students must buy some books and may check out others from the department bookroom for the length of the term. Failure to return checked-out books will result in holds on the student's registration and records.

The Department of Developmental Studies offers courses in the following:

- ▲ English, Math, Reading, Science
- ▲ Occupational Communications
- ▲ Occupational Survey
- ▲ Skill Improvement/Mini Courses

Course Descriptions

English

ENG 095—Spelling (3 cr)

Methods to improve spelling are provided. Word structures and rules governing spelling are reviewed, discussed and tested. This course may be taken concurrently with any other English courses.

ENG 096—Introduction to Standard American English (5 cr)

Small-group instruction is provided to students deficient in basic communication skills. The course provides strategies to improve comprehension of oral and written instructions and commonplace reading; it also covers correct English usage.

ENG 097—Language Development (5 cr)

More advanced than ENG 096, this course introduces the grammar of standard American English and provides practice in identifying the parts of speech, appropriate sentence constructions and some fundamental rules of punctuation.

ENG 098—Advanced Language Development (3 cr)

This course is designed to improve writing skills that prepare students for ENG 099. Students keep a journal, read and respond to short articles, review grammar rules and demonstrate their knowledge in short exercises.

ENG 099—Writing Standard English I (3 cr)

(Prerequisite: ENG 098 or equivalent skills as demonstrated by exam) This course presents the grammar, punctuation and usage of standard American English. Students write short narratives and descriptions, as well as a variety of forms used in daily life and the work place, such as application letters, complaint letters and summaries.

ENG 099A—Writing Standard English I: For students with limited experience writing standard American English (3 cr)

(Prerequisite: ENG 098 or equivalent skills as demonstrated by exam; corequisite: RDG 099) This course is for students for whom standard American English is a second language or dialect. Equivalent to ENG 099, this course focuses on recognizing and editing the grammatical errors made by non-native speakers.

ENG 100—Writing Standard English II (3 cr)

(Prerequisite: ENG 099, ENG 099A or equivalent as demonstrated by exam) This course reviews the conventions of standard American English by writing well-devel-

oped paragraphs within short essays. Students are introduced to a variety of strategies for organizing essays. Satisfactory completion of ENG 100 meets the prerequisite for ENG 101.

ENG 100A—Writing Standard English II: For students with limited experience writing standard American English (3 cr)

(Prerequisite: ENG 099, ENG 099A or equivalent skills as demonstrated by exam; corequisite: RDG 100) This course is for students for whom standard American English is a second language or a dialect. It is equivalent to ENG 100. Students learn to recognize and edit the grammatical errors made by non-native speakers.

ENG 100G—Fundamentals of Grammar (1 cr)

Beginning after week four, this eight-week mini course provides an intense review of English grammar. It is particularly for students concurrently enrolled in ENG 100 who are struggling to fulfill the grammar requirements, although others are welcome. Satisfactory completion of this course does not fulfill the prerequisite for ENG 101.

Mathematics

MATH 097—Introductory Mathematics (6 cr)

This course provides small-group instruction in basic mathematics: whole numbers, fractions, decimals, percents and ratio and proportion. The student is placed in an individualized program with an instructor. Students who make sufficient progress may be transitioned to MATH 099.

MATH 099H—Basic Math for Health Occupations (3 cr)

This course prepares students for the Health Occupations math entrance exam and nursing dosage calculations course. Topics include basic arithmetic, the metric system and other measurement systems.

MATH 099—Basic College Mathematics (4 cr)

This course, offered in both individualized and lecture formats, is for students entering programs in Business Occupations, Technologies and Trades & Service Occupations or preparing for MATH 100. Topics include basic mathematics, geometric concepts and measurement. Satisfactory completion of MATH 099 meets the prerequisite for MATH 100.

MATH 100—Elementary Algebra for College Students (4 cr)

(Prerequisite: MATH 099 or equivalent skills as demonstrated by exam) This course, offered in both individualized and lecture formats, is for students who are not prepared to enter MATH 120. Topics include linear equations, polynomials, factoring, formulas, graphing and application problems. Satisfactory completion of MATH 100 meets the prerequisite for MATH 120.

Reading

RDG 099—Reading Improvement (3 cr)

(Prerequisite: ENG 098 or equivalent skills as demonstrated by exam) This course builds basic reading skills based on reading as a thinking process. Students draw on their experiences to comprehend what they read and apply what they read to their vocational and academic experiences.

RDG 100—College Preparatory Reading (3 cr)

(Prerequisite: RDG 099 or equivalent skills as demonstrated by exam) This course focuses on building critical reading skills essential for success in college and in the workplace. Readings are in social science, science and humanities.

Science

SCIE 100—Introduction to Science (3 cr)

(Recommended prerequisites: RDG 099 and MATH 099 or equivalent skills) This course is recommended for students who have no science background and who are entering a degree program. Within the contexts of problem solving and cooperative projects, measurement, fundamentals of chemistry, graphing and tables, basic data analysis and research methods are presented.

Occupational Communications Courses

The communications courses listed below promote students' success in their major by improving reading, writing and study skills. This is accomplished by studying appropriate terminology and concepts as well as reading and interpreting occupational literature. These courses may not be eligible for support by the Veterans Administration.

CMBO 100—Communications for Business Occupations (3 cr)

A review of study, research and grammar skills is offered in this course. It develops business vocabulary and promotes letter writing, interpersonal communication, problem solving and employability skills.

CMHO 100—Communications for Health Occupations (3 cr)

This course emphasizes reading, interpreting and summarizing health articles. Health terminology is introduced through vocabulary study and health literature. Public speaking and study skills are also covered.

CMTT 100—Communications for Technologies and Trades (3 cr)

This course is an introduction to problem solving and analyzing various occupational subjects. By utilizing technology- and trades-related information, students practice critical reading, technical writing, computer applications, research and study skills.

Occupational Survey Courses

Courses listed below provide a survey of majors in Business Occupations, Health Occupations or Technologies as indicated by the course title. Students are introduced to the majors which they have selected with regard to job availability, job expectations and methods, materials and operations of each field. These courses may not be eligible for support by the Veterans Administration.

ACCT 100—Introduction to Accounting (3 cr)

This course is designed to provide students with knowledge of the basic accounting cycle. Additional topics such as payroll and taxes are covered as time permits. This class prepares students for entry-level accounting-related courses.

AA 100—Introduction to Typing (3 cr)

This course is for students who wish to learn how to type or use a keyboard effectively. Students in Business Occupations who have difficulty typing are encouraged to enroll. The course is also recommended for students preparing for business computer programming technology and other majors requiring keyboard skills. Upon successful completion, students will type a minimum of 25 words per minute.

HLTH 100—Introduction to Health Occupations (3 cr)

This course offers an introduction to various health careers through class discussions, tours and speakers. It also introduces students to anatomy and physiology of selected body systems. Diseases and treatments are discussed.

CP 100—Introduction to Computer Programming (3 cr)

This course provides preparation for the first term in business computer programming technology. Course objectives include programming in BASIC and COBOL, flow-charting and data processing concepts. Satisfactory completion of this course indicates that the student is prepared to enter CP 101 and CP 102.

ELEC 100—Introduction to Electronics (3 cr)

This course includes intensive study of introductory concepts of electronics theory including the atom, Ohm's Law, Kirchoff's Law, DC and AC circuit principles, and the thinking skills and techniques which are required for further study in electronics. Also included are concepts in magnetism, inductance and capacitance. Satisfactory completion of ELEC 100 indicates that students are prepared to enter ELEC 103L.

DRFT 100—Introduction to Drafting (3 cr)

This course involves study of introductory concepts of drafting, including line weights, orthographic projection, pictorials and basic drafting skills as applied to major areas. Free-hand and computerized sketching, geometric constructions, lettering, occupational information and the use of math in drafting are also included. This course helps to prepare students for entry into architectural/engineering drafting and design drafting courses.

Skill Improvement/Mini Courses

A variety of student needs are met by these 7½-week courses. These courses are not eligible for support by the Veterans Administration.

SSKL 092—Introduction to the Scientific Calculator (2 cr)

Designed primarily for students enrolled in or preparing for Technologies or Trades, the course includes algebraic operating method, reverse operating logic, introduction to programming, hexadecimal/decimal conversions, trigonometric functions and coordinate systems, logarithms, multiple memory problems and applications for mathematics, as well as physics, electronics and mechanics. Strong basic math skills are required.

SSKL 094—Reducing Math Anxiety (1 cr)

This course offers students a chance to gain an understanding of math anxiety and modify related behaviors through the use of group discussion, journal entries and math study skills. This course is designed for math anxiety, not test anxiety.

SSKL 095—Study Skills (1 cr)

Students identify and apply a variety of study skills by completing an inventory and implementing time management strategies. Methods are presented for taking effective notes, using memory techniques, approaching test preparation and test taking, and setting realistic goals.





ARTS & SCIENCES

Arts & Sciences provides liberal arts courses to support degree and certificate programs and offers the associate in arts degree. All courses are transferable as freshman and sophomore electives or requirements to other degree-granting institutions.

All courses in Arts & Sciences have tuition charges. In addition, science courses have lab fees and some mathematics courses have equipment fees. (See page 27.) Some courses carry prerequisites or corequisites which are mandatory. Some descriptions list courses which it is recommended be taken prior to enrollment, but these are not mandatory.

GENERAL HONORS COURSES

General Honors courses, by offering intensive interdisciplinary study, are designed to increase opportunities for liberal arts education. Taught in a small-group format, these courses emphasize discussion, student participation and self-expression.

Enrollment in these courses is by application only; however, any student interested in the challenge these courses offer is encouraged to apply. Academic potential (as reflected in ACT scores), record of previous academic work and intellectual motivation are the main criteria used to select students.

For more information and an application, interested students should see the Arts & Sciences counselor.

LIBERAL ARTS

Associate in Arts Degree Main and Montoya Campuses

This degree is designed to meet diverse educational interests. It provides the general curriculum of the first two years of baccalaureate study for transfer purposes or as an end in itself.

Students majoring in liberal arts are expected to meet prerequisites to enter MATH 120 and ENG 101. It is strongly recommended that applicants at the time of admission to T-VI provide proof of prerequisites for these two courses (or proof of their completion). See the course descriptions for MATH 120 and ENG 101 below for prerequisites.

Fulfillment of the degree requirements listed below and institutional requirements listed on page 44 of this Catalog is required for graduation.

Some disciplines and courses not offered by the Arts & Sciences Department may be accepted in transfer toward the degree requirements. For information about transfer work, students should contact the Arts & Sciences office.

The associate in arts degree in liberal arts includes a general education core curriculum of 33 to 35 semester hours adopted by member institutions of the New Mexico Council of Independent Community Colleges. This core is accepted in common among these institutions as meeting approximately half of an associate in arts degree. Each institution will specify additional graduation requirements beyond those included in the general education core for degree completion.

The colleges participating in this agreement are Albuquerque T-VI, Clovis Community College, New Mexico Junior College, Northern New Mexico Community College, San Juan College and Santa Fe Community College. Students should check with the registrars of the other colleges—such as Luna Vocational-Technical Institute, New Mexico Highlands University, New Mexico Military Institute, Southwestern Indian Polytechnic Institute and Tukumcari Area Vocational School—for updated information about this agreement.

Liberal Arts Degree Program

	<i>Credit Hours</i>
<i>Communications</i>	
English writing courses (must include ENG 102)	6
Communication Studies 221	3
<i>Computer Science</i>	
CSCI 101 or equivalent	3
<i>Social and Behavioral Sciences</i>	
Anthropology	
Economics	
Geography	

Political Science	
Psychology	
Sociology	
No more than 6 credits from any one discipline	9
<i>Biological and Physical Sciences</i>	
Astronomy	
Biology	
Chemistry	
Geology	
Physics	
2–3 courses (must include one lab course)	7–8
<i>Humanities</i>	
General Honors	
History	
Humanities	
Literature (English, foreign or comparative)	
Philosophy	
Religious Studies	
No more than 6 credits from any one discipline	9
<i>Mathematics</i>	
One course numbered above MATH 120	2–3
<i>Fine Arts and Foreign Languages</i>	
(A total of 3 credit hours of applied or studio arts may be used toward the 64 credits for the degree.)	
Any two courses	6
<i>Electives</i>	
Any Arts & Sciences courses (one credit hour of physical education allowed) ..	17–19
Total	64

Course Descriptions

Biological and Physical Sciences

ASTR 101—Introduction to Astronomy I (3 cr)

This descriptive and historical introduction to the science of astronomy focuses on the solar system, including the sun, the planets, comets and meteors. Topics also include the space program and critiques of related pseudosciences, such as astrology. Students will use a minimum of elementary mathematics at the level of MATH 100.

ASTR 102—Introduction to Astronomy II (3 cr)

The life cycles of the stars and stellar systems and the structure of the universe are explored in this descriptive course. Starting with our own star, the sun, students study the births, lives and deaths of stars. The course then moves on to the nature of the Milky Way galaxy and to current concepts on cosmology and the large-scale structure

of the universe. Students will use a minimum of elementary mathematics at the level of MATH 100.

BIO 111—Environmental Science (3 cr)

This course introduces the study of the environment, including basic principles of ecology, relationship of humans to the environment and solutions to local, regional and global environmental problems.

BIO 111L—Environmental Science Lab (1 cr)

An optional laboratory for investigation of the principles discussed in BIO 111, this course includes laboratory analyses of water, soil and air pollutants as well as field trips to sites of special interest. Field trips may be moderately strenuous and may occur outside the regularly scheduled laboratory periods.

BIO 121/121L—Principles of Biology I (4 cr)

(Recommended: Working knowledge of math at the level of MATH 100 and chemistry at the level of CHEM 111) This course introduces the basic principles of biology to students wishing to pursue majors in the sciences. The course stresses cellular level processes which include biological chemistry, cellular metabolism, photosynthesis, control and transmission of hereditary materials, and nucleic acid structure and function. The development of critical thinking skills and scientific methodology is emphasized. Students must enroll in both a three-hour lecture and a three-hour lab.

BIO 122/122L—Principles of Biology II (4 cr)

(Prerequisite: BIO 121/121L) This is a continuation of the concepts developed in BIO 121/121L. The course stresses organism-level processes which include taxonomy, comparative anatomy and physiology of plants and animals with emphases on evolutionary trends, embryology, behavior and ecology. Importance is placed on the development of scientific reasoning with an evolutionary perspective. Students must enroll in both a three-hour lecture section and a three-hour lab.

BIO 123—Biology for Health Sciences (3 cr)

(Recommended: Working knowledge of math at the MATH 100 level and chemistry at the CHEM 111 level) Principles of cell biology, cell chemistry, genetics and organismic biology are studied with an emphasis on human systems.

BIO 124L—Biology for Health Sciences Lab (1 cr)

(Pre- or corequisite: BIO 123) Laboratory exercises and demonstrations related to cell biology, biochemical processes and genetics are conducted.

BIO 136—Human Anatomy and Physiology for Non-Majors (3 cr)

(Recommended: Working knowledge of chemistry at the level of CHEM 111) This one-semester course examines the structure (anatomy) and function (physiology) of the human body. Investigation involves the molecular, cellular, tissue and organ levels and a sequential study of organ systems.

BIO 139L—Human Anatomy and Physiology for Non-Majors Lab (1 cr)

(Pre- or corequisite: BIO 136) Laboratory exercises complement concepts presented in BIO 136. Exercise topics include histological study, biochemical processes, mammal organ dissections and use of models to illustrate anatomical arrangement.

BIO 200/200L—General Ecology (4 cr)

(Prerequisite: BIO 122/122L or BIO 123/124L with permission of instructor) Students are introduced to the interrelationships of organisms to their environments through the study of populations, communities, ecosystems and the biosphere. Students must enroll in both a three-hour lecture section and a three-hour lab. *Summer, fall terms only.*

BIO 221—Introductory Genetics (3 cr)

(Prerequisite: BIO 123/124L, BIO 121/121L or permission of instructor) Emphasis is placed on the structure, function and transmission of hereditary factors. *Offered alternating terms.*

BIO 223L—Introductory Genetics Lab (1 cr)

(Pre- or corequisite: BIO 221) Lab exercises using fruit flies and lower organisms illustrate the principles introduced in BIO 221. *Offered alternating terms.*

BIO 224/224L—Southwestern Natural History (4 cr)

Lecture and labs or field trips (one or more overnight) present the natural history and identification of southwestern flora and fauna. Students must enroll in both a three-hour lecture section and a three-hour lab. *Summer and fall terms only.*

BIO 231L—Applied Environmental Microbiology (4 cr)

(Prerequisite: BIO 121/121L or 123/124L) In combined lecture and lab, students explore basic concepts and methods in microbiology and their applications to problems in hazardous waste management, environmental assessment and remediation.

BIO 237—Human Anatomy and Physiology I (3 cr)

(Prerequisites: BIO 115L taken prior to summer 1993 or a combination of either BIO 123/124L or BIO 121/121L and CHEM 111/112L or CHEM 121/121L) This course is an integrated study of human structure and function that covers the integumentary, skeletal, muscular and nervous systems.

BIO 238—Human Anatomy and Physiology II (3 cr)

(Prerequisite: BIO 237) This course, a continuation of BIO 237, covers the structure and function of the cardiovascular, respiratory, digestive, urinary, reproductive and endocrine systems.

BIO 239—Microbiology (3 cr)

(Prerequisites: BIO 115L taken prior to summer 1993 or a combination of either BIO 123/124L or BIO 121/121L and CHEM 111/112L or Chem 121/121L. Corequisite:

BIO 239L) The concepts of microbiology, host-parasite relationships, infection and immunity are introduced.

BIO 239L—Microbiology Lab (1 cr)

(Prerequisites: BIO 115L taken prior to summer 1993 or a combination of either BIO 123/124L or BIO 121/121L and CHEM 111/112L or CHEM 121/121L. Corequisite: BIO 239) Students learn a variety of techniques designed to facilitate the growth, identification and control of microorganisms.

BIO 247L—Human Anatomy and Physiology I Lab (1 cr)

(Prerequisites: BIO 115L taken prior to summer 1993 or a combination of either BIO 123/124L or BIO 121/121L and CHEM 111/112L or CHEM 121/121L. Pre- or corequisite: BIO 237) This course provides anatomical and physiological laboratory exercises which complement the topics covered in BIO 237. Specimen dissection and cadaver study are included.

BIO 248L—Human Anatomy and Physiology II Lab (1 cr)

(Prerequisites: BIO 115L taken prior to summer 1993 or a combination of either BIO 123/124L or BIO 121/121L and CHEM 111/112L or CHEM 121/121L. Pre- or corequisite: BIO 238) This course provides anatomical and physiological laboratory exercises which complement the topics covered in BIO 238. Specimen dissection and cadaver study are included.

BIO 260/260L—Botany (4 cr)

(Prerequisite: BIO 122/122L) This course introduces students to the diversity of the plant kingdom: Algae, Bryophyta, Pterophyta, Gymnosperms and Angiosperms. Plant morphology, anatomy, sexual and asexual reproduction are covered under each section. Students must enroll in both a three-hour lecture section and a three-hour lab.

BIO 296—Topics in Biology (1–3 cr)

Various topics are offered.

CHEM 101—Concepts of Chemistry (3 cr)

This course is a non-mathematical introduction to chemistry as it applies to the world in which we live. In addition to a qualitative treatment of the chemical and physical properties of matter, topics of special interest are covered.

CHEM 111—Introduction to Chemistry (3 cr)

(Prerequisite: One of the following: Passing MATH 100 or higher, or Math ACT [see page 18 for scores] or satisfactory scores on all four parts of the T-VI Math Advisement Test) In this one-semester introduction for students in the health sciences, both the qualitative and quantitative aspects of general chemistry are covered: atomic and molecular structure, the periodic table, acids and bases, mass relationships, solutions, equilibrium and a brief introduction to organic chemistry.

CHEM 112L—Introduction to Chemistry Lab (1 cr)

(*Pre- or corequisite: CHEM 111*) Meeting for one three-hour period each week, students perform experiments and complete lab reports complementing the material covered in CHEM 111.

CHEM 121/121L—General Chemistry I (4 cr)

(*Prerequisite: MATH 121 or MATH 150*) The first semester of a standard two-semester sequence in general chemistry for students majoring in the sciences, engineering or premed, this course stresses atomic and molecular structure, chemical periodicity, mass and energy relationships in chemical reactions, and the chemical and physical behavior of matter. Problem solving is emphasized. Students must enroll in both a three-hour lecture section and a three-hour lab.

CHEM 122/122L—General Chemistry II (4 cr)

(*Prerequisite: CHEM 121/121L*) Continuing from CHEM 121L, students are given thorough quantitative coverage of acids and bases, chemical equilibrium, chemical kinetics, thermodynamics, solubility, electrochemistry and nuclear chemistry. Introductions to coordination chemistry and organic chemistry as well as a brief survey of the elements are included. Students must enroll in both a three-hour lecture section and a three-hour lab.

CHEM 130L—Environmental Chemistry (3 cr)

(*Prerequisite: CHEM 111/112L*) Introducing students to the fundamentals of environmental chemistry, this course focuses on chemical and instrumental analysis, sampling and preservation techniques in water, wastewater, soil, air and food testing.

CHEM 212—Organic Chemistry and Biochemistry (4 cr)

(*Prerequisite: CHEM 111/112L or CHEM 121/121L*) A one-semester introduction to organic chemistry and biochemistry designed for students in health or environmental occupations, this course surveys organic functional groups in terms of structure and chemical/physical properties, followed by coverage of the chemistry of living organisms. A strong emphasis is placed on medical aspects of the material.

CHEM 296—Topics in Chemistry (1–3 cr)

Various topics are offered.

PHYS 102—Introduction to Physics (3 cr)

This general-interest course for nonscience or science majors introduces the basic concepts and phenomena of physics. In conjunction with practical demonstrations and applications, the course is descriptive. Students will use a minimum of elementary mathematics at the level of MATH 099.

PHYS 151—Physics I (3 cr)

(*Prerequisite: MATH 121, MATH 150 or MATH 180*) *Corequisite: PHYS 153L.*
Recommended: Coenrollment in PHYS 157) Through lectures and demonstrations,

this course is a non-calculus treatment of mechanics, sound and heat. This course satisfies premedical, pre dental, preoptometry and certain Technologies requirements.

PHYS 152—Physics II (3 cr)

(Prerequisite: PHYS 151. Corequisite: PHYS 154L. Recommended: Coenrollment in PHYS 158) Using lecture and demonstration, this non-calculus course presents the areas of electricity, magnetism and optics.

PHYS 153L—Physics I Lab (1 cr)

(Pre- or corequisite: PHYS 151) Real-time experiments give each student a better conceptual framework for understanding mechanics, heat and sound. Computers are used extensively for data collection and analysis.

PHYS 154L—Physics II Lab (1 cr)

(Pre- or corequisite: PHYS 152) This laboratory course features experiments in electricity, magnetism and optics. Computers are used for simulations and some data collection and analysis.

PHYS 157—Problems in Physics I (1 cr)

(Corequisite: PHYS 151) Recitation and problem solving related to PHYS 151 are handled. *Available on an audit basis only.*

PHYS 158—Problems in Physics II (1 cr)

(Corequisite: PHYS 152) Recitation and problem solving related to PHYS 152 are handled. *Available on an audit basis only.*

PHYS 160—General Physics I (4 cr)

(Pre- or corequisite: MATH 162. Recommended: Coenrollment in PHYS 163L and PHYS 167) A calculus-based study of mechanics and sound waves is offered for science and engineering students. Topics and demonstrations include Newton's laws of motion, force, moments, friction, work, energy, power, momentum and mechanical wave properties.

PHYS 161—General Physics II (4 cr)

(Prerequisite: PHYS 160. Pre- or corequisite: MATH 163. Recommended: Coenrollment in PHYS 168) Calculus-based treatment of heat, electricity and magnetism is supplemented by demonstrations.

PHYS 163L—General Physics Lab (1 cr)

(Pre- or corequisite: PHYS 160) Real-time experiments enhance students' conceptual understanding of mechanics and waves. Computers are used extensively for data collection and analysis.

PHYS 167—Problems in General Physics I (1 cr)

(*Corequisite: PHYS 160*) Recitation and problem solving related to PHYS 160 are handled. Available on an audit basis only.

PHYS 168—Problems in General Physics II (1 cr)

(*Corequisite: PHYS 161*) Recitation and problem solving related to PHYS 161 are handled. Available on an audit basis only.

PHYS 262—General Physics III (4 cr)

(*Prerequisite: PHYS 161. Pre- or corequisite: MATH 264*) This course, the third in the calculus-based sequence for science and engineering students, is a study of optics and topics in modern physics.

PHYS 267—Problems in General Physics III (1 cr)

(*Corequisite: PHYS 262*) Recitation and problem solving related to PHYS 262 are handled. Available on an audit basis only.

Communication Studies

COMM 110—Mass Media and Society (3 cr)

This course examines the role newspapers, TV, magazines and radio have in American society and their effects on other forms of communication. The course also introduces the economic and developmental history of mass media.

COMM 130—Public Speaking (3 cr)

This course blends theory and practical application. Students prepare, present and critique speeches of their own and others to meet professional and personal goals.

COMM 221—Interpersonal Communication Studies (3 cr)

Through group activities, discussion and lecture, this course introduces concepts of perception, emotions, nonverbal communication, listening, defensiveness and relational conflict. Students develop awareness of communication styles and skills to enhance their interpersonal effectiveness in professional and personal relationships.

COMM 223—Introduction to Nonverbal Communication Studies (3 cr)

This course introduces students to the world of nonverbal communication through lecture, discussion, small-group activities and observation. To enhance students' communication effectiveness, the course examines how the face and eyes, gestures, touch, voice, physical appearance, space, time and environment operate in personal and professional interactions.

COMM 225—Small-Group Communication Studies (3 cr)

This course teaches theory and skills involved in small-group processes through participation. The course includes attention to group types, characteristics, dynamics, conflicts, norms, roles, leadership, problem solving and decision making.

COMM 232—Business and Professional Communication Studies (3 cr)

This class is a practical introduction to the principles and skills needed to communicate effectively for on-the-job success in business and other professional settings. Emphasis is on developing, organizing and supporting ideas in interpersonal business encounters, groups and meetings, and platform presentations.

COMM 240—Organizational Communication Studies (3 cr)

This course provides for all who work in organizations an introduction to communication and organizational theory. Communication networks, power and authority, manager/employee relationships and leadership are examined.

COMM 270—Communication Studies for Teachers (3 cr)

This course emphasizes a systems approach to classroom communication at any level and provides teachers with a means to analyze, develop and facilitate effective communication in the classroom. The course includes application of theory in relational development, nonverbal communication, small groups, communication barriers and presentations.

COMM 290—Communication Between the Sexes (3 cr)

The focuses of this course are understanding the communication differences that exist between men and women, examining the implications and consequences of these differences and discussing various strategies for change. The course examines verbal and nonverbal differences in business, media, educational and interpersonal contexts.

COMM 291—Intercultural Communication Studies (3 cr)

This course focuses on culture and the differences in communication values and styles, both verbal and nonverbal, between persons from various cultures. Skills for more effective intercultural communication are presented and practiced.

COMM 292—Family Communication Studies (3 cr)

This course presents theories and skills applicable to communication in families. The family-of-origin influence in the development of communication patterns is examined in family systems, themes, images, adaptability, roles, power, intimacy, conflict and other elements of transactions. Skills for improving communication effectiveness and satisfaction are emphasized.

COMM 293—Topics in Communication Studies (1–3 cr)

Various topics are offered.

ENG 101—College Writing (3 cr)

(Prerequisite: One of the following: ACT [see p.18 for scores], ASSET, passing ENG 100 or passing English placement exam) This is a course in text-based essay composition. Assignments include critical reading, summary writing and synthesis.

ENG 102—Analytic and Argumentative Writing (3 cr)

(Prerequisite: ENG 101 or a minimum English ACT score of 25 if taken before November 1989 or 29 if taken after November 1989) This is a course in analytic and argumentative essay writing with readings in exposition and literature. Students prepare and submit research papers on topics of their own choosing. *Students must earn a grade of C or higher on the final exam to pass the course; passing the final does not guarantee that students will pass the course.*

ENG 119—Technical Communications (3 cr)

(Prerequisite: ENG 101 or a minimum English ACT score of 25 if taken before November 1989 or 29 if taken after November 1989) This is an introductory study of the types of written and verbal communication needed in business and industry. Topics include descriptive and process analyses, informal reports and proposals, short logs/reports for lab and field work, basic production of graphics, letter writing and oral presentations.

ENG 212—Topics in Language and Writing (1–3 cr)

(Prerequisite: ENG 101 or permission of instructor) Various topics are offered.

ENG 219—Technical Writing (3 cr)

(Prerequisite: ENG 102) A study of the most common types of writing in industry, research laboratories, business and other professional settings. Instruction includes correspondence and memos, abstracts, proposals, bibliographies and reviews, and various formal and informal reports presented orally and in writing.

ENG 220—Expository Writing (3 cr)

(Prerequisite: ENG 102) This course is a study of advanced composition. It concentrates on critical reading of literary prose and writing expository and argumentative essays. *Fall term only.*

ENG 221—Creative Writing: Fiction (3 cr)

(Prerequisite: ENG 101 or permission of instructor) Student work is supplemented by texts and discussion of writing as a creative process.

ENG 222—Creative Writing: Poetry (3 cr)

(Prerequisite: ENG 101 or permission of instructor) Student poetry is supplemented by texts and discussion of writing as a creative process.

ENG 240—Traditional Grammar (3 cr)

This course is a survey of traditional grammar. Students are introduced to linguistic terminology and methods for identifying and understanding parts of speech, parts of sentences and basic sentence patterns.

Computer Science

CSCI 101—Computer Literacy (4 cr)

This course covers introductory computer hardware and software topics with a mixture of lecture and hands-on instruction. Software topics include word processing, spread sheets, data bases and DOS, among others. Students use popular software, including WordPerfect and Lotus 1-2-3. Students are expected to spend time as necessary in the lab outside of class time. Typing proficiency is useful but not required.

CSCI 155L—Introduction to Computer Programming (4 cr)

(Prerequisite: MATH 121 with a minimum grade of B or MATH 139 or 150) This is an introduction to the skill of computer programming. The main objective is understanding the relationship between programming and problem solving, using programs written in Pascal.

CSCI 163—Intermediate Computing (3 cr)

(Prerequisites: CSCI 101 and MATH 119 or 120) Students are introduced to concepts and applications involving programming, graphing programs and integration of spreadsheet graphs and database data into word processing documents, networks and music.

Fine Arts and Languages

ART 101—Introduction to Art (3 cr)

Students are introduced to the fundamental concepts of visual arts as well as the language of form and media of artistic expression. Instruction centers around readings and slide presentations. Some museum exhibition attendance may be required.

ART 151—Art of the American Southwest (3 cr)

The interrelationships of three southwestern cultures are explored in slides, lectures and field trips, all of which emphasize major forms of expression in pottery, textiles, jewelry, architecture, painting and photography.

ART 201—History of Art I (3 cr)

This course surveys Near Eastern, Egyptian, Greek, Roman, early Christian, Byzantine, early Medieval, Romanesque and Gothic art and architecture. Lectures are supplemented by slides. *Fall, summer terms.*

ART 202—History of Art II (3 cr)

This survey covers Italian and Northern Renaissance, Baroque, Rococo and nineteenth-century Western European painting, sculpture and architecture. Slides and readings supplement lectures. *Winter, summer terms.*

ART 250—Modern Art (3 cr)

Students are introduced to the major figures, movements and stylistic developments in Western art from 1850 to the present. Slides and readings supplement lectures.

ART 260—Architectural History: Ancient through Modern (3 cr)

Lectures and slides survey the history of Western architecture from the pyramid to the post-Modernist house. The technological, stylistic and functional characteristics of monuments within their cultural context will be analyzed.

FREN 101—Elementary French I (4 cr)

Beginning French for students with no previous exposure to the language, this course develops all four language skills with emphasis on listening, comprehension and speaking.

FREN 102—Elementary French II (4 cr)

(Prerequisite: FREN 101 or permission of instructor) This course continues developing the skills introduced in FREN 101.

FREN 103—French Conversation I (1 cr)

(Pre- or corequisite: FREN 101, FREN 102 or permission of instructor) This course offers practice in speaking French for students currently enrolled in and those who have completed FREN 101 or FREN 102.

FREN 201—Intermediate French I (3 cr)

(Prerequisite: FREN 102 or permission of instructor) This course which builds upon FREN 102 is designed to polish acquired skills while broadening the student's knowledge of the language and culture of France.

FREN 202—Intermediate French II (3 cr)

(Prerequisite: French 201 or permission of instructor) This course is a continuation of FREN 201.

FREN 203—French Conversation II (3 cr)

(Pre- or corequisite: FREN 201, FREN 202 or permission of instructor) This course encourages the use, development and strengthening of conversation skills in French.

MUS 103—Fundamentals of Music (3 cr)

A beginning course in the fundamentals of music, this course includes notation, scales, key signatures and intervals. Aural comprehension is introduced through singing intervals, scales and triads and dictating simple rhythmic and melodic patterns.

MUS 139—Music Appreciation I (3 cr)

Through the study of basic musical elements and their development from early Greece to the Classical period, students expand their abilities to listen actively. This course is nontechnical and requires attendance at live musical performances.

MUS 140—Music Appreciation II (3 cr)

Students expand their abilities to listen actively through the study of symphonic music, chamber music and vocal literature from the Romantic period to the twentieth century. The course content is different from MUS 139. Students are required to attend live musical performances.

MUS 296—Topics in Music (1–3 cr)

Various topics are offered.

SPAN 101—Elementary Spanish I (4 cr)

Designed for students with no previous exposure to Spanish, this course develops listening, speaking and grammatical skills.

SPAN 102—Elementary Spanish II (4 cr)

(Prerequisite: SPAN 101 or Spanish placement exam) Students continue to develop listening and grammatical skills. Emphasis is placed on speaking.

SPAN 103—Elementary Spanish I Conversation (3 cr)

(Recommended: one semester of Spanish or previous exposure to the language) This course provides practice in speaking Spanish at the beginning level. It is designed to give students basic conversational skills.

SPAN 201—Intermediate Spanish I (3 cr)

(Prerequisite: SPAN 102 or Spanish placement exam) Students review grammar and expand conversational skills while further developing reading proficiency.

SPAN 202—Intermediate Spanish II (3 cr)

(Prerequisite: SPAN 201 or Spanish placement exam) A continuation of SPAN 201, this course provides more conversational activities and more emphasis on writing skills.

SPAN 203—Intermediate Spanish Conversation (3 cr)

(Pre- or corequisite: SPAN 202 or permission of instructor) This course is designed to increase skills in speaking Spanish for those students who have previously completed or are currently enrolled in SPAN 202.

SPAN 275—Accelerated Beginning Spanish I (3 cr)

(Prerequisite: Spanish placement exam or permission of instructor) This course covers the material of SPAN 101 and 102 in one term. It is recommended for

language enthusiasts or those who have had exposure to Spanish either in the home or from previous study.

SPAN 296—Topics in Spanish (1–3 cr)

(Prerequisites vary) Various topics in Spanish language and literature are offered.

Humanities

ENG 150—Study of Literature (3 cr)

(Prerequisite: ENG 101 or permission of instructor) An introduction to the study and appreciation of literature, this course shows how understanding writers' techniques increases reading enjoyment and relates these techniques to literary conventions. *Fall term only.*

ENG 210—Film as Literature (3 cr)

(Prerequisite: ENG 101 or permission of instructor) Screenings and critical discussion of major films supplement this course's study of film as literature. Students survey major trends in the history of film.

ENG 211—Topics in Literature (1–3 cr)

(Prerequisite: ENG 101 or permission of instructor) Various topics—including the American novel, the short story, quest romances, Native American literature and women's fiction—are offered.

ENG 213—Topics in Film (3 cr)

(Prerequisite: ENG 101 or permission of instructor) This course surveys various film topics, genres or national cinemas.

ENG 251—Introduction to Dramatic Literature (3 cr)

(Prerequisite: ENG 101 or permission of instructor) This course introduces students to the structure and nature of drama as a literary form. Students will read, analyze and discuss Greek, Renaissance, Enlightenment and modern plays. *Winter term only.*

ENG 270—Modern Literature (3 cr)

(Prerequisite: ENG 101 or permission of instructor) American and European literature of the twentieth century is introduced through works by authors such as Ibsen, Chekhov, Joyce, Camus, Conrad, Woolf, Faulkner and Hemingway.

ENG 282—Modern Latin American Literature (3 cr)

(Prerequisite: ENG 101 or permission of instructor) Chronicles, diaries, drama, poetry, essays and fiction of Latin America are surveyed with emphasis on cross-cultural relations between Latin American life and literature.

ENG 294—Survey of Earlier English Literature (3 cr)

(Prerequisite: ENG 101 or permission of instructor) As a survey of British literature from Old English to 1798, this course presents a study of the principal literary and intellectual movements and selected writers and literary works. *Fall term only.*

ENG 295—Survey of Later English Literature (3 cr)

(Prerequisite: ENG 101 or permission of instructor) From the romantic poetry of Burns and Wordsworth to the modernist writings of Hardy, Woolf and Eliot, this course surveys the best of English literature from the late eighteenth century to the present. *Winter term only.*

ENG 296—American Literature (3 cr)

(Prerequisite: ENG 101 or permission of instructor) Students survey literature from colonial to present times. Short stories, poetry, drama and nonfiction are emphasized.

GNHN 121A—General Honors: The Ancient Legacy (3 cr)

(Prerequisite: Permission of instructor; see Arts & Sciences counselor for information and application) A survey of major writers from Homer to Dante, this course will focus on the ideas basic to the intellectual, historic and artistic traditions of Western culture. *Fall term only.*

GNHN 121M—General Honors: The Modern Legacy (3 cr)

(Prerequisite: Permission of the instructor; see Arts & Sciences counselor for information and application) This course focuses on readings from the Renaissance to the end of the nineteenth century. Students will explore concepts such as free will, social contract, humanism, human nature, romanticism, materialism and the limits of reason. *Winter term only.*

GNHN 221—Topics in General Honors (1–3 cr)

Various topics are offered.

HIST 101—Western Civilization I (3 cr)

(Recommended: ENG 101) Events, personalities, issues, rises and falls are the focus of this course which covers ancient times through 1648.

HIST 102—Western Civilization II (3 cr)

(Recommended: ENG 101) This course explores such topics as colonialism, the age of revolutions, expansionism and the Great Wars from 1648 to the present.

HIST 161—History of the United States I (3 cr)

(Recommended: ENG 101) This course is a survey of the economic, political, intellectual and social development of the United States from 1492 to 1877.

HIST 162—History of the United States II (3 cr)

(Recommended: ENG 101) A continuation of HIST 161, this course covers the period from 1865 to the present.

HIST 230—20th Century Russia: Revolution, Repression, and Reform (3 cr)

(Recommended: ENG 101) This course leads students through this turbulent century of Russian history—from czarist absolutism through communist totalitarianism to the tentative introduction of a pluralist society.

HIST 260—History of New Mexico (3 cr)

(Recommended: ENG 101) This course explores New Mexico's history from 1500 to the present. The contributions of and interactions among Native Americans, Hispanics, Anglos and others receive special attention.

HIST 270—The American West (3 cr)

(Recommended: ENG 101) This course explores American settlement west of the Mississippi River through such topics as exploration, the fur trade, the overland trails, ranching, mining, contacts with Native Americans, frontier violence and environmental issues.

HIST 282—Modern Latin American History (3 cr)

(Recommended: ENG 101) This course examines Latin American history from the beginning of the revolutionary period in 1810 to the present.

HIST 296—Topics in History (1–3 cr)

Various topics are offered.

HUM 111—Comparative Civilizations (3 cr)

This course introduces the history, art, literature, religion and ideas of early world civilizations, including Egypt, Mesopotamia, India, China, Greece, Rome, Africa and pre-Columbian America.

HUM 121—Western Culture from the Renaissance (3 cr)

This course examines the history, art, literature, music and ideas of Western culture from the Renaissance to the present.

HUM 247—Topics in Humanities (1–3 cr)

Various interdisciplinary topics are offered.

PHIL 110—Introduction to Philosophical Thought (3 cr)

This is a survey of the philosophical issues addressed by great thinkers of the Western tradition: values, knowledge, reality, society, politics and religion. Some time is given to non-Western philosophies as well.

PHIL 156—Logic and Critical Thinking (3 cr)

This course provides the tools of reason which are helpful in everyday decision making and introduces skills for argument analyses and effective communication of ideas. Informal fallacies and formal deductive systems are surveyed.

PHIL 241—Topics in Philosophy (1–3 cr)

Various topics on a major philosophic issue, system, movement or figure are offered.

PHIL 245B—Business Ethics (3 cr)

Ethical problems in the field of business—such as corporate takeovers, insider trading, conflicts of interest, employer/employee relations and “whistle-blowing”—are examined from widely different ethical perspectives.

PHIL 245M—Biomedical Ethics (3 cr)

Ethical problems in the fields of medicine and bio-research—such as euthanasia, genetic experimentation, informed consent and abortion—are examined from widely different ethical perspectives.

PHIL 245T—Ethics of Technology (3 cr)

Issues dealing with engineering and environmental ethics, morality and bio-research, the technological revolution, the ethics of experimentation, agricultural ethics, “disasters” and moral responsibility, and nuclear energy and waste disposal are examined from widely different ethical perspectives.

PHIL 250—Philosophy of Education (3 cr)

This course provides a critical examination of classical and contemporary educational theories espoused by such philosophers as Plato, Aristotle, Aquinas, Hegel, Rousseau, Marx, Dewey, Skinner and Friere. Movements in education—idealism, realism, Thomism, experimentalism, existentialism and behaviorism—are investigated as well. Students formulate and critique their own philosophies of education.

RLGN 107—Living World Religions (3 cr)

Major living world religions are introduced: Buddhism, Christianity, Hinduism, Islam and Judaism.

RLGN 247—Topics in Religious Studies (1–3 cr)

Various topics are offered.

Mathematics

MATH 111—Mathematics for Elementary and Middle School Teachers I (3 cr)

(Recommended: Familiarity with elementary algebra) Prospective and current teachers of mathematics will be introduced to the intuitive and logical background of arithmetic, properties of sets, algorithms of arithmetic, other bases, properties of the integers, mathematical terminology, elements of number theory and problem solving.

MATH 112—Mathematics for Elementary and Middle School Teachers II (3 cr)

(Prerequisite: MATH 111) Continuing from MATH 111, this course introduces the properties of the rational number system, extension to irrationals, decimal and fractional representation of real numbers, and intuitive geometry and measurement.

MATH 119—Methods of Problem Solving (3 cr)

(Prerequisite: One of the following—ACT [see p. 18 for scores], ASSET, MATH 100 or passing algebra placement exam) Strategies and techniques for solving general problems are developed. This development includes an introduction to sequences and enumeration systems and topics from symbolic logic, number theory, algebra and combinatorics.

MATH 120—Intermediate Algebra (3 cr)

(Prerequisite: One of the following—ACT [see p. 18 for scores], ASSET, MATH 100 or passing algebra placement exam) This course reviews fundamental concepts and operations with real numbers; covers linear equations and inequalities, polynomials, exponents and radicals, rational expressions and equations; and includes graphing of lines.

MATH 120L—Intermediate Algebra (4 cr)

(Prerequisite: ACT [see p. 18 for scores], ASSET, MATH 100, or passing algebra placement exam) The course content is the same as MATH 120; however, three hours of lecture are supplemented by one hour of collaborative learning and directed problem solving. This course meets graduation requirements but may not be repeated for MATH 120.

MATH 121—College Algebra (3 cr)

(Prerequisite: MATH 120 or algebra placement exam or a minimum Math ACT score of 25 if taken before November 1989 or 26 if taken after November 1989) This course focuses on functions and their graphs. Linear, quadratic, polynomial, exponential and logarithmic functions are investigated.

MATH 123—Trigonometry (2 cr)

(Prerequisite: MATH 121 or MATH 150 or permission of instructor or trigonometry placement exam or a minimum Math ACT score of 25 if taken before November 1989 or 26 if taken after November 1989) Trigonometric functions, radian and degree measure, graphs, basic trigonometric identities and inverse trigonometric functions are covered.

MATH 129—The Art of Mathematics (3 cr)

(Prerequisite: MATH 120 or algebra placement exam or a minimum Math ACT score of 25 if taken before November 1989 or 26 if taken after November 1989) Problems, readings and discussion illustrate the creative nature of mathematics and its influence on Western thought. Students may research topics of individual interest.

MATH 139—Introduction to Finite Math (3 cr)

(Prerequisite: MATH 119 or MATH 120) This course is an introduction to finite mathematics. Topics include elementary mathematical logic, set theory, probability theory, vector and matrix theory, statistics and linear programming.

MATH 145—Introduction to Probability and Statistics (3 cr)

(Prerequisite: MATH 119, MATH 120 or algebra placement exam or a minimum Math ACT score of 25 if taken before November 1989 or 26 if taken after November 1989) This course provides an introduction to basic concepts in probability and statistics—analysis of numerical data and descriptive statistics, probability and basic probability models, sampling and statistical inference—with applications from a variety of fields. Some outside computer assignments are required.

MATH 150—Advanced Algebra (4 cr)

(Prerequisite: MATH 121 or algebra placement exam or a minimum Math ACT score of 25 if taken before November 1989 or 26 if taken after November 1989) This course emphasizes polynomial, rational, exponential and logarithmic functions with the aid of graphing calculators and computers. Calculators are provided; no prior computing skills are necessary.

MATH 162—Calculus I (4 cr)

(Prerequisites: MATH 150 or 150C or algebra placement exam and MATH 123 or trigonometry exam; or corequisite: MATH 123) This course is a study of derivatives and integrals. Concepts include formal differentiation and theory of integration, limits, continuity, extrema and curve sketching.

MATH 163—Calculus II (4 cr)

(Prerequisite: MATH 162) This course covers differentiation and integration techniques with applications involving transcendental functions, numerical integration techniques, solving simple differential equations and improper integrals. The course also includes the study of infinite series, including Taylor series.

MATH 180—Elements of Calculus I (3 cr)

(Prerequisite: MATH 121, MATH 150 or 150C or algebra placement exam) Students briefly review functions and their graphs. Limits, derivatives as a rate of change, applications to graphing, maxima, minima, antiderivatives, definite integrals and exponential and logarithmic functions are introduced. Business and biological applications are emphasized.

MATH 181—Elements of Calculus II (3 cr)

(Prerequisite: MATH 180) A continuation of MATH 180, this course covers integration by parts, numerical integration, multivariate calculus and simple differential equations. Additional topics include sequences, series and probability.

MATH 245—Fundamentals of Probability and Statistics (3 cr)

(Prerequisite: MATH 180) This course covers some of the basic ideas in probability and statistics: descriptive statistics, sample spaces, random variables, probability densities, variance, correlation, confidence intervals and hypothesis testing. Applications to business are emphasized.

MATH 245L—Business Statistics Laboratory (1 cr)

(Pre- or corequisite: MATH 245) This course applies probability and statistics topics developed in MATH 245 to management and administrative problems and processes.

MATH 264—Calculus III (4 cr)

(Prerequisite: MATH 163) This continuation of MATH 163 covers vector representation of curves and surfaces, partial derivative, gradient, tangent planes, directional derivative, multiple integrals, cylindrical and spherical coordinates, and applications.

MATH 296—Topics in Mathematics (1–3 cr)

Various topics are offered.

Social and Behavioral Sciences

ANTH 120—Archaeology: Discovering Our Past (3 cr)

This introductory course presents students with an overview of archaeological theory and methods including data from selected archaeological sites in various geographical areas and from different time periods.

ANTH 130—Cultures of the World (3 cr)

This course introduces students to the basic concepts of cultural anthropology. Lectures include a survey of the characteristics of culture illustrated by a variety of existing cultures in their native environments. Societal examples are studied in cross-cultural comparisons.

ANTH 150—Evolutionary Anthropology (3 cr)

An introduction to the world of biological anthropology and the concepts of organic evolution, this course emphasizes the fossil history of primates, the prehistory of man and human genetics within a paleoecological context. Modern primate behavior is presented in terms of its relevance to human evolution.

ANTH 222—Ancient Mesoamerica (3 cr)

Mesoamerican archaeology is traced from the earliest inhabitants through the Aztec period. Special emphasis is placed on cultural processes and the dynamics of cultural evolution.

ANTH 231—North American Indians (3 cr)

This course presents a comparative ethnology of North American Indian tribes on geographic, ecologic and cultural bases. The student will better understand what life

was like as a North American Indian before European influence and will appreciate the vast diversity of cultures existing on the North American continent.

ANTH 238—Cultures of the Southwest (3 cr)

This course introduces basic concepts related to cultural patterns of the American Southwest from AD 1600 to the present. Interactions of the ethnic groups that populate the Southwest are illustrated and analyzed.

ANTH 255—Southwestern Anthropology (3 cr)

(Recommended: ANTH 120 or a familiarity with archaeology) The interpretations and dynamics of southwestern archaeology from the time of the earliest inhabitants until European contact are presented.

ANTH 296—Topics in Anthropology (1–3 cr)

Various topics exploring an issue in anthropology or the works of an influential anthropologist are offered.

ECON 101—Introduction to Economics (3 cr)

Students are introduced to basic economic concepts and developments. Elementary economic theory is used to supplement a materialistic view of recent western history. Topics include the origins of capitalism, transplantation and adaptation to the New World and new institutions of the 1800s and 1900s.

ECON 200—Macroeconomics (3 cr)

This course serves as an introduction to the theories and problems of economic policy. Topics include the contrast of the Classical and Keynesian models, money and banking, inflation, unemployment and economic growth.

ECON 201—Microeconomics (3 cr)

Students are introduced to the laws of demand and supply and the workings of the price system in a free market. Basic economic theory is applied to problems of production, monopoly, taxation, consumer welfare and the environment.

ECON 296—Topics in Economics (1–3 cr)

Various topics concerning economic theory, research or statistical analysis and economists are offered.

GEOG 101—Physical Geography (3 cr)

This course introduces students to the geography of natural environments: weather systems, climatic regions, vegetation, soils, water resources, plate tectonics and volcanic, structural, erosional, fluvial, coastal, desert and glacial landforms.

GEOG 102—Human Geography (3 cr)

Students are introduced to the cultural landscape: population, migration, languages, religions, folk customs, political units, economic development, agriculture, industry, urbanization and systematic analysis of global environmental issues.

GEOG 201—World Regional Geography (3 cr)

This approach to global geography emphasizes regional characteristics, similarities and differences. All regions of the world are studied in terms of their landforms, climates, history, cultures and current economic and political problems.

GEOG 296—Topics in Geography (1-3 cr)

Various topics are offered.

PSCI 110—The Political World (3 cr)

This introduction to politics emphasizes how people can understand their own political systems and those of others.

PSCI 200—U.S. Politics (3 cr)

This course is a survey of American politics, including the theory of democracy and political institutions, governmental branches and their bureaucracies.

PSCI 210—State and Local Politics (3 cr)

Analysis of the workings of politics at the state and local levels is the emphasis of this course. New Mexico is one of many states used as examples.

PSCI 220—Comparative Government and Politics (3 cr)

This course compares the roles of public opinion, electoral systems, political parties, interest groups, governmental institutions and policy performance in European democracies, developing third world nations and communist political systems.

PSCI 240—International Politics (3 cr)

Students analyze various significant factors in international politics, including nationalism, ideology, deterrence, balance of power, international law and international conflict and collaboration.

PSCI 260—Political Ideas (3 cr)

Discussion of classical and contemporary political ideas and ideologies supplements an introduction to many of the enduring political issues which are presented in descriptive, analytical and normative terms. *Fall term only.*

PSCI 296—Topics in Political Science (1-3 cr)

Various topics are offered.

PSY 105—Introduction to Psychology (3 cr)

Students are introduced to psychology as a science: the study of behavior and mental processes. Topics surveyed include personality, abnormal behavior, learning, memory, intelligence, perception, development and social psychology.

PSY 106L—Introduction to Psychology Lab (1 cr)

(Pre- or corequisite: PSY 105) Laboratory projects relevant to topics covered in PSY 105 are conducted and analyzed with the goal of developing an understanding of methodology as applied to basic psychological concepts. Class meets for three hours each week.

PSY 200—Statistical Principles (3 cr)

(Prerequisite: PSY 105) Students are introduced to basic statistical principles for description and interpretation of psychological data. Topics include frequency distributions, graphing, measures of central tendency, variability, regression, correlation, hypothesis testing and analysis of variance. *Fall and winter terms only.*

PSY 220—Developmental Psychology (3 cr)

(Prerequisite: PSY 105) This course is a study of the stages and processes of the development of physical, social, emotional and intellectual aspects of human personality starting from conception and leading to old age. Emphasis is on pertinent research and practical applications.

PSY 230—Psychology of Adjustment (3 cr)

(Prerequisite: PSY 105) Emphasizing processes of normal human adjustment and coping in personal and interpersonal arenas, this course presents topics in the applications of psychology to stress and mood management, self-esteem, social adjustment, communication and relationships.

PSY 231—Human Sexuality (3 cr)

The physiological, cultural, social and individual factors that influence sexual behavior, sex roles and sex identity are explored in this course.

PSY 232—Clinical Psychology (3 cr)

(Prerequisite: PSY 105) This course introduces students to clinical psychology as a profession and area of research. Topics include psychometrics and assessment, systems of prevention and therapy, forensic psychology, program evaluation and professional and ethical issues.

PSY 240—Brain and Behavior (3 cr)

(Prerequisite: PSY 105 or BIO 121/121L) This course surveys the role of the nervous system in the control of behavior and mental processes. *Fall term only.*

PSY 260—Psychology of Learning and Memory (3 cr)

(Prerequisite: PSY 105) This course surveys the variety of laboratory learning situations, emphasizing applications to practical situations and ranging from simple processes such as conditioning to complex ones such as transfer, memory and concept formulation. *Fall term only.*

PSY 265—Cognitive Psychology (3 cr)

(Prerequisite: PSY 105) This course presents theories and research on various mental processes: memory encoding, storage and retrieval and attention, comprehension, categorization, reasoning, problem solving, language and motor skills. *Winter term only.*

PSY 271—Social Psychology (3 cr)

(Prerequisite: PSY 105 or SOC 101) This course presents topics on social interaction: communication, perception of the self and others, attitudes and leadership. *Winter term only.*

PSY 296—Topics in Psychology (1–3 cr)

Various topics on the work of an influential psychologist, a school of psychology or an area in psychology are offered.

PSY 299—Death and Dying (3 cr)

Designed to give students a deeper understanding of the psychological, emotional and sociological aspects of death in American culture, this course uses a variety of learning methods, including lectures, experiential exercises, class projects and guest speakers.

SOC 101—Introduction to Sociology (3 cr)

This course covers the basic concepts and theories of contemporary sociology. Topics include culture, socialization, social groups, deviance, sexuality, race and ethnicity, gender, age, family, medicine and religion.

SOC 111—Criminal Justice System (3 cr)

An overview of the criminal justice processes is provided, including an exploration of law, law enforcement, prosecution, defense, trial and sentencing.

SOC 211—Social Problems (3 cr)

(Prerequisite: SOC 101) This course provides an analysis from a sociological perspective of a range of problems in contemporary U.S. society: racism and prejudice, crime and delinquency, mental disorders, family changes, poverty and substance abuse.

SOC 212—Juvenile Delinquency (3 cr)

(Prerequisite: SOC 101) Topics covered in this course include theories of juvenile delinquency, child abuse, the juvenile justice system, probation, treatment and corrections for juveniles.

SOC 213—Deviant Behavior (3 cr)

(Prerequisite: SOC 101) Students focus on the theories of deviance and examine such behaviors as rape, murder, theft, drug use, alcoholism, prostitution, mental disorders and suicide.

SOC 214—Sociology of Corrections (3 cr)

(Prerequisite: SOC 101) This course covers the theory, practice and legal basis for the investigation, treatment and supervision of offenders in custody and on probation or parole. Included are the history of penology and its relationship to various penal philosophies.

SOC 215—Criminology (3 cr)

(Prerequisite: SOC 101) The causes of crime are covered with emphasis on sociological factors, the various faces of crime, the criminal, and past and present criminology theory.

SOC 216—Ethnic and Minority Groups (3 cr)

(Prerequisite: SOC 101) This course examines the relationships between majority and minority and ethnic groups. Prejudice, discrimination, stereotyping, pluralism and social mobility are explored.

SOC 221—Rich and Poor Nations (3 cr)

(Prerequisite: SOC 101) Topics covered include patterns of development and change in nations/states, relationships between third world and industrial nations, and the impact of class conflict, war, revolution, reform and colonialism on national development.

SOC 225—Sociology of the Family (3 cr)

(Prerequisite: SOC 101) This course addresses major theories of the family and the status of the modern family in an era of varied family forms.

SOC 230—Society and Personality (3 cr)

(Prerequisite: SOC 101 or PSY 105) This course introduces topics in social psychology such as personality theories, concepts of self, human relationships, small group dynamics and organizational theories.

SOC 235—The Sociology of Gender (3 cr)

(Prerequisite: SOC 101 or PSY 105) This course focuses on the nature and content of gender in the U.S. Theoretical viewpoints from the social sciences are applied to issues of socialization, family, culture, media, education, work, politics and econom-

ics. The impact of gender differentiation on personality development and social interaction is also a theme in the course.

SOC 280—Social Science Research (3 cr)

(Prerequisite: SOC 101) The methodology of experimental science is applied to the social sciences in this course. Topics include the study of methodologies of data collection and analysis. Library resources, including legal citations, are used.

SOC 296—Topics in Sociology (3 cr)

Various topics exploring an issue in sociology or the work of an influential sociologist are offered.

General Electives

NUTR 120—Personal and Practical Nutrition (3 cr)

As a practical application of nutrition principles for the non-science major, this course focuses on current issues and nutritional concerns to the consumer. Each topic emphasizes how nutritional needs vary within the stages of the life cycle.

NUTR 125—Nutrition (3 cr)

An introduction to nutrition as it affects normal body functions and total health. Topics include basic nutrition, science concepts, consumer concerns and food selection, metabolic processes, weight control, fitness and review of nutrition in the life cycle. Application of basic math and science principles will be needed. A computerized dietary and activity analysis is a course requirement.

NUTR 293—Topics in Nutrition (1-3 cr)

Various topics are offered.







BUSINESS OCCUPATIONS

T-VI's Business Occupations Department offers students a variety of ways to prepare for and advance in careers in the diverse world of business. In addition to certificate and degree programs, there are college credit courses, professional advancement courses and self-paced learning.

In 1993-94 the Business Occupations Department offers the following certificate/degree programs: Accounting; Administrative Assistant; Business Administration with specialties in merchandising, small business management, real estate, tourism and hospitality, and general business; Court Reporting; and Microcomputer Management Specialist.

One-term programs are Sales and Cashiering (certificate) and Entrepreneurship. Associate degrees in Legal Assistant Studies and Pre-Management are available. Courses required and approved by the New Mexico Real Estate Commission and New Mexico Appraisers Board for pre-licensing and continuing education are offered.

In addition, the Business Occupations Learning Center (BOLC) at each campus offers non-credit, self-paced courses.

Applications are accepted every term for all programs; however, not all programs are offered at all campuses. A student who registers for a Business Occupations program may be required to take English, reading and/or math placement tests. Advanced students may earn credit for on-the-job training through cooperative education and internship courses.

Albuquerque T-VI has a pilot articulation program with several high schools in Albuquerque through which students may earn T-VI credit for some of their high school courses. Students may earn credit that will apply to an associate degree in Accounting, Administrative Assistant or Business Administration.

Credit by examination is available for selected courses. Challenge examinations are administered in the BOLC at each campus for a \$15 fee (see page 19). Counselors and program advisors have detailed information. Challenge exam credit may not be accepted by other post-secondary institutions.

All textbooks and consumable books must be purchased by students enrolled in credit courses and are available in the T-VI Bookstores.

BUSINESS OCCUPATIONS LEARNING CENTERS

Self-Paced, Non-Credit, Open-Entry Courses Main and Montoya Campuses

The BOLCs serve members of the public and T-VI students who want to review or learn a particular subject or skill on a self-paced basis.

Individuals may begin using these centers at any time during a term and stop when requirements have been met. Although college credit is not given for these courses, a certificate is granted upon completion of a course. Instruction is offered on up-to-date equipment including electronic calculators, transcribing machines, microcomputers and audiovisual training aids. Hours are arranged to suit individual needs and as equipment is available.

The Main Campus center is located in Room 210 of Smith Brasher Hall. The Montoya Campus center is in Room H-127. Hours at both centers are 7:30 a.m. to 9 p.m. Monday through Thursday and 7:30 a.m. to 4:30 p.m. on Friday. The Montoya Campus center is open on Saturday from 9 a.m. to 1 p.m.

The fee is \$40 per course.

BOLC Subject/Skill Areas

- Accounting Fundamentals
- Business Mathematics Fundamentals
- Electronic Calculators
- English Review (Grammar, Punctuation, Spelling)
- Filing
- Machine Transcription*
- Medical Terminology
- Medical Transcription*
- Microcomputer Courses*
 - Introduction to Microcomputers
 - Lotus 1-2-3
 - WordPerfect

dBase IV
Proofreading
Shorthand Courses
 Alphabetic Shorthand I
 Gregg Shorthand I
 Gregg Shorthand II*
 Shorthand Review (Century 21, Forkner, ABC and Gregg*)
 Shorthand Speed-Building*
Spelling
Typing Courses
 Keyboarding (computer)
 Keyboard Skill-building*
*See T-VI Catalog or BOLC for prerequisites

Course Descriptions

Accounting Fundamentals

This course gives the student a basic understanding of accounting principles and their application.

Business Mathematics Fundamentals

This course provides a review of the following fundamental arithmetic operations in solving business problems: addition, subtraction, multiplication, division, fractions, decimals, estimating, percentages, business formulas, commissions and bank reconciliation.

Electronic Calculators

Skill is developed on electronic calculators using the touch method. This course is designed to assist students in acquiring competence in mathematical applications.

English Review

Instruction is in grammar, spelling and punctuation.

Filing

This course provides a hands-on approach to learn the fundamentals of filing. Students file a variety of business documents and learn different filing systems for the office.

Machine Transcription

(Prerequisites: demonstrated English proficiency and 50 net words per minute typing skill) Instruction is provided in the use of transcribing machines to prepare mailable business correspondence.

Medical Terminology

This course familiarizes students with medical terminology by means of a text and audio presentation. A vocabulary is developed through the learning of medical prefixes, roots and suffixes. Students also are shown various medical reports to learn formatting and emphasize medical terms.

Medical Transcription

(Prerequisites: machine transcription skill and 50 net words per minute typing skill)

This course develops familiarity with medical terminology and transcription.

Microcomputer Courses

Courses available are Introduction to Microcomputers, Keyboarding, WordPerfect, Lotus 1-2-3 and dBase IV. Computer literacy and a typing speed of 25 wpm are prerequisites for WordPerfect, Lotus and dBase.

Introduction to Microcomputers

This course provides instruction for the first-time user and assumes no previous technical knowledge on the part of the learner.

Lotus 1-2-3

Lotus 1-2-3 is a spreadsheet applications program. It is an integrated package combining spreadsheet graphics and databases.

WordPerfect

This course is an individualized approach to learning WordPerfect 5.1.

dBase IV

This course is an individualized approach to database terminology, program management and applications.

Proofreading

This course is an individualized approach that provides rules, instruction and practice needed to improve proofreading skills.

Shorthand Courses

Alphabetic Shorthand I

This shorthand system uses alphabetic characters. Students learn to read, write and transcribe shorthand notes. A writing speed of 50 wpm should be reached upon completion.

Gregg Shorthand I

All theory and brief forms leading to the ability to read, write and transcribe Gregg shorthand are learned. A writing speed of 50 wpm should be reached upon completion.

Gregg Shorthand II

(Prerequisites: ability to write Gregg shorthand at 50 words per minute and transcribe into mailable form) Theory and brief forms are reviewed with emphasis on dictation and transcription. A writing speed of 80 wpm should be reached upon completion.

Shorthand Review

This course is for students who have typing and shorthand skills but need review and speed-building. Materials are available for Century 21, Forkner, ABC and Gregg.

Shorthand Speed-Building

This course is for individuals who have learned a shorthand theory system and want to concentrate on building dictation speed.

Spelling

This course consists of seven modules. Each modular lesson uses two cassette tapes: one for instruction and one for testing. The student will listen, read, answer questions, work exercises and spell words, and check his or her answers.

Typing Courses

Keyboarding

This course is an individualized approach to developing basic keyboarding and formatting skills. Goals emphasize mastery of the computer keyboard through correct techniques and accuracy. Students will work at their own pace to achieve course objectives.

Keyboard Skill-building

(Prerequisite: BOLC Keyboarding or 30 gross words per minute typing skill)
This course improves accuracy and speed using methodology on the computer.

ACCOUNTING

Associate in Applied Science Degree/
Certificate Program
Main and Montoya Campuses

Accounting is an excellent field for persons looking for a challenging career that has good potential for advancement.

Students in this program may earn a certificate and/or an associate in applied science degree. The degree is awarded to students who complete both occupational and Arts & Sciences courses. Several courses may be transferred to four-year institutions (students should consult the program advisor). A certificate is awarded to students who complete the occupational component.

The associate in applied science degree in accounting is accredited by the Association of Collegiate Business Schools and Programs.

The New Mexico State Board of Public Accountancy accepts many of T-VI's accounting courses for fulfillment of the education requirement for the CPA exam. A bachelor's degree is also a requirement.

Students may select from a number of support courses, at least one of which must be an accounting course. A minimum of 12 students is required for a support course to be offered. A typing skill of 25 words per minute is required of students before they enroll in some courses. Typing courses are available in Developmental Studies, Business Occupations Learning Centers and the Business Occupations Department.

All occupational courses must be passed with a minimum grade of C to qualify for graduation. For students who are undecided about their major, survey courses are available in the Developmental Studies Department. In the Accounting program, *students do not have the option of taking Business Occupations courses on a credit/no credit basis*. All classes may be offered both day and evening if there is sufficient demand.

Supply fees are charged for some courses (see page 27).

A suggested schedule per term for the occupational component of the associate in applied science degree/certificate program in Accounting includes:

- Term 1: ACCT 101, or ACCT 101A and ACCT 101B, ACCT 111,
BA 113, BA 121, BA 131
- Term 2: ACCT 102, or ACCT 102A and ACCT 102B, BA 122,
BA 133, BA 150
- Term 3: ACCT 201, ACCT 240, ACCT 260, ACCT 254, BA 211
- Term 4: ACCT 202, ACCT 255, ACCT 280, ACCT elective
(one elective required for certificate only)

Accounting Program

Certificate and Degree Requirements

			<i>Credit Hours</i>
ACCT	101A	Accounting Principles I	3
	and		
ACCT	101B	Accounting Principles I	3
	or		
ACCT	101	Accounting Principles I	6
ACCT	102A	Accounting Principles II	3
	and		
ACCT	102B	Accounting Principles II	3
	or		
ACCT	102	Accounting Principles II	6
ACCT	111	Accounting Math	3
ACCT	201	Intermediate Accounting I	4
ACCT	202	Intermediate Accounting II	4
ACCT	240	Tax Accounting I	3
ACCT	254	Electronic Spreadsheet	3
ACCT	255	Computerized Accounting	3
ACCT	260	Cost Accounting	3
ACCT	280	Managerial Accounting	3
BA	113	Introduction to Business	3
BA	121	Business Communications I	3
BA	122	Business Communications II	3
BA	131	Human Relations (7½ weeks)	2
BA	133	Principles of Management	3
BA	150	Introduction to Computer Processing	3
	or		
CSCI	101	Computer Literacy	4
BA	211	Business Law	3
One elective (required for certificate only)			3-4
One ACCT elective			3
Total			64-66

Additional Degree Requirements

ENG	101	College Writing	3
MATH	120	Intermediate Algebra	3
MATH	145	Introduction to Probability and Statistics	3
COMM	130 or 221 or 232 or 240	.....	3
Social Science/Humanities Elective			3
Total			79-81

Electives

ACCT	241	Tax Accounting II.....	3
ACCT	270	Governmental Accounting.....	3
ACCT	271	Auditing.....	3
ACCT	272	Accounting Systems Design.....	3
BA	215	Money and Banking.....	3
BA	226	Principles of Finance.....	3
BA	240	Investments.....	3
BA	291	Internship.....	4
BA	293	Cooperative Education.....	4
BA	294	Cooperative Education I.....	1
BA	295	Cooperative Education II.....	1
BA	296	Cooperative Education III.....	1
BA	297	Cooperative Education IV.....	1
ECON	200	Macroeconomics.....	3

Course Descriptions

ACCT 101—Accounting Principles I (6 cr)

(Prerequisites: MATH 099, RDG 099 or equivalent; pre- or corequisite: ACCT 111 or higher math or permission of advisor) This is an introductory course in the theory and practice of accounting. It is intended for the beginning student of business. ACCT 101A plus ACCT 101B are equivalent to this course.

ACCT 101A— Accounting Principles I (3 cr)

(Prerequisites: MATH 099 or equivalent; RDG 099 or equivalent; ACCT 111 or higher math or permission of advisor) This course is a slower-paced version equivalent to the first half of ACCT 101. Principles of the double-entry accounting system including recording transactions, adjusting entries, preparing statements, closing accounts of proprietorships and corporations, merchandise and cash accounts, and accounting systems are covered. ACCT 101A plus ACCT 101B are equivalent to ACCT 101.

ACCT 101B—Accounting Principles I (3 cr)

(Prerequisites: ACCT 101A and ACCT 111 or permission of advisor) This course is the last half of a slower-paced version of ACCT 101. Accounts receivable, tangible and intangible assets, current and long-term liabilities, and payroll accounting are studied. ACCT 101A and ACCT 101B are equivalent to ACCT 101.

ACCT 102—Accounting Principles II (6 cr)

(Prerequisite: ACCT 101) This course examines accounting for corporations, installment notes and bonds, preparing and analyzing financial statements and controlling business operations by managerial and cost accounting, budgeting and tax considerations. ACCT 102A plus ACCT 102B are equivalent to this course.

ACCT 102A—Accounting Principles II (3 cr)

(Prerequisites: ACCT 101 or 101B or equivalent or permission of advisor) This course is the first half of a slower-paced version of ACCT 102. This course covers various aspects of corporate accounting, notes and bonds, departmental accounting and accounting for manufacturing. ACCT 102A plus ACCT 102B are equivalent to ACCT 102.

ACCT 102B—Accounting Principles II (3 cr)

(Prerequisites: ACCT 102A, ACCT 111) This course is the second half of the slower-paced version of ACCT 102. Cost accounting, job orders, master budgets, profit analysis, standard costs, managerial decisions and tax considerations are studied. ACCT 102A plus ACCT 102B are equivalent to ACCT 102.

ACCT 111—Accounting Math (3 cr)

(Prerequisite: MATH 099 or equivalent or permission of advisor) This course examines the basic arithmetic operations as they relate to business applications. It familiarizes the student with a wide range of accounting procedures for which math is required and develops touch method skills using electronic calculators.

ACCT 201—Intermediate Accounting I (4 cr)

(Prerequisite: ACCT 102 or ACCT 102B) This course emphasizes accounting theory, concepts and their practical application. It focuses attention on the use of accounting data as a basis for decisions by management, stockholders, creditors and other users of financial statements and accounting reports. Emphasis is on the asset side of the balance sheet.

ACCT 202—Intermediate Accounting II (4 cr)

(Prerequisite: ACCT 201) Accounting for current and long-term liabilities, capital stock transactions, dividends, retained earnings, and cash flow statements and analysis are covered in this course.

ACCT 240—Tax Accounting I (3 cr)

(Prerequisite: ACCT 101 or ACCT 101B) This course primarily examines the fundamental characteristics of federal income taxes as applied to individuals.

ACCT 241—Tax Accounting II (3 cr)

(Prerequisite: ACCT 240 or permission of advisor) This course examines the income tax aspects of corporations, partnerships, sub-chapter S corporations and fiduciaries. Also examined are the advanced concepts related to individual income taxes, tax planning and estate and gift taxation.

ACCT 254—Electronic Spreadsheets (3 cr)

(Prerequisites: ACCT 102 or ACCT 102B, BA 150 or CSCI 101 or permission of advisor) This microcomputer lab uses Lotus 1-2-3 for accounting and business applications. A supply fee of \$15 covers printer supplies.

ACCT 255—Computerized Accounting (3 cr)

(Prerequisites: ACCT 102 or ACCT 102B, BA 150 or CSCI 101 or permission of advisor) This microcomputer course includes payroll, inventory control, accounts payable and general ledger. Students use prepared integrated business software. A supply fee of \$15 covers printer supplies.

ACCT 260—Cost Accounting (3 cr)

(Prerequisite: ACCT 102 or ACCT 102B) This course emphasizes job order and process costing for construction and manufacturing.

ACCT 270—Governmental Accounting (3 cr)

(Prerequisite: ACCT 102 or ACCT 102B) This course provides the student with training in accounting for governmental and other non-profit entities.

ACCT 271—Auditing (3 cr)

(Prerequisite: ACCT 102 or ACCT 102B) This is a survey of auditing that includes audit standards, reports, professional ethics, legal liability, evidence accumulation, audit planning, internal control, transaction cycles, other engagements and operational auditing.

ACCT 272—Accounting Systems Design (3 cr)

(Prerequisite: ACCT 102 or ACCT 102B) Students will design a manual accounting system which will include a chart of accounts, an accounting manual, flow charts, control and support systems and reports to management.

ACCT 280—Managerial Accounting (3 cr)

(Prerequisite: ACCT 102 or ACCT 102B) Students learn how accounting data can be interpreted and used by management in planning and controlling business activities.

ADMINISTRATIVE ASSISTANT

Associate in Applied Science Degree/
Certificate Program
Main and Montoya Campuses

More and more businesses are actively looking for office workers—both men and women—who have the potential to be promoted to administrative positions. Today's office professional must possess greater technical, administrative and interpersonal skills.

The Administrative Assistant program offers training in organizational and interpersonal skills as well as office automation and written communication. Graduates are prepared to function in a highly productive office environment.

The associate in applied science degree in administrative assistant is accredited by the Association of Collegiate Business Schools and Programs.

Cooperative education is available; students should see the program advisor for details.

All occupational courses must be passed with a minimum grade of C to meet prerequisite requirements and certificate or degree requirements. In the Administrative Assistant program, *students do not have the option of taking Business Occupations courses on a credit/no credit basis.* For students who are undecided about their major, survey courses are available in the Developmental Studies Department.

Students who want to enroll in a course by permission of the program advisor may obtain the necessary form from the department. Permission does not constitute waiver of a course, nor does it grant credit for another course. See the program advisor for more information.

An entering student with a strong background in office skills may challenge a course by examination and substitute another Business Occupations course.

Individuals who have already attained a Certified Professional Secretary (CPS) rating may receive credit hours toward the Administrative Assistant associate in applied science degree. Students may contact the program advisor at either campus for more information about advanced placement.

The associate degree may be transferred to the University of New Mexico for credit toward a bachelor's degree in Training and Learning Technologies (see Administrative Assistant program advisor). All Administrative Assistant courses may be offered day and evening if there is sufficient demand.

Supply fees are charged for some courses (see page 27).

A suggested schedule per term for the occupational component of the associate in applied science degree/certificate in Administrative Assistant includes:

Term 1: AA 101, AA 102, AA 111, AA 121, BA 131, BA 150

Term 2: AA 103, AA 104, AA 112, AA 122, AA 133, BA 113

Term 3: AA 200, AA 202, AA 230, AA 250, AA 260, BA 133,
BA 157

Administrative Assistant Program

Certificate

			<i>Credit Hours</i>
AA	101	Beginning Typing	3
AA	102	Intermediate Typing	3
AA	103	Advanced Typing I	2
AA	104	Advanced Typing II	2
AA	111	Business Math/Calculators	3
AA	112	Office Accounting Procedures	3
AA	121	Office Communications I	3
AA	122	Office Communications II	3
AA	133	Word Processing	3

AA	200	Advanced Word Processing	3
AA	202	Information Processing	3
AA	230	Office Communications III	3
AA	250	Machine Transcription	3
AA	260	Business Procedures	3
BA	113	Introduction to Business	3
BA	131	Human Relations (7½ weeks)	2
	or		
COMM	221	Interpersonal Communications	3
BA	133	Principles of Management	3
BA	150	Introduction to Computer Processing	3
	or		
CSCI	101	Computer Literacy	4
BA	157	Computer Accounting for Small Business (5 weeks) ...	1
		Total	52–54

Additional Degree Requirements

¹ COMM	221	Interpersonal Communications	3
ENG	101	College Writing	3
		Biological and Physical Science Elective or	
Math	120	Intermediate Algebra or higher	3
		Social Science Elective	3
		Arts & Sciences Elective	3
		Total	67–69

Electives

AA	105	Keyboard Speedbuilding	2
AA	134	Shorthand I Gregg	5
	or		
AA	135	Shorthand I Alphabetic	3
AA	136	Shorthand II	3
AA	234	Shorthand III	3
AA	207	Law Office Technology	4
AA	293	Cooperative Education	4
BA	211	Business Law	3
BA	256	Employment Procedures and Techniques (7½ weeks)	2
CR	240	Legal Terminology/Procedures	3
BA	154	Desktop Publishing Using WordPerfect 5.1	1
BA	155	WordPerfect Presentations	1
BA	156	WordPerfect Office Software (5 weeks)	1
BA	255	Desktop Publishing	3
BA	257	Microcomputer Graphics	3

¹BA 131 may not substitute for COMM 221

Course Descriptions

AA 101—Beginning Typing (3 cr)

Emphasis is on typing by the touch method and developing speed and accuracy. A minimum typing speed of 25 net words per minute on a five-minute timing should be attained in this course. There is a \$15 supply fee for typewriter ribbons and correcting tapes.

AA 102—Intermediate Typing (3 cr)

(Prerequisite: AA 101) Basic typing skills are reviewed. Production emphasis is on business letters, reports and forms. A minimum typing speed of 40 net words per minute on a five-minute timing should be attained in this course. There is a \$20 supply fee for typewriter ribbons and correcting tapes.

AA 103—Advanced Typing I (2 cr)

(Prerequisite: AA 102) A minimum typing speed of 45 net words per minute on a five-minute timing should be attained in this course. Emphasis is on continued development of production skills. There is a \$10 supply fee for printer supplies.

AA 104—Advanced Typing II (2 cr)

(Prerequisite: AA 103) A minimum typing speed of 50 net words per minute on a five-minute timing should be attained in this course. Emphasis is on continued development of production skills. There is a \$10 supply fee for printer supplies.

AA 105—Keyboard Speed-Building (2 cr)

(Prerequisite: AA101 or 25 net words per minute typing speed on a five-minute timing) Students with various levels of keyboarding skill may enroll in this course. Evaluation is based on individual speed and accuracy improvement. Court Reporting students are required to take this course to fulfill NCRA's keyboarding skill requirement of 60 net words a minute (NWAM). A \$15 supply fee is charged for printer supplies.

AA 111—Business Mathematics/Calculators (3 cr)

(Prerequisite: MATH 099 or equivalent) This course features a combined approach to teaching business mathematics and calculators. Students receive a thorough review of math fundamentals and their applications in solving business problems. Calculator instruction stresses use of the touch method. There is a \$5 supply fee for calculator ribbon and tape.

AA 112—Office Accounting Procedures (3 cr)

(Prerequisite: AA 111) This course is a study of the complete bookkeeping cycle including preparation of the balance sheet, income statement and worksheet. Emphasis is on journalizing, posting, accounts payable and accounts receivable.

AA 121—Office Communications I (3 cr)

(Prerequisite: RDG 099 or equivalent and ENG 099 or equivalent) This course is an introduction to oral and written communications with emphasis on vocabulary building, spelling, grammar, punctuation, oral expression and listening skills.

AA122—Office Communications II (3 cr)

(Prerequisite: AA 121; prerequisite/corequisite: AA 102) This course is a continuation of AA 121 with greater emphasis on punctuation and sentence and paragraph construction. Students receive an introduction to telephone techniques.

AA 133—Word Processing (3 cr)

(Prerequisites: a minimum typing speed of 40 net words a minute on a five-minute timing and BA 150 or CR 133) Students receive instruction in the use of word processing software on the microcomputer. Emphasis is on practical office applications. There is a \$20 supply fee for printer supplies.

AA 134—Shorthand I (Gregg) (5 cr)

This introductory course covers the theory and writing of Gregg shorthand. Transcription skills are introduced.

AA 135—Shorthand I (Alphabetic) (3 cr)

Reading and writing of ABC Stenoscrypt shorthand are learned. Transcription skills are introduced.

AA 136—Shorthand II (3 cr)

(Prerequisites: AA 134 or AA 135 or CR 103L and CR 104L or knowledge of theory of a shorthand system and a minimum typing speed of 25 net words a minute on a five-minute timed writing or AA 101 and AA 102) The goal for this course is development of dictation and transcription skills. There is a \$10 supply fee for printer supplies.

AA 200—Advanced Word Processing (3 cr)

(Prerequisites: AA 133 and a minimum typing speed of 50 net words a minute on a five-minute timing) Students receive instruction in the use of advanced word processing applications. Emphasis is on practical office applications. There is a \$20 supply fee for printer supplies.

AA 202—Information Processing (3 cr)

(Prerequisites: AA 104 and AA 133) Advanced instruction is provided in the use of microcomputers. Applications include computerized office applications, electronic spreadsheets and database management. There is a \$20 supply fee for printer supplies.

AA 207—Law Office Technology (4 cr)

(Prerequisites: AA 104 and AA 133 and CR 240) Instruction is provided on the preparation of mailable legal correspondence and forms from audio tape, typed copy and preprinted forms using the computer. Emphasis is on language usage and on introduction to a variety of formats and documents covering the major fields of law. There is a \$20 supply fee for printer supplies. *Offered fall term.*

AA 230—Office Communications III (3 cr)

(Prerequisites: AA 102 and AA 122) Principles of writing and composition of business correspondence are covered. Continued emphasis is on grammar, punctuation, spelling, oral communication and listening skills. There is a \$5 supply fee for typewriter ribbons and correcting tapes.

AA 234—Shorthand III (3 cr)

(Prerequisite: AA 136) The goal for this course is continued development of dictation and transcription skills. There is a \$10 supply fee for printer supplies.

AA 250—Machine Transcription (3 cr)

(Prerequisites: AA 104 and AA 122) Emphasis is on the development of speed and accuracy in transcribing mailable copy. There is a \$15 supply fee for printer supplies.

AA 260—Business Procedures (3 cr)

(Prerequisites: AA 104 and AA 122) Office procedures, records management, human relations and job portfolio preparation are included in this course. This course should be taken in the student's final term.

AA 293—Cooperative Education (4 cr)

(Prerequisites: AA 104 and typing skill of 55 words per minute on a five-minute timed timing and permission of the instructor or academic advisor) Students work a minimum of 150 hours at office-related supervised work stations. The student trainee is paid by the cooperating firm and supervised jointly by T-VI and the employer. The student and employer determine the weekly contact hours.

BUSINESS ADMINISTRATION

Associate in Applied Science Degree/
Certificate Program
Main and Montoya Campuses

The Business Administration program is designed to provide students with the skills, knowledge and experience required in today's business. Each student receives a broad overview of business operations and should be prepared for several job options after successful completion of goals.

Early courses in the program emphasize written and verbal communications, management and accounting principles. Those students completing all core occupational courses receive business administration certificates.

An associate in applied science degree in Business Administration is awarded to students who complete the occupational requirements, Arts & Sciences components and a concentration in one of five areas: merchandising, small business management, real estate (also see page 128), tourism and hospitality or general business. The associate in applied science degree is accredited by the Association of Collegiate Business Schools and Programs.

A structured sequence for the real estate and tourism and hospitality concentrations is necessary early in the program. One or two specialty courses should be taken each term. The tourism and hospitality concentration includes elective courses sponsored by the Educational Institute (EI), an educational foundation of the American Hotel and Motel Association. These courses may be used toward industry-recognized professional certification. All courses in the real estate concentration are approved by the New Mexico Real Estate Commission for either pre-licensing or continuing education requirements.

A typing skill of 25 words per minute is required before students can enroll in some courses. Typing courses are available in Developmental Studies, the Business Occupations Learning Centers and the Business Occupations Department.

Degree students select from the list of support courses in their specialty to prepare for their employment goals. Not all support courses are offered each term. A minimum of 12 students is required for a support course to be offered.

Most courses are offered in the evening as well as day time. Several courses in the program may be transferred to four-year institutions (students should see the program advisor for details).

All occupational courses must be passed with a minimum grade of C to qualify for graduation. For students who are undecided about their major, survey courses are available in the Developmental Studies Department. In the Business Administration program, *students do not have the option of taking Business Occupations courses on a credit/no credit basis*. Supply fees are charged for some courses (see page 27).

A suggested schedule per term for the occupational component of the associate in applied science degree/certificate program in Business Administration includes:

- Term 1: ACCT 101, or ACCT 101A and ACCT 101B, ACCT 111,
BA 113, BA 121, BA 131
- Term 2: ACCT 102, or ACCT 102A & ACCT 102B, BA 122,
BA 133, BA 150
- Term 3: BA 211, BA 222, BA 284, ACCT 254, elective
- Term 4: Concentration options

Business Administration Program

Certificate and Degree Requirements

		<i>Credit Hours</i>
ACCT	101A Accounting Principles I	3
	and	
ACCT	101B Accounting Principles I	3
	or	
ACCT	101 Accounting Principles I	6
ACCT	102A Accounting Principles II	3
	and	
ACCT	102B Accounting Principles II	3
	or	
ACCT	102 Accounting Principles II	6
ACCT	111 Accounting Math	3
ACCT	254 Electronic Spreadsheet	3
BA	113 Introduction to Business	3
BA	121 Business Communications I	3
BA	122 Business Communications II	3
BA	131 Human Relations (7½ weeks)	2
BA	133 Principles of Management	3
BA	150 Introduction to Computer Processing	3
	or	
CSCI	101 Computer Literacy	4
BA	211 Business Law	3
BA	222 Principles of Marketing	3
BA	284 Salesmanship	3
	Approved Elective	3-4
	Total	47-49

Additional Degree Requirements

COMM	221 Interpersonal Communications	3
	or	
COMM	130 or 232 or 240	3
ECON	200 Macroeconomics or higher level	3
ENG	101 College Writing	3

MATH	120	Intermediate Algebra or higher level math.....	3
PHIL	245B	Business Ethics	3

Special Concentration Options for Degree (One Option Required)

Merchandising

BA	251	Retail Merchandising Management	3
BA	286	Advertising	3
Approved Elective			3-4
Total			71-74

Small Business Management

ENTR	101	Entrepreneurship	6
BA	226	Principles of Finance	3
Approved Elective			3
Total.....			74-76

Real Estate (also see page 128)

BA	270	Real Estate Law	3
BA	271	Real Estate Practice	3
Approved Real Estate Elective			3
Total.....			71-73

Tourism and Hospitality

BA	262	Introduction to the Hospitality Industry	3
or			
BA	263	Tourism and the Hospitality Industry	3
BA	267	Hospitality Supervision	3
Approved Tourism Elective			3-4
Total.....			71-74

General Business

BA	293	Cooperative Education	4
Two Approved Electives			6
Total.....			72-74

Electives

ACCT	240	Tax Accounting I	3
ACCT	255	Computerized Accounting	3
ACCT	260	Cost Accounting	3
ACCT	272	Accounting System Design	3
ACCT	280	Managerial Accounting	3

BA	151	DOS Fundamentals	1
BA	152	LOTUS Fundamentals	1
BA	153	dBase Fundamentals	1
BA	154	Desktop Publishing Using WordPerfect 5.1	1
BA	155	WordPerfect Presentations	1
BA	156	WordPerfect Office Software	1
BA	157	Computer Accounting for Small Business	1
BA	158	Local Area Network (LAN) Systems Manager	1
BA	215	Money and Banking	3
BA	226	Principles of Finance	3
BA	240	Investments	3
BA	251	Retail Merchandising Management	3
BA	255	Desktop Publishing	3
BA	256	Employment Procedures and Techniques (7½ weeks)	2
BA	257	Microcomputer Graphics	3
BA	260	Purchasing	3
BA	264	Front Office Procedures	3
BA	265	Marketing of Hospitality Services	3
BA	266	Hotel/Motel Law	3
BA	267	Hospitality Supervision	3
BA	268	Resort Management	3
BA	269	Hotel/Motel Security Management	3
BA	272	Real Estate Appraisal	3
BA	273	Real Estate Finance	3
BA	274	Real Estate Investment	3
BA	275	Property Management	3
BA	277	Real Estate Comprehensive Contracts	3
BA	278	Real Estate and Taxes	3
BA	279	Uniform Standards of Professional Appraisal Practice	2
BA	282	Appraising the Single Family Residence	3
BA	286	Advertising	3
BA	287	Delta Epsilon Chi Competition	1
BA	291	Internship	4
BA	293	Cooperative Education	4
BA	294	Cooperative Education I	1
BA	295	Cooperative Education II	1
BA	296	Cooperative Education III	1
BA	297	Cooperative Education IV	1
ENTR	101	Entrepreneurship	6
¹ FSMG	101	Operations Management	3
¹ FSMG	102	Human Resource Management	3
¹ FSMG	103	Marketing/Cost Control Management	3
¹ FSMG	170L	Computers in Food Service	3

¹FSMG 198 Cooperative Education4

¹Food Service Management course: see page 261

Course Descriptions

BA 111—Communications (7½ weeks) (2 cr)

(Offered for Trades and Technologies students) Students develop effective communications skills. Course content includes fundamentals of grammar, punctuation and word usage. Effective expression in basic technical writing is stressed.

BA 113—Introduction to Business (3 cr)

(Prerequisite: RDG 099 or equivalent) Students recognize the structure of business, business activities and problems. An understanding of the nature of the business world also is stressed.

BA 121—Business Communications I (3 cr)

(Prerequisites: RDG 099 or equivalent and ENG 099 or equivalent) The student learns to communicate effectively through the study and application of writing fundamentals. Instruction in spelling, grammar and punctuation is included. Students also have the opportunity to develop oral and listening skills.

BA 122—Business Communications II (3 cr)

(Prerequisites: BA 121 and 25 words per minute typing skill) The student learns to write effective business letters, reports and memoranda. Continued use of oral communication and listening skills is stressed.

BA 131—Human Relations (7½ weeks) (2 cr)

(Available also for Technologies students) The importance of interpersonal relationships and the work ethic are stressed. Topics covered may include self-awareness, time management, stress management, communications, goal setting and personal management. Study skills are also covered.

BA 133—Principles of Management (3 cr)

(Prerequisites: RDG 099 or equivalent, BA 113 or permission of advisor) Students learn to apply the basic management functions of planning, organizing, staffing, directing and controlling. Leadership and group process skills are emphasized.

BA 150—Introduction to Computer Processing (3 cr)

(Prerequisite: 25 words per minute typing skill) Students learn to use automated information systems, computer hardware, data entry and business software applications. Hands-on experience with microcomputers is provided. A \$15 supply fee is charged for computer paper and printing costs.

BA 151—DOS Fundamentals (1 cr)

(Prerequisite: 25 words per minute typing skill) Instruction includes the most important DOS commands. Students learn internal and external commands, directories, file management and batch files. A \$5 supply fee is charged for computer paper and printing costs.

BA 152—Lotus Fundamentals (1 cr)

(Prerequisite: 25 words per minute typing skill) Instruction is provided for non-accounting spreadsheet applications. Areas included are graphs, range names, strings and basic formulas. A \$5 supply fee is charged for computer paper and printing costs.

BA 153—dBase Fundamentals (1 cr)

(Prerequisite: 25 words per minute typing skill) This course explores the function and purpose of database software; in particular, the hierarchy of data organization, structure and creation of databases, and processing inquiries involving searches, screening and sequencing of records. A \$5 supply fee is charged for computer paper and printing costs.

BA 154—Desktop Publishing Using WordPerfect 5.1 (1 cr)

(Prerequisites: 25 words per minute typing skill and BA 150 or equivalent or permission of advisor) Students learn to incorporate WordPerfect graphics and text to produce newsletters, instructional materials and other documents where figures, diagrams, logos and pictures are needed. WordPerfect 5.1 basic skills are highly desirable. A \$5 supply fee is charged for computer paper and printing costs.

BA 155—WordPerfect Presentations (1 cr)

(Prerequisite: 25 words per minute typing skill) Students learn to create basic text charts and graph charts. Importing data to create these charts and exporting charts into documents are included. A \$5 supply fee is charged for computer paper and printing costs.

BA 156—WordPerfect Office Software (1 cr)

(Prerequisites: 25 words per minute typing skill and BA 150 or permission of advisor) This course uses WordPerfect to aid in office automation. Software includes WordPerfect calculator, editor, file manager, notebook, mail and scheduler. A \$5 supply fee is charged for computer paper and printing costs.

BA 157—Computer Accounting for Small Business (1 cr)

(Prerequisite: AA 112 or ACCT 101 or ACCT 101B or permission of advisor) Students use a comprehensive accounting software program for a small business. The program contains a general ledger, accounts payable, accounts receivable and payroll functions. Students set up the records for a business, open accounts, enter transactions and print end-of-period reports. A \$5 supply fee is charged for computer paper and printing costs.

BA 158—Local Area Network (LAN) Systems Manager (1 cr)

(Prerequisites: BA 150, BA 151 or permission of advisor and 25 words per minute typing skill) This course is designed as an introduction to network systems management. It includes a brief overview of network layouts and topology and provides instruction that will enable the students to create workable directories, login scripts and menus and to load applications onto the network. A \$5 supply fee is charged for computer paper and printing costs.

BA 211—Business Law (3 cr)

(Prerequisites: RDG 099 or equivalent and ENG 099 or equivalent) This course provides a basic knowledge of law as it applies to all business dealings in our society. Particular emphasis is on contract law, Uniform Commercial Code, negotiable instruments and alternative dispute resolutions.

BA 215—Money and Banking (3 cr)

(Prerequisite: ACCT 102 or ACCT 102B) This course covers the history, nature and function of money. Students learn to apply methods of institutional control and theories of monetary policy.

BA 222—Principles of Marketing (3 cr)

(Prerequisites: ACCT 101 or ACCT 101B, BA 133 or permission of advisor) Students learn to apply total marketing concepts from the creation of the product, pricing and promotion to the distribution network.

BA 226—Principles of Finance (3 cr)

(Prerequisite: ACCT 102 or ACCT 102B) Concepts and theories of finance are covered including the history of money, monetary systems and credit. Forms of business organizations, capital budgeting, source of funds, marketing securities, capital structure, foreign expansion and reorganization of a business firm are examined.

BA 240—Investments (3 cr)

(Prerequisite: ACCT 102 or ACCT 102B) Students learn to apply investment analysis and management techniques, to formulate objectives and to look at values and risks.

BA 251—Retail Merchandising Management (3 cr)

(Prerequisite or corequisite: ACCT 102 or ACCT 102B, BA 222 or permission of advisor) Students study and apply methods and practice of retail merchandising including target market decisions, buying, pricing, store locations and strategic planning.

BA 255—Desktop Publishing (3 cr)

(Prerequisite: BA 150 or CSCI 101 or CR 133 or permission of advisor) Students will be given hands-on experience in desktop publishing. Students will use the micro-computer publishing process to edit, typeset, design and do graphic production and page makeup. A \$15 supply fee is charged for computer paper and printing costs.

BA 256—Employment Procedures and Techniques (7½ weeks) (2 cr)

This course provides the requisite skills for success in obtaining employment. Students prepare cover letters and resumé and apply interviewing skills, practice telephone use in the job search, learn test-taking techniques and encourage positive attitudes and self-confidence.

BA 257—Microcomputer Graphics (3 cr)

(Prerequisite: BA 150 or CSCI 101 or CR 133 or permission of advisor) This course provides hands-on experience in graphics presentation software which emphasizes charting, drawing, organizing and displaying images. A \$15 supply fee is charged for computer paper and printing costs.

BA 260—Purchasing (3 cr)

(Prerequisite: ACCT 101 or ACCT 101B or permission of advisor) This course covers problems involved in public and private sector purchasing. Students apply value analysis, solicitation process and negotiation techniques, vendor selection, purchasing law, transportation considerations and inventory control practices.

BA 262—Introduction to the Hospitality Industry (3 cr)

Students will understand the hospitality industry as a whole and learn how all departments can and must work together. The course covers both the lodging and food service industries. This course is equivalent to EI 101.

BA 263—Tourism and the Hospitality Industry (3 cr)

This comprehensive course explains how and why people travel, how travel acts as a satisfier of needs and wants and how marketing efforts can influence travel decisions. This course is equivalent to EI 321.

BA 264—Front Office Procedures (3 cr)

Students apply efficient management concepts to front office functions and relate how front office activities affect other departments. The computer is used throughout every phase of the guest cycle. This course is equivalent to EI 333.

BA 265—Marketing of Hospitality Services (3 cr)

Students develop, implement and evaluate a marketing plan and identify and reach prospective customers using marketing tactics specific to hospitality services. This course is equivalent to EI 371.

BA 266—Hotel/Motel Law (3 cr)

Students study potential legal problems associated with the hospitality industry and how important legal considerations can affect the industry. This course is equivalent to EI 391.

BA 267—Hospitality Supervision (3 cr)

This course focuses on managing people from a supervisor's viewpoint. Topics included are: controlling labor costs, time management, increasing productivity and managing change. This course is equivalent to EI 251.

BA 268—Resort Management (3 cr)

This course focuses on principles and practices necessary for successful resort management. Topics include resort history, planning and development, major recreational activities, food and beverage, housekeeping and risk management. This course is equivalent to EI 424.

BA 270—Real Estate Law (3 cr)

The rights and obligations of the real estate agent with regard to contractual and fiduciary duties owed to the parties being represented are established in this course. Major topics include ownership rights, law of agency and law of contracts. This course has been certified to earn 30 hours of credit toward the requirements for the New Mexico Real Estate Licensing Exam.

BA 271—Real Estate Practice (3 cr)

This is a course in general real estate practice for persons needing a review or wanting a basic knowledge of the real estate business. This course has been certified to earn 30 hours of credit toward the requirements for the New Mexico Real Estate Licensing Exam.

BA 272—Real Estate Appraisal (3 cr)

(Prerequisite: BA 271 or permission of instructor or advisor) An introduction to accepted methods for estimating the value of real property, this course covers fundamentals of real estate appraisal of both land and improved residential property and techniques used by professional appraisers. This course uses the American Institute of Real Estate Appraisers (AIREA) 21/G1 teaching module.

BA 273—Real Estate Finance (3 cr)

(Prerequisite: BA 271) This is a study of financing real property, the money market, sources and cost determinants of mortgage money, financial leverage, value of existing mortgage in relation to the current market and purchaser qualification.

BA 274—Real Estate Investment (3 cr)

(Prerequisites: BA 270, BA 271) This course gives the student a basic understanding of investment principles to ensure sound investment decisions and assessment of property potential. The student gains an awareness of the marketplace and the needs of the public through text, lecture and case study.

BA 275—Property Management (3 cr)

This course covers residential and commercial rental property management. Topics include marketing of services, market and prospect analysis, record-keeping, laws

relating to rental properties, legal documents including leases and management contracts, property maintenance, employee relations, insurance, security and administration.

BA 277—Real Estate Comprehensive Contracts (3 cr)

(Prerequisites: BA 270, BA 271) Instruction is provided in contract law relating to basis of equipment and premises, buyer-seller-agent relationships, basis of law governing contracts, written contracts, misrepresentations, special relationships and contract remedies.

BA 278—Real Estate and Taxes (7½ weeks) (3 cr)

(Prerequisites: BA 270, BA 271) This course deals with government involvement in real estate and taxes. Units cover municipal and state taxes affecting real estate and the federal government's role in the sale and income derived from real estate.

BA 279—Uniform Standards of Professional Appraisal Practice (2 cr)

This course focuses on the requirements for ethical behavior and competent performance by appraisers. The R2/G2 teaching module of the American Institute of Real Estate Appraisers (AIREA) is used.

BA 282—Appraising the Single Family Residence (3 cr)

(Prerequisite: BA 272) This course provides the student with a working knowledge of the procedures and techniques required to estimate the market value of vacant and improved single family residential property using the American Institute of Real Estate Appraisers (AIREA) teaching module.

BA 284—Salesmanship (3 cr)

(Prerequisite: RDG 099 or equivalent) Students learn to demonstrate selling skills along with how to promote oneself, goods and services.

BA 286—Advertising (3 cr)

(Prerequisite: BA 222 or permission of advisor) This course gives the student the opportunity to apply the many elements of advertising. The student develops an advertising plan; selects and schedules media; budgets, designs and produces advertisements; and evaluates advertising effectiveness.

BA 287—Delta Epsilon Chi Competition (1 cr)

Students acquire skills needed to compete at state and national career development conferences. Students use sample written tests, role-playing case problems and classroom assignments involving salesmanship, marketing, problem-solving and human relations.

BA 291—Internship (4 cr)

(Prerequisites: ACCT 102 or ACCT 102B and permission of advisor) Students work a minimum of 150 hours at business or training related supervised work stations.

Students are not paid for their work but are supervised jointly by T-VI and the respective company.

BA 293—Cooperative Education (4 cr)

(Prerequisites: ACCT 102 or ACCT 102B and permission of advisor) Students work a minimum of 150 hours at business or training related supervised work stations. Student trainees are paid by the cooperating firm and supervised jointly by T-VI and the employer.

BA 294—Cooperative Education I (1 cr)

Students employed in an on-going governmental or non-governmental cooperative program enroll in this course for the first term of employment. Students must work a minimum of 40 hours to qualify for credit. Students are paid by the employers and are supervised jointly by T-VI and the employer.

BA 295—Cooperative Education II (1 cr)

(Prerequisite: BA 294) This course is a continuation of BA 294 for students in their second term of cooperative education.

BA 296—Cooperative Education III (1 cr)

(Prerequisite: BA 295) This course is a continuation of BA 294 and BA 295 for students in their third term of cooperative education.

BA 297—Cooperative Education IV (1 cr)

(Prerequisite: BA 296) This course is a continuation of BA 294, 295 and 296 for students in their fourth term of cooperative education.

COURT REPORTING

Associate in Applied Science Degree/
Certificate Program
Main Campus

The program trains qualified men and women for entry into the highly technical court reporting profession. Instruction focuses on computer-aided transcription. The field is experiencing steady growth and offers many employment opportunities.

Court reporters are skilled professionals with machine shorthand and transcription skills who produce verbatim transcripts of proceedings. Their main responsibilities include preparing accurate transcripts of trials and hearings and taking depositions. Reporters are employed in many settings, including court proceedings, depositions, corporate meetings, arbitration hearings, conventions and legislative sessions.

Students enrolled in machine shorthand courses are responsible for furnishing their stenotype machines (manual or electric). Rental or purchase arrangements for an educational stenotype machine are available through the T-VI Bookstore. Students may prefer to rent a stenotype machine for CR 103L, Machine Shorthand I. Students must own a stenotype machine prior to enrolling in CR 104L, Machine Shorthand II. Approximate cost for the educational stenotype machine, tripod and carrying case is \$700.

All occupational courses must be passed with a minimum grade of C to qualify for graduation. In the Court Reporting program, *students do not have the option of taking courses on a credit/no credit basis.* Students who are unable to complete the certificate program should see the program advisor for information regarding a departmental certificate in text processor/scopist or rapid text writer.

One of the main goals of the certificate and degree programs is to prepare students to pass the state certification test.

Supply fees are charged for some courses (see page 27).

A suggested schedule per term for the occupational component of the associate in applied science degree/certificate program in Court Reporting includes:

- Term 1: BA 121, CR 133, CR 121, CR 103L
- Term 2: CR 132, BA 131, AA 105, CR 104L
- Term 3: AA 133L, CR 210L, AA 111, CR 240
- Term 4: CR 220L, CR 250L, ENG 240, BA 211
- Term 5: CR 230L, CR 260, CR 291

Court Reporting Program

Certificate Requirements

			<i>Credit Hours</i>
BA	121	Business Communications I	3
¹ BA	131	Human Relations (7½ weeks)	2
BA	211	Business Law	3
AA	101	Beginning Typing	3
AA	102	Intermediate Typing	3
AA	105	Keyboard Speedbuilding	2
¹ AA	111	Business Math/Calculators	3
AA	133	Word Processing	3
CR	103L	Machine Shorthand I	7
CR	104L	Machine Shorthand II	7
CR	121	Introduction to Court Reporting (7½ weeks)	2
CR	132	Medical Terminology/Anatomy	5
CR	133	Information Processing Concepts (7½ weeks)	2
	or		
CSCI	101	Computer Literacy	4
CR	210L	Machine Shorthand III	8
CR	220L	Machine Shorthand IV	8

CR	230L	Machine Shorthand V	8
CR	250L	Computer-Aided Transcription	3
CR	260	Court Reporting Procedures	3
CR	291	Internship	2
CR	293	Cooperative Education (optional)	4
CR	240	Legal Terminology/Procedures	3
ENG	240	Traditional Grammar	3
Total			83-89

Additional Degree Requirements

Students do not have the option of taking Arts & Sciences courses on a credit/no credit basis.

COMM	221	Interpersonal Communication	3
ENG	101	College Writing	3
MATH	120 or higher or		
		Biological and Physical Science Elective	3
		Social Science Elective	3
Total			90-96

¹Required for certified only

Course Descriptions

CR 103L—Machine Shorthand I (7 cr)

(Prerequisites: RDG 099 or equivalent and AA 101 and AA 102 or equivalent) In this course, the keyboard is learned and machine shorthand theory is presented. Speed reaches 80 wpm. A \$5 supply fee is charged for typewriter ribbon.

CR 104L—Machine Shorthand II (7 cr)

(Prerequisites: CR 103L and BA 121) The remainder of the machine shorthand theory is presented in this course. Vocabulary building is emphasized. Speed reaches 100 wpm. A \$5 supply fee is charged for typewriter ribbon.

CR 121—Introduction to Court Reporting (7½ weeks) (2 cr)

This beginning course presents an overview of the court reporting profession. Information is given on the certification process, testing requirements and the NCRA organization.

CR 132—Medical Terminology and Anatomy (5 cr)

(Prerequisite: RDG 099 or equivalent) This course involves a study in medical terminology, with an emphasis in learning 350 Greek and Latin prefixes, suffixes, word roots and combining forms through the use of video cassettes. A concentrated study of the human anatomy is also included in the course.

CR 133—Information Processing Concepts (7½ weeks) (2 cr)

This course provides the students with an understanding of computers—how they work, how they process data to produce useful information and how they can be integrated into the work environment. Students are introduced to word processing, spreadsheet and database applications software. A \$10 supply fee is charged for computer paper and ribbons.

CR 210L—Machine Shorthand III (8 cr)

(Prerequisite: CR 104L) In this course, vocabulary building continues to be emphasized and the machine shorthand theory is reviewed. On-the-job considerations are introduced. Speed-building continues using testimony, literary and jury charge materials. Speed reaches 140 wpm. A \$10 supply fee is charged for typewriter ribbon.

CR 220L—Machine Shorthand IV (8 cr)

(Prerequisites: CR 210L and CR 132) In this course, medical terminology and dictation are emphasized. Vocabulary building and speed-building continue. Speed reaches 160 wpm, literary; 170 wpm, jury charge; and 180 wpm, testimony. A \$10 supply fee is charged for typewriter ribbon.

CR 230L—Machine Shorthand V (8 cr)

(Prerequisites: CR 220L and CR 250L) In this course, vocabulary building and speed-building continue with an emphasis on literary dictation. Speed reaches 200 wpm, literary; 220 wpm, jury charge; and 245 wpm, testimony. A \$25 supply fee is charged for the computer-aided transcription hardware and software.

CR 240—Legal Terminology/Procedures (3 cr)

Emphasis is on legal terminology, legal procedures and client relationships.

CR 250L—Computer-Aided Transcription (CAT) (3 cr)

(Prerequisites: CR 210L and AA 133) This course provides hands-on training in using the computer to produce transcripts. The student builds a personal dictionary. A \$40 fee is charged for the use of the computer-aided transcription hardware and software.

CR 260—Court Reporting Procedures (3 cr)

(Prerequisites: CR 220L, CR 250L) Students apply procedures in general courtroom, freelance reporting and transcript format. Instruction includes the reporting of depositions. Writing skills and techniques for computer-aided transcription are reviewed. Students prepare resumés and acquire interviewing skills in this course. A \$40 supply fee is charged for the use of the computer-aided transcription hardware and software.

CR 291—Internship (2 cr)

(Prerequisites: CR 220L and CR 250L and approval by academic advisor) In this course, students will acquire a minimum of 75 clock hours of practical experience under the supervision of a certified shorthand reporter. The student intern is required

to record and transcribe a 40-page salable transcript. This course should be taken in the student's final term.

CR 293—Cooperative Education (4 cr)

(Prerequisite: CR 210L) In this course, students work a minimum of 150 hours in a paid, training-related position. Students are supervised by their employer and T-VI.

ENTREPRENEURSHIP

Main and Montoya Campuses

The Entrepreneurship course is for persons who plan to open a small business and who own or manage a business and want further training in principles, operations and/or expansion. The instructor works with each student to develop a business plan.

Students enrolled in this program may not be eligible to receive financial aid or Veterans Administration benefits.

	<i>Credit Hours</i>
ENTR 101 Entrepreneurship	6

ENTR 101—Entrepreneurship (6 cr)

The instructor meets with each student to determine specific goals, problems or needs. Programs are then tailored to the individual. Daily tasks and activities are accomplished through lecture, group activities and independent work.

LEGAL ASSISTANT STUDIES

Associate in Applied Science Degree Main Campus

The Legal Assistant Studies program trains qualified men and women for entry into the legal profession. The Legal Assistant Studies program is approved by the American Bar Association (ABA).

Legal assistants are skilled professionals who perform tasks and services under the supervision of a licensed attorney. Responsibilities include drafting legal documents and correspondence, interviewing and assisting clients and witnesses, investigation, data analysis, research, litigation support and file management.

Employment opportunities are found in law firms, corporate legal departments, legal aid offices, public agencies, insurance companies, real estate and title insurance firms and other commercial firms.

Students learn substantive and procedural law as well as legal skills. Studies cover the nature and philosophy of fundamental legal theory, the legal system and how that system relates to other disciplines, legal analytical skills, practice skills and the professional responsibilities of the legal assistant. The ethical and moral issues inherent in the practice of the profession are stressed.

To earn an associate degree, a student must successfully complete laboratory work, related legal theory and Arts & Sciences courses. All courses must be passed with a minimum grade of C to qualify for graduation. *Legal Assistant Studies students do not have the option of taking courses on a credit/no credit basis.*

Supply fees are charged for some courses (see page 27).

A suggested schedule per term for the associate in applied science degree program in Legal Assistant Studies includes:

- Term 1: LAS 101, LAS 123, CSCI 101 or BA 150, ENG 101, PSY 105
- Term 2: LAS 102, LAS 111, LAS 124, ENG 102, PHIL 156
- Term 3: LAS 201, LAS 203, LAS 204, LAS 224, MATH 119
- Term 4: LAS 221, LAS 225, LAS 291 or 293, COMM 221 or COMM 225 or COMM 240, support course

Legal Assistant Studies Program

Required LAS Courses

			<i>Credit Hours</i>
LAS	101	Introduction to Legal Assistant Studies	3
LAS	102	Business Organizations	3
LAS	111	American Law and Ethics	3
LAS	123	Torts	3
LAS	124	Legal Research and Writing I	3
LAS	201	Contract Law	3
LAS	203	Civil Litigation, Investigation and Discovery	3
LAS	204	Legal Research and Writing II	3
LAS	221	Wills, Probate and Estate Planning	3
LAS	224	Evidence	3
LAS	225	Constitutional Law: Rights and Liberties	3
LAS	291	Internship	4
	or		
LAS	293	Cooperative Education	4
LAS	elective (see list below)		3

Required Arts & Sciences Courses

Students do not have the option of taking Arts & Sciences courses on a credit/
no credit basis.

COMM	221	Interpersonal Communication Studies	3
		or	
COMM	225	Small Group Communication Studies	3
		or	
COMM	240	Organizational Communication Studies	3
BA	150	Introduction to Computer Processing	3
		or	
CSCI	101	Computer Literacy	4
ENG	101	College Writing	3
ENG	102	Analytic Writing	3
MATH	119	Methods of Problem Solving or higher math course	3
PHIL	156	Logic and Critical Thinking	3
PSY	105	Psychology	3
Total.....			61-62

Electives

ACCT	101	Accounting Principles I	4
BA	151	DOS Fundamentals	1
BA	152	LOTUS Fundamentals	1
BA	153	dBase Fundamentals	1
BA	154	Desktop Publishing Using WordPerfect	1
BA	155	Fundamentals of DrawPerfect Text and Graph Charts	1
BA	156	WordPerfect Office Software	1
LAS	211	Real Estate Law for Legal Assistants	3
LAS	222	Criminal Procedure	3
LAS	223	Domestic Relations	3
LAS	230	Advanced Civil Litigation	3
LAS	231	Computers in Law Practice	3
LAS	232	Personal Injury: Legal and Medical Aspects	3
LAS	233	Law Office Management	3
LAS	234	Administrative Law	3
LAS	236	Discrimination/Labor/Employer-Employee Relations	3
LAS	299	Topics Course	3
LAS	299A	Mediation	3
LAS	299B	Public Defender	3

Course Descriptions

LAS 101—Introduction to Legal Assistant Studies (3 cr)

(Prerequisites: ENG 100 or equivalent and RDG 100 or equivalent) This course introduces the student to the definition and role of the legal assistant, ethical responsibilities, human relations, the legal system, legal research and analysis, the process of litigation and topics in substantive law.

LAS 102—Business Organizations (3 cr)

(Prerequisites: LAS 101, LAS 123) Various types of business entities including sole proprietorships, partnerships and corporations are examined in this course. Also looked at are agency principles, franchising and regulatory requirements.

LAS 111—American Law and Ethics (3 cr)

(Prerequisites: LAS 101, LAS 123) The origins, nature, history and structure of the American judicial system are studied. Students will explore principles of federalism under the Constitution. The rules of professional conduct for lawyers are emphasized.

LAS 123—Torts (3 cr)

(Prerequisites: ENG 100 or equivalent and RDG 100 or equivalent) This is a course in substantive tort law, concentrating on negligence, products liability, non-physical injuries and their remedies and defenses. Students are given an overview of the trial process and will complete a project involving basic legal research.

LAS 124—Legal Research and Writing I (3 cr)

(Prerequisites: BA 150 or CSCI 101, ENG 101, LAS 101, LAS 123) The student is introduced to the principles and skills of writing case briefs and legal memoranda, with a focus on basic legal research sources and techniques, including Westlaw training. Significant time is spent at the law library.

LAS 201—Contract Law (3 cr)

(Prerequisites: LAS 102, LAS 111, LAS 124) This course is an introduction to the law of contracts, rights and responsibilities, consideration, types of contracts, remedies and assignments. The study of cases is emphasized.

LAS 203—Civil Litigation, Investigation and Discovery (3 cr)

(Prerequisites: LAS 102, LAS 111, LAS 124) Students learn the process of litigation from initial client contact through post-trial procedures by preparing litigation documents. Rules of civil procedure and rules of the various courts are reviewed.

LAS 204—Legal Research and Writing II (3 cr)

(Prerequisites: LAS 102, LAS 111, LAS 124) As a continuation of Legal Research and Writing I, this course is designed to provide training in more advanced legal research problems with a focus on analysis and writing. It requires the preparation of sophisticated legal memoranda and documents.

LAS 211—Real Estate Law for Legal Assistants (3 cr)

(Prerequisites: LAS 201, LAS 203, LAS 204, LAS 224) This course is designed to provide knowledge of the fundamental rights of property ownership, surveys, easements and licenses, deeds, titles, financing, regulations and closings.

LAS 221—Wills, Probate and Estate Planning (3 cr)

(Prerequisites: LAS 201, LAS 203, LAS 204, LAS 224) This course covers drafting of wills and trusts, administration of estates, formal and informal probate proceedings and estate tax returns.

LAS 222—Criminal Procedure (3 cr)

(Prerequisites: LAS 201, LAS 203, LAS 204, LAS 224) This course focuses on criminal procedures, including search and seizure law and preparation of cases from both the prosecution and defense perspectives.

LAS 223—Domestic Relations (3 cr)

(Prerequisites: LAS 201, LAS 203, LAS 204, LAS 224) Legal issues in family relations are explored in this course, with emphasis on local procedures in the domestic relations court.

LAS 224—Evidence (3 cr)

(Prerequisites: LAS 102, LAS 111, LAS 124) Students will study issues and problems of proof of facts in civil and criminal trials, with a focus on the rules of evidence in the state and federal courts. Emphasis will be placed on constitutional considerations, interviewing witnesses and organizing documents.

LAS 225—Constitutional Law: Rights and Liberties (3 cr)

(Prerequisites: LAS 201, LAS 203, LAS 204, LAS 224) This is a course in civil rights and liberties under the Constitution and will cover free speech, religious freedom, rights of the accused, racial discrimination, group rights, privacy and political participation.

LAS 230—Advanced Civil Litigation (3 cr)

(Prerequisites: LAS 201, LAS 203, LAS 204, LAS 224) Students become involved in the litigation process by participating in a hypothetical case, completing tasks from client interviewing to preparation for appeal. Emphasis is placed on evidence rules and concepts.

LAS 231—Computers in Law Practice (3 cr)

(Prerequisites: BA 150 or CSCI 101, LAS 201, LAS 203, LAS 204, LAS 224) Students will learn concepts and structure regarding computers and develop hands-on experience with various law-oriented application programs in the areas of data collection, time-card billing, data management, legal forms, calendar and docket control, reports and searches. A \$15 supply fee is charged for this course for computer paper and printing costs.

LAS 232—Personal Injury: Legal and Medical Aspects (3 cr)

(Prerequisites: LAS 201, LAS 203, LAS 204, LAS 224) This course deals with medical aspects and documentation of personal injuries in the areas of tort, workers' compensation and social security disability.

LAS 233—Law Office Management (3 cr)

(Prerequisites: LAS 201, LAS 203, LAS 204, LAS 224) This course will help prepare the senior legal assistant or legal assistant intending to advance to an administrative position in a law office to coordinate and oversee the administrative needs of a small to medium firm. Students will learn managerial techniques, law office systems, revenue tracking, personnel management and ethical requirements.

LAS 234—Administrative Law (3 cr)

(Prerequisites: LAS 201, LAS 203, LAS 204, LAS 224) Principles relating to policies, practices and procedures of governmental agencies and state and local administrations are included in this course.

LAS 236—Discrimination/Labor/Employer-Employee Relations (3 cr)

(Prerequisites: LAS 201, LAS 203, LAS 204, LAS 224) This course includes study of the history of discrimination law and current federal protections, the principle of equal treatment, litigation involving unequal treatment, seniority, sexual and racial harassment, pay equity, pregnancy discrimination, labor relations and remedies.

LAS 291—Internship (4 cr)

(Prerequisites: LAS 201, LAS 203, LAS 204, LAS 224, all Arts & Sciences courses in the first three terms and approval of the academic advisor) Students work a minimum of 150 hours at legal assistant-related work stations. The student is jointly supervised by T-VI and the employer.

LAS 293—Cooperative Education (4 cr)

(Prerequisites: LAS 201, LAS 203, LAS 204, LAS 224, all Arts & Sciences courses in the first three terms and approval of the academic advisor) Students work a minimum of 150 hours at legal assistant-related work stations. The student is paid by the cooperating firm and is jointly supervised by T-VI and the employer.

LAS 299—Topics Course (3 cr)

(Prerequisites: LAS 201, LAS 203, LAS 204, LAS 224 and approval of the academic advisor) In this course the student will choose an area of study in consultation with an instructor supervisor. A sophisticated legal research paper or project will be completed by the student.

LAS 299A—Mediation (3 cr)

(Prerequisites: LAS 201, LAS 203, LAS 204, LAS 224 and approval of the academic advisor) Students will learn fundamental skills involved in mediating disputes. Train-

ing is provided by local mediation organizations at a student rate. The student also presents a paper and is jointly evaluated by the mediation trainer and the instructor.

LAS 299B—Public Defender (3 cr)

(Prerequisites: LAS 111, LAS 124, and approval of the academic advisor) In this course students will be assigned to a supervising attorney from the Public Defender's Office. The student will become familiar with all forms of case preparation with an emphasis on information gathering and investigation.

MICROCOMPUTER MANAGEMENT SPECIALIST

Associate in Applied Science Degree/
Certificate Program
Main and Montoya Campuses

The Microcomputer Management Specialist program combines accounting skills with microcomputer concepts and computer application skills, including problem solving, in a business environment. Students are prepared to advise employers on hardware and software and to serve as training assistants and/or liaisons.

Early courses in the program emphasize written and verbal communications, accounting principles and basic computer skills. An associate in applied science degree is awarded to students who complete the occupational requirements and Arts & Sciences components.

A keyboarding skill of 25 words net words per minute is required for entry into the program. Typing courses are available in the Developmental Studies Department, the Business Occupations Learning Centers and the Business Occupations Department.

Most courses are offered in the evening as well as day time. All occupational courses must be passed with a minimum grade of C to qualify for graduation. For students who are undecided about their major, survey courses are available in the Developmental Studies Department. In this program, *students do not have the option of taking any Business Occupations courses on a credit/no credit basis.*

Supply fees are charged for some courses (see page 27).

A suggested schedule per term for the occupational component of the associate in applied science degree/certificate program in Microcomputer Management Specialist includes:

- Term 1: ACCT 101, ACCT 111, BA 121, BA 150, BA 151
- Term 2: ACCT 102, BA 113, BA 257, MMS 134, MMS 150
- Term 3: ACCT 254, ACCT 255, BA 111, BA 133, BA 255
- Term 4: BA 156, BA 158, CP 213, MMS 200, MMS 259

Microcomputer Management Specialist

Certificate and Degree Requirements

			<i>Credit Hours</i>
ACCT	101	Accounting Principles I	6
ACCT	102	Accounting Principles II	6
ACCT	111	Accounting Math	3
ACCT	254	Electronic Spreadsheet	3
ACCT	255	Computerized Accounting	3
¹ BA	111	Communications	2
BA	113	Introduction to Business	3
BA	121	Business Communications I	3
BA	133	Principles of Management	3
BA	150	Introduction to Computer Processing	3
or			
CSCI	101	Computer Literacy	4
BA	151	MS-DOS	1
BA	156	WordPerfect Office Software	1
BA	158	Local Area Network	1
BA	255	Desktop Publishing	3
BA	257	Microcomputer Graphics	3
CP	213	Dbase III/Programming and Concepts	4
MMS	134	WordPerfect for Windows	3
MMS	150	Microsoft Windows	1
MMS	200	Microcomputer Topics	2
MMS	259	Macro Programming	1
Total.....			55-56

Additional Degree Requirements

COMM	221 or 130 or 232 or 240	Communications	3
² ENG	101	College Writing	3
ENG	119	Technical Writing	3
MATH	120	Intermediate Algebra	3
MATH	145	Probability and Statistics	3
PHIL	245B	Business Ethics	3
Total.....			71-74

¹Required for certificate only

²This class should be taken in Term II for the degree.

Course Descriptions

MMS 134—WordPerfect for Windows (3 cr)

(Prerequisites: BA 150 or CSCI 101 and 25 net words per minute) Students receive instruction in the use of word processing software using Windows. There is a \$20 supply fee for printer supplies.

MMS 150—Microsoft Windows (1 cr)

(Prerequisites: BA 150 or CSCI 101 and 25 net words per minute) This course is designed as an introduction to Windows. It includes instruction on the basic elements of Windows, as well as these applications: Program Manager, File Manager and Task List. Emphasis is on software functions. There is a \$5 supply fee for printer supplies.

MMS 259—Macro Programming (1 cr)

(Prerequisites: BA 150 or CSCI 101 and 25 net words per minute, ACCT 254 and AA 133 or MMS 134) The basic procedures for writing and running a macro will be covered. The students will examine the five command categories: data manipulation, file manipulation, flow of control, interactive and screen control. The students will examine the syntax or structure of advanced macro commands. There is a \$5 supply fee for printer supplies.

MMS 200—Microcomputer Topics (2 cr)

(Prerequisites: BA 150 or CSCI 101 and 25 net words per minute, MMS 134 and ACCT 254) The topics to be covered include computer viruses, utilities software and installing boards. The course also includes software integration. There is a \$5 supply fee for printer supplies.

PRE-MANAGEMENT

Associate in Arts Degree/

Requirements for Admission to Anderson Schools of Management,
University of New Mexico
Main and Montoya Campuses

This degree is designed to fulfill the freshman and sophomore course requirements for admission to the baccalaureate degree program at the Anderson Schools of Management, University of New Mexico.

The curriculum is based on an articulation agreement between T-VI and UNM which assures the transfer process. The agreement states that course substitutions or waivers will not be accepted from applicants wishing to transfer to UNM. The agreement also states that the student's cumulative grade point average (GPA) should be 2.0 and the cumulative GPA in the specific requirements should be 2.4. Specific

requirements courses must be passed with a grade of C or better. The credit/no credit option is not available for specific requirements courses; students may select the option only for general education requirements.

Credits transferred from another institution may be accepted by T-VI but may not be counted toward the total needed to enter the UNM program.

Students should request program advisor's approval before registering each term. Advisors are located in the Business Occupations Department at each campus. Students should also communicate with the Bachelor of Business Administration program director at the Anderson Schools of Management.

A suggested schedule per term for the associate in arts degree in Pre-Management includes:

- Term 1: ACCT 101, ACCT 111, BA 113, ENG 101, PSY 105
- Term 2: ACCT 102, BA 150 or CSCI 101, ENG 102, ECON 200, MATH 121, PSY 200
- Term 3 and/or 4: Arts & Sciences requirements 25 credit hours
- Term 4: MATH 162, ECON 201, MATH 245 and MATH 245L

Associate in Arts in Pre-Management

General Education Requirements

	<i>Credit Hours</i>
COMM 130; ART 101, 151, 201 or 260; MUS 139 or 140; or modern languages, philosophy or humanities course	9
Anthropology; History; Political Science	12
Biology; Chemistry; Physics (must have labs)	4
Subtotal	25

Specific Requirements

These courses are prerequisites. They must be passed with a grade of C and cannot be taken on a credit/no credit basis.

ENG 101 and 102 or equivalent	6
MATH 121 or 150 and 162 or 180	6-7
ECON 200 and 201	6
PSY 105 and 200 or higher or	
SOC 101 and 200 or higher	6
MATH 245 and MATH 245L	4
BA 150 or CSCI 101	3-4
ACCT 101 and 102	12
ACCT 111	3
BA 113	3
Subtotal	49-51
Total	74-76

REAL ESTATE

Main and Montoya Campuses

The Real Estate courses are for persons seeking pre-licensing or continuing education credits in real estate and appraisal. All courses are approved by the New Mexico Real Estate Commission. Courses listed in this section may be used to meet requirements for the real estate concentration for the associate in applied science in Business Administration degree (see page 106). Course descriptions are on page 112.

Short-term core courses for continuing education credit are offered through T-VI Continuing Education Studies, 224-5580.

Students enrolled in this program may not be eligible to receive financial aid or Veterans Administration benefits.

Credit courses which meet Real Estate Commission requirements are:

		<u>T-VI Credit Hours</u>	<u>Cont Ed Contact Hours</u>	<u>Pre-Licensing Contact Hours</u>
BA 270	Real Estate Law	3	20	30
BA 271	Real Estate Practice	3	20	30
BA 272	Real Estate Appraisal	3	20	30
				*37.5
BA 273	Real Estate Finance	3	20	30
BA 274	Real Estate Investment	3	20	30
BA 275	Property Management	3	20	30
BA 278	Real Estate and Taxes	3	20	30
BA 279	Uniform Standards of Professional Appraisal Practice	2	0	*15
BA 282	Appraising the Single Family Residence	3	20	30
				*37.5

*Pre-licensing for Appraisal Credit

SALES AND CASHIERING

Certificate Program Main Campus

Persons who want to learn a skill quickly and find a job as soon as possible should consider this program. It is designed for those preparing for entry-level jobs in retail and service occupations. It also will benefit students who want to explore sales as a career.

The sales-cashier laboratory teaches the skills of sales, the cash register touch system and human relations. Students work with various makes and models of electronic cash registers and a computerized cash register/scanner.

The 15-week program provides up to 225 hours of classroom instruction and a minimum of 150 hours of paid supervised work experience with an approved cooperating employer. Students who complete the course receive certificates.

This program does not qualify students for Veterans Administration training benefits or other student financial aid.

Sales and Cashiering Program

		<i>Credit Hours</i>
SALE	101L	Sales-Cashier Lab .....9
SALE	193	Cooperative Education .....4
Total		13

Course Descriptions

SALE 101L—Sales-Cashier Lab (9 cr)

(Prerequisite: placement test) Students apply fundamentals of merchandising math and cashiering and demonstrate techniques of retail salesmanship. Human and customer relations are covered extensively.

SALE 193—Cooperative Education (4 cr)

Students work a minimum of 150 hours at retailing-related, teacher-approved work stations. The student trainee is paid by the cooperating employer and supervised jointly by T-VI and the employer. There are times when it is impossible to place all students in work stations because of local employment requirements.





HEALTH OCCUPATIONS

Helping other people makes for a satisfying career, and the Health Occupations Department provides entry-level training and skill upgrading in a variety of medical fields as well as child development.

In 1993-94, associate degrees are offered in Child Development, Medical Laboratory Technology, Nursing and Respiratory Therapy. Certificates are offered in Health Unit Clerk, Nursing Assistant, Phlebotomy, Practical Nurse and Respiratory Therapy Technician.

Classes for most programs are held in Jeannette Stromberg Hall at Main Campus. The Helene Fuld Library and audiovisual collections, part of Main Campus Library Services, provide excellent learning resources.

Learning laboratories are equipped with hospital furnishings and supplies, respiratory therapy machines and life-like models which give students the chance to practice basic skills needed for clinical experiences. Students have supervised patient practicums and observations at different community agencies.

Textbooks: All Health Occupations programs require the student to purchase textbooks.

Enrollment: All Health Occupations programs except Nursing Assistant require a high school diploma or General Education Development (GED) certificate. There is also a math skill requirement, and some programs require the ACT or other examination designated by the Health Occupations Department. In addition, some programs require prerequisite courses. A student may be required to have a physical exam. The T-VI Health Center provides this exam for a fee if the student does not have a private physician.

Credit by examination (challenge) is available for selected courses. The Health Occupations counselor and program directors have detailed information.

Grading Policy: It is strongly recommended that all *required* courses be taken for a grade. All courses within Health Occupations *must* be taken for a grade; the credit/no credit option may not be used except for NURS 115.

Handbooks: For policies and procedures regarding clinical experiences and learning laboratories, students should consult their programs' student handbook.

Special Courses: Optional courses available through Health Occupations are listed below. These courses do not lead to a program certificate although a certificate of completion is given. At least 12 students must sign up for a special course before it can be offered, and each student must meet all stated prerequisites. These courses may not be offered every year. Special courses are:

- Emergency Medical Technician
- Licensed Practical Nurse Refresher
- Nursing Home/Home Health Attendant
- Perioperative Registered Nurse Specialist
- Registered Nurse Refresher

EMERGENCY MEDICAL TECHNICIAN

Special Course

15 Weeks, Main Campus

Summer, Fall, Winter Terms

This course trains ambulance attendants to recognize, stabilize and transport patients with life-threatening emergencies. The 115-hour course is taught by New Mexico licensed emergency medical technician (EMT) instructors. The class includes theory, lab and practical experiences. Students may be required to put in additional hours in local medical facilities. Upon successful completion of the course, a T-VI and EMS (Emergency Medical System) Academy certificate is awarded. The students completing the course are eligible to take the state licensure exam to become licensed emergency medical technicians.

The course is offered each term during evening hours. Participants pay the T-VI registration fee, a \$25 equipment fee and a \$15 supply fee, and purchase the required textbook. The equipment fee covers the cost of CPR instruction, EMS certification, a pocket mask and gloves.

Students enrolled in this course may not be eligible to receive financial aid or or Veterans Administration benefits.

Credit Hours

#EMS 160L Basic EMT Skills6

#Course is offered in the evening

EMS 160L—Basic Emergency Medical Technician Skills (6 cr)

(Prerequisite: high school diploma or GED) Emergency medical techniques currently used to provide emergency care with rescue squads or ambulances are covered in the class. Content includes use of airway adjuncts, oxygen therapy, cardiopulmonary resuscitation (CPR), splinting, patient assessment and treatment for shock.

LICENSED PRACTICAL NURSE REFRESHER

Special Course
Six Weeks, Main Campus
Winter Term

This six-week course is designed to renew skills of inactive licensed practical nurses, introduce new trends and procedures and provide clinical experiences. It meets the New Mexico State Board of Nursing requirements of license renewal for practical nurses who have not worked in nursing for the past five years.

Theory classes and clinical experiences focus on medical and surgical nursing care including pharmacology. Students must receive a grade of C or better in theory and clinical to complete the program.

The refresher course is offered once a year in the winter term. Interested persons can contact the Health Occupations Department for more information. Enrollment is limited to 28 students on a first come, first served basis.

A physical examination and a current CPR certificate are required before the first clinical day.

Participants pay the T-VI registration fee, a \$25 supply fee and a \$10 equipment fee to cover the cost of name tags, parking permits and preventive lab tests in case of needlestick exposure. Students purchase required textbooks; white uniform, shoes, a stethoscope and a transfer belt are required for clinical practice. There are additional fees payable to the New Mexico State Board of Nursing for licensure endorsement and reinstatement if a nursing license has expired. A certificate of completion is awarded at the end of the course.

This program does not qualify students for Veterans Administration benefits or other financial aid.

	<i>Credit Hours</i>
LPNR 155L Refresher Theory/Lab	6
LPNR 165C Refresher Clinical Experience	2
Total	8

LPNR 155L—Refresher Theory/Lab (6 cr)

(Prerequisite: A valid LPN license; corequisite: LPNR 165C) Medical-surgical and specialty nursing trends, procedures and pharmacology are covered in the theory portion of the program. Classes are Monday, Thursday and Friday.

LPNR 165C—Refresher Clinical Experience (2 cr)

(Corequisite: LPNR 155L) Medical and surgical clinical experiences include administration of medications. Clinical experiences are eight-hour days Tuesdays and Wednesdays except the first week of classes.

NURSING HOME/HOME HEALTH ATTENDANT

Special Course

11 Weeks, Main Campus

Summer, Fall, Winter Terms

This 88-hour, eleven-week course is designed to teach basic nursing skills to individuals who wish to work or are working in a nursing home as a nursing home attendant, or in patients' homes as a home health attendant. It has been developed for people who would like to become state certified.

Theory classes include geriatrics, simple anatomy and physiology, rehabilitation, residents' rights and housekeeping chores. Lab experiences focus on personal care, vital signs and mobility skills.

This course is offered every term. Interested persons should contact the Health Occupations Department for more information. Twenty-four persons are enrolled in each course on a first come, first served basis. A certificate of completion is awarded at the end of the course.

Participants pay the T-VI registration fee and are required to purchase the textbook.

This program may not qualify students for Veterans Administration benefits or other financial aid.

Credit Hours

NAHA 102L Nursing Home/Home Health Attendant Theory/Lab5

NAHA 102L—Nursing Home/Home Health Attendant Theory/Lab (5 cr)

This course teaches basic nursing skills necessary to work in a nursing home, rehabilitation center or private home. Personal care and restorative care skills are taught in a lab setting.

PERIOPERATIVE REGISTERED NURSE SPECIALIST

Special Course

15 weeks, Main Campus

Fall Term

This course provides registered nurses with the skills and knowledge to work in hospital operating rooms or free-standing day surgical units. The curriculum offers an introduction to the history, scope and role of the perioperative nurse; the concept of team management and collaboration; the surgical environment, including principles of asepsis, sterilization and safety; use and care of basic instruments and equipment; standards of practice and legal, moral and ethical issues; the nursing process; continuity of care; surgical pharmacological agents; wound healing; and management skills. Students have an opportunity to apply theory to practice in hospital operating rooms.

Written permission of the instructor is required for enrollment in the course. Applicants should call the Health Occupations Department to schedule an interview with the instructor. Applicants must be current registered nurses with six months'

clinical nursing experience within the last two years. During the first week of the course, applicants must submit proof to the instructor of current immunizations, New Mexico RN license, CPR card and a physical exam.

There is a \$25 supply fee and a \$10 equipment fee. The equipment fee covers the cost of parking permits, name tags and preventive lab tests in case of needlestick exposure.

Students must make grades of C or better in all coursework to receive a certificate.

This program will be offered in *fall term only*.

This program may not qualify students for Veterans Administration benefits or other financial aid.

		<i>Credit Hours</i>
PRNS	255L	Perioperative Registered Nurse Specialist
		Theory/Lab 8
PRNS	265C	Perioperative Registered Nurse Specialist
		Clinical Experience 6
		Total 14

PRNS 255L—Perioperative Registered Nurse Specialist Theory/Lab (8 cr)
(Prerequisite: written permission of the instructor; corequisite: PRNS 265C) This course is divided into five units: history and philosophy of perioperative nursing, the surgical environment, perioperative care, intraoperative care and postoperative care. Laboratory experiences in a mock operating room allow practice of skills.

PRNS 265C—Perioperative Registered Nurse Specialist Clinical Experience (6 cr)
(Corequisite: PRNS 255L) Students apply new and previously learned concepts to perioperative nursing in hospital operating rooms.

REGISTERED NURSE REFRESHER

Special Course
 Six Weeks, Main Campus
 Fall Term

This six-week refresher course meets the requirements of the Nursing Practice Act of New Mexico for registered nurses who have not worked in nursing for the past five years. Theory classes and clinical experiences focus on medical and surgical trends, pharmacology, cardiac care, IV therapy and other current subjects. Students must receive a grade of C or better in both theory and clinical to complete the program.

The refresher course is offered once a year in the fall term. Students are enrolled on a first come, first served basis and enrollment is limited to 28 persons. Interested persons can contact the Health Occupations Department for more information.

A physical examination and a current CPR certificate are required before the first clinical day.

Participants pay the T-VI registration fee, \$25 supply fee and \$10 equipment fee to cover the cost of name tags, parking permits and preventive lab tests in case of needlestick exposure. Students also purchase required textbooks. White uniform and shoes, a stethoscope and transfer belt are required for clinical practice. There are additional fees payable to the New Mexico State Board of Nursing for licensure endorsement and reinstatement if a nursing license has expired. A certificate of completion is awarded at the end of the course.

This program does not qualify students for Veterans Administration benefits or other financial aid.

		<i>Credit Hours</i>
RNR	255L	Refresher Theory/Lab 6
RNR	265C	Refresher Clinical Experience.....2
Total		8

RNR 255L—Refresher Theory/Lab (6 cr)

(Prerequisite: A valid RN license; corequisite: RNR 265C) Trends in medical-surgical and specialty nursing, pharmacology and procedures are covered in the course.

RNR 265C—Refresher Clinical Experience (2 cr)

(Corequisite: RNR 255L) Students have supervised medical-surgical clinical experiences including patient care.

CHILD DEVELOPMENT

Associate in Arts Degree
Main Campus

The Child Development program facilitates the learning of theory and skills required for working with children from infancy through adolescence. The two-year program includes classroom instruction and practical experience. Students observe and interact with children in child care facilities, elementary and secondary classrooms and health care settings.

The curriculum provides beginning education courses as well as specialty courses in child development and coursework that promotes reading, writing, speech, math, English and science.

Graduates of the program may find employment in the public school setting as educational assistants and Head Start teachers. They may also find jobs in child care centers or other child development programs. Note: Federal law requires a background check and a fingerprint check on all persons employed in child care centers.

Not all courses will be offered each term. Courses require a minimum enrollment of 12 students. Students are required to maintain a GPA of 2.0 and at least a C in all required courses.

Students are required to purchase textbooks and there is a \$10 equipment fee for CDV 203 (First Aid/CPR) to cover the cost of certification and supplies.

Students interested in transferring to the University of New Mexico for a bachelor's degree in education or family studies must complete all UNM requirements and the College of Education application process. Advisement will be provided by the UNM College Advisement Center to clarify course selections and insure proper planning. Students should contact the center when they begin their studies at T-VI.

The enrollment requirement is a high school diploma or GED.

Associate in Arts Degree in Child Development

			<i>Credit Hours</i>
CDV	101	Parents and Young Children.....	3
*CDV	102	Infant Growth and Development.....	3
*CDV	102L	Infant Growth and Development Lab.....	1
*CDV	103L	Pre-school Growth and Development.....	3
CDV	104	Theories of Child Development and Family Relations.....	3
*CDV	201	Middle Childhood Growth and Development.....	3
*CDV	202	Adolescent Growth and Development.....	3
¹ Child Development Elective		.....	8

Required Arts & Sciences Courses

PHIL	241E	Philosophy of Education.....	3
NUTR	120	Personal and Practical Nutrition	
	or		
NUTR	125	Nutrition.....	3
PSY	105	General Psychology.....	3
ENG	101	College Writing.....	3
ENG	102	Analytic Writing.....	3
COMM	221, 270 or 130	.....	3
ART	101 or 151	.....	3
HIST	101, 102, 161, 162 or 260	.....	3
MATH	120, 145 or 121	.....	3
		Chemistry, Biology or Physics Course.....	8
Total.....			62

¹Child Development Electives

EPT	101	Emergency First Aid Response.....	1
CDV	204	Introduction to Classroom Learning.....	3
CDV	205	Human Development and Learning.....	6
CDV	206	Education of the Exceptional Person.....	3
CDV	207	Management of Early Childhood Programs.....	3

CDV	208	Child Abuse and Neglect	3
CDV	209	Early Childhood Learning Environments	3
CDV	210	Guidance and Early Childhood Development.....	3
CDV	211	Microcomputer Awareness for Educators	1

¹Eight credits are required.

*Course has a prerequisite or a corequisite (see description).

Course Descriptions

CDV 101—Parents and Young Children (3 cr)

Students will study the interactions of parents and children in diverse family configurations throughout the life cycle.

CDV 102—Infant Growth and Development (3 cr)

This course examines the basic needs and growth factors of children with an emphasis on the prenatal period through the second year.

CDV 102L—Infant Growth and Development Lab (1 cr)

(Prerequisite or corequisite: CDV 102) This course requires students to observe infant behavior in a child care setting. The course may be taken concurrently with Infant Growth and Development.

CDV 103L—Pre-school Growth and Development (3 cr)

(Prerequisites: CDV 102, 102L, 104) Students examine the cognitive, physical and social-emotional development of the pre-school child. The course includes laboratory experience in a child care setting.

CDV 104—Theories of Child Development and Family Relations (3 cr)

This course presents an overview of significant theories and research of children's development and family interactions.

CDV 201—Middle Childhood Growth and Development (3 cr)

(Prerequisites: CDV 103L, 104) This course presents the principles of growth and development for 6- to 11-year-old children in cognitive, physical and social-emotional areas.

CDV 202—Adolescent Growth and Development (3 cr)

(Prerequisites: CDV 104, 201) Students examine the development and communication patterns of adolescents within the family setting.

CDV 204—Introduction to Classroom Learning (3 cr)

An introduction to educational psychology and learning with an emphasis on practical application is presented.

CDV 206—Education of the Exceptional Person (3 cr)

This course examines the characteristics and educational needs of exceptional children. Various educational alternatives for each of the exceptionalities will be explored.

CDV 207—Management of Early Childhood Programs (3 cr)

This course will provide students with knowledge and skills to develop an effective early childhood program. Students will examine staff responsibilities, program development, scheduling, behavioral observation and evaluation techniques.

CDV 208—Child Abuse and Neglect (3 cr)

A survey of research about the dysfunctional family is presented with an emphasis on identifying the potential victim of child abuse. Preventive methods will be explored.

CDV 209—Early Childhood Learning Environments (3 cr)

The course is designed to demonstrate how to set up and maintain healthy learning environments. Students will learn to use space, relationships, materials and routines as resources for developing environments that encourage play and learning for children.

CDV 210—Guidance and Early Childhood Development (3 cr)

This course will cover positive guidance and discipline techniques. Emphasis will be placed on providing appropriate experiences for the development of autonomy, self-esteem and social competency in children.

CDV 211—Microcomputer Awareness for Educators (1 cr)

This course provides an introduction to microcomputers, software and several programming languages useful for educational applications.

CDV 212—Special Topics in Childhood Development (3 cr)

(Prerequisite: Completion of all required courses for graduation) This special exit course presents an integrated balance of research findings, theory and application. The seminar focuses on working applications of knowledge about critical contemporary issues.

HEALTH UNIT CLERK

Certificate Program
Main Campus
Winter, Summer Terms

The Health Unit Clerk program prepares persons to work in hospitals, elder care centers, out-patient clinics and physicians' offices. Transcribing doctors' written orders, typing, ordering supplies, answering the telephone, working with computers and communicating with patients, visitors and staff are typical activities.

Enrollment in the Health Unit Clerk program requires a high school diploma or GED, the ability to read at the seventh-grade level and a passing score on the admissions math test. Prior to enrollment in HUC 121C students must type 25 words per minute. Students also must be able to write clearly and accurately and have the ability to speak distinctly to others.

There is a \$30 equipment fee which covers the required uniform top, parking fees and health tests. Neutral-colored slacks or skirts are required but are not covered by the fee.

The 375-hour program lasts 15 weeks, with nine weeks of classroom theory and six weeks of clinical practice in local hospitals and out-patient clinics. A grade of C or better is required for all coursework. A certificate is awarded upon completion.

Health Unit Clerk is offered in the *winter and summer terms only*.

This program may not qualify students for Veterans Administration benefits or other financial aid.

Health Unit Clerk Program

			<i>Credit Hours</i>
HUC	101L	Health Unit Clerk Theory and Lab	8
HUC	121C	Health Unit Clerk Clinical Practice	7
Total			15

Course Descriptions

HUC 101L—Health Unit Clerk Theory and Lab (8 cr)

(Prerequisite: enrollment in the program; corequisite HUC 121C) This course combines a number of topics including orientation to the hospital, patient confidentiality, role of the health unit clerk, medical terminology, anatomy, abbreviations, communications, pharmacological terms, computerized patient information systems and data forms.

HUC 121C—Health Unit Clerk Clinical Practice (7 cr)

(Prerequisites: HUC 101L and ability to type 25 wpm) Supervised clinical experience takes place in local hospitals and hospital out-patient clinics during the last six weeks of the program.

MEDICAL LABORATORY TECHNICIAN

Associate in Science Degree
Main Campus
Begins in the Winter Term

The Medical Laboratory Technician program prepares students to perform laboratory procedures which aid the physician and pathologist in the diagnosis and treatment of disease. Medical laboratory technicians (MLTs) work under the supervision of a pathologist and medical technologist in clinics, hospitals, private laboratories and physician office labs, collecting blood specimens and performing test procedures in such disciplines as clinical chemistry, hematology, immunohematology, immunology, microbiology and urinalysis.

The program is accredited by the American Medical Association's Committee on Allied Health Education and Accreditation. Graduates are eligible to take both the American Society of Clinical Pathologists and the National Certification Agency exams to obtain Certified Medical Laboratory Technician credentials.

The clinical practicum experience at affiliated hospitals and laboratories provides experience in performing laboratory tests under the direction of a clinical instructor. Students must arrange for their own transportation to the hospitals or labs.

A grade of C or better must be earned in all courses to progress through the program and graduate with an associate in science degree.

There is an equipment charge of \$53 for a lab coat, parking fees, name tag and preventive lab tests in case of needlestick exposure. Each MLT laboratory course also has a \$20 fee.

Orientation sessions for the Medical Laboratory Technician Program will be scheduled regularly; students should contact the Health Occupations Department for dates and times. Orientation sessions will include detailed information about the petitioning and selection process, program requirements, and general information about the MLT career. *Anyone interested in the Medical Laboratory Technician program is strongly encouraged to attend one of these orientation sessions.*

Prospective MLT students must declare MLT as their major and submit a petition packet to the Health Occupations counselor between July 19 and August 27 to be considered for the class beginning in January.

To be considered for enrollment into the MLT courses a student must:

- ▲ Be a high school graduate or equivalent as stated on the application.
- ▲ Submit official transcripts of previous education including vocational school or college.
- ▲ Earn satisfactory American College Test (ACT) scores within the past five years. Scores for ACT taken after November 1, 1989: English 19, Reading 18, Math 16, Scientific Reasoning 19. Completed college course work may waive the ACT requirement.

▲ Provide proof of successful completion (with a grade of C or better) of MATH 121 or an equivalent; may be waived with successful completion of CHEM 121L or math placement test indicating math proficiency.

▲ Provide proof of completion (with a grade of C or better) of CHEM 111/112L or a college chemistry course with a lab.

▲ Score at least 85 percent on the Health Occupations Nursing/MLT Basic Math Test within the last 12 months. Students failing to score 85 percent may retake this exam once. Students with two failed attempts must successfully complete MATH 099 and then pass the Nursing/MLT Basic Math Test. Information is available from the Health Occupations counselor.

▲ Have a cumulative T-VI GPA of 2.0 or higher.

Students are responsible for meeting the prerequisite criteria. Once all criteria are fulfilled, students may petition for enrollment in the first term of MLT. Should the number of students eligible to enroll exceed the class size, priority will be given to those who have completed all required Arts & Sciences courses.

Students must submit completed health forms providing evidence of current immunizations and physical exam before enrolling in MLT 151C. This physical exam may be done at the T-VI Health Center for a fee or it may be completed by a private physician. Physical exam forms will be given to the student for completion after selection for the MLT core courses.

Students must submit evidence of current cardiopulmonary resuscitation (CPR) certification prior to enrolling into MLT 151C and MLT 205C.

Arts & Sciences courses listed in the curriculum may be taken prior to entering the program. If a student is selected for MLT core courses, credit for these courses will be given if a grade of C or better was earned in the course and lab. It is highly recommended that students complete as many of the Arts & Sciences courses as possible prior to entering MLT core courses. *Priority for selection may be based upon the number of Arts & Sciences courses completed.* The program begins in the winter term of each year and has a capacity for 20 students.

Medical Laboratory Technician Program

		<i>Credit Hours</i>
MLT	110L Introduction to Medical Technology	4
MLT	112L Clinical Immunology	2
MLT	151C Clinical Experience Urinalysis/Phlebotomy	4
¹ MLT	201L Clinical Chemistry	7
¹ MLT	202L Clinical Microbiology	5
¹ MLT	203L Clinical Hematology/Coagulation	6
¹ MLT	204L Clinical Immunohematology	3
MLT	205C Clinical Experience	12

Required Arts & Sciences Courses¹

² BIO	123	Biology for Health Sciences	3
² BIO	124L	Biology for Health Sciences Lab	1
ENG	101	College Writing	3
CHEM	121L	General Chemistry I	4
BIO	136	Human Anatomy and Physiology for Non-Majors	3
BIO	139L	Human Anatomy and Physiology Lab for Non-Majors	1
CHEM	122L	General Chemistry II	4
BIO	239	Microbiology	3
BIO	239L	Microbiology Lab	1
³ Humanities/Social Science Elective		.....	3
Total			69

¹Courses taught by University of New Mexico faculty at the Health Sciences and Service Building on the UNM campus. Students are charged T-VI tuition rates for these courses.

²BIO 121L may be substituted for BIO 123/124L. BIO 237/247L and BIO 238/248L may be substituted for BIO 136/139L. Additional college courses may be considered for transfer credit if completed at an accredited college or university with a grade of C or better and equivalent credits. Official transcripts must be sent to the T-VI Records Office for consideration of transfer credit eligibility prior to admission to the program.

³PHIL 245M—Biomedical Ethics strongly recommended.

An agreement with the UNM Medical Laboratory Science Department (MLS), allows for the transfer of some or all credits earned at T-VI toward the UNM MLS bachelor's degree. Students should contact the program director for specifics.

In order to satisfy prerequisite and corequisite requirements, the following order of courses is recommended:

- Winter Term: MLT 110L, BIO 123/124L, ENG 101, CHEM 121L
- Summer Term: MLT 151C, BIO 136/139L, CHEM 122L, HUM/SOC elective
- Fall Term: MLT 112L, MLT 201L, BIO 239/239L
- Winter Term: MLT 202L, MLT 203L, MLT 204L
- Summer Term: MLT 205C

Medical Laboratory Technician Advanced Placement

Applicants seeking advanced placement to the Medical Laboratory Technician Program must meet *all* the admission requirements for the program and submit all required documentation by the end of the term preceding the desired term of entry. Applicants must also complete all the general college course requirements scheduled in the curriculum prior to the term of desired entry. Professional MLT courses must be challenged in the order in which they appear in the curriculum.

Applicants granted advanced placement must pay the required T-VI fees, including equipment fees and challenge fees, before the start of the term of entry. Documentation of a physical exam and CPR certifications must be received by the program director prior to the next clinical experience. Advanced placement applicants will be allowed to enroll in MLT courses on a space-available basis.

Route One: transfer of credit for equivalent coursework completed at a regionally accredited technical-vocational school, college or university. Equivalent professional (MLT) courses must have been completed through a CAHEA accredited program in the last five years. Credit is given for courses completed with a grade of C or better with equivalent content and credit hours.

Official transcripts must be sent to the T-VI Records Office for consideration of transfer credit eligibility. Qualified applicants for advanced placement will be admitted on a space-available basis and will be required to complete at least Term V at T-VI in order to be awarded the associate in science degree.

Route Two: documented work experience in laboratory medicine on specimens from humans. MLT 110L and each subject area of the clinical experiences may be challenged through a skills competency test taken before the beginning of the anticipated clinical rotation. There is a \$15 fee for each exam. Applicants must be able to document at least 200 hours of work experience in the appropriate lab section in an accredited medical laboratory in the last five years.

Applicants challenging the clinical experience are required to complete all required MLT theory courses, with the exception of MLT 110L, at T-VI in order to be awarded the associate in science degree.

Route Three: Applicants may transfer credit for required coursework and challenge clinical experiences by the routes listed above. In order to be awarded the associate in science degree and receive verification for certification, these students must complete at least 15 credit hours of required MLT coursework at T-VI. These MLT courses may be theory and/or clinical experiences.

Course Descriptions

MLT 110L—Introduction to Medical Technology (4 cr)

(Prerequisite: permission of the program director; corequisites: ENG 101, BIO 123/124L, CHEM 121L) The student is introduced to basic medical laboratory techniques emphasizing urinalysis. The course includes principles and procedures of the chemical and microscopic analysis of urine, laboratory mathematics, phlebotomy skills and safety procedures.

MLT 151C—Clinical Experience Urinalysis/Phlebotomy (4 cr)

(Prerequisite: MLT 110L; prerequisite or corequisites: BIO 136/139L, CHEM 122L, humanities/social science) This course is designed for students to practice procedures learned in urinalysis and phlebotomy by giving them experience at hospitals.

MLT 112L—Clinical Immunology (2 cr)

(Prerequisite: MLT 151C; prerequisite or corequisites: BIO 239/239L, MLT 201L)

This course offers a basic study of the body's immune response and serological methods used in testing for immunological reactions.

MLT 201L—Clinical Chemistry (7 cr)

(Prerequisites or Corequisites: MLT 112L, BIO 239/239L)

The basic chemical reactions that occur in normal and disease processes of the body and the principles and methods used in testing for chemical components in blood and other body fluids are studied in this course. It includes basic instrumentation and laboratory experiences for performing the basic procedures used in a clinical chemistry laboratory.

MLT 202L—Clinical Microbiology (5 cr)

(Prerequisite: MLT 201L; prerequisite or corequisites: MLT 203L, MLT 204L)

A comprehensive study of clinical bacteriology, mycology and parasitology is presented including macroscopic and microscopic identification of organisms, antibiotics susceptibility testing, life cycles, and pathology and etiology of various diseases. Virology is introduced.

MLT 203L—Clinical Hematology/Coagulation (6 cr)

(Prerequisite or corequisites: MLT 202L, MLT 204L)

A basic study is presented of normal and abnormal blood cell enumeration and morphology and the coagulation mechanisms. Included are the principles of routine procedures performed in the hematology laboratory.

MLT 204L—Clinical Immunohematology (3 cr)

(Prerequisite or corequisites: MLT 202L, MLT 203L)

This course is a basic study of theory, principles and test methods for determining blood group typing, antibody detection and identification, crossmatching and component therapy.

MLT 205C—Clinical Experience (12 cr)

(Prerequisites: MLT 202L, MLT 203L, MLT 204L)

Supervised clinical practice takes place in the clinical laboratories of affiliated hospitals with rotations through hematology/coagulation, microbiology, immunology, chemistry and immunohematology departments. Students practice procedures and apply theory learned in previous MLT courses.

NURSING ASSISTANT

Certificate Program

Main Campus

Summer, Fall, Winter Terms

This program trains students in nursing skills required for the care and comfort of the sick in hospitals, out-patient clinics, nursing homes, public health agencies, private medical offices and the home. Persons successfully completing the program with grades of C or better in all coursework receive certificates.

Prior to enrollment in the Nursing Assistant courses, students must pass the admissions math test and read at the seventh-grade level. Good communication skills and the ability to care for others are necessary for this program. Students must have a New Mexico driver's license and a car because students will visit patients' homes (city buses are not adequate.)

The 15-week program includes 300 instructional hours. Nine weeks are spent in the classroom and laboratory, followed by six weeks of extensive supervised clinical experiences in local hospitals, nursing homes, out-patient clinics and home health care agencies. A student attends an average of 21 hours per week throughout the program.

The student will be required to have a physical exam, PPD and current immunizations (including tetanus, Rubella, and Rubeola) to go to clinical. The T-VI Health Center is able to provide these services if the student does not have a private physician.

A \$35 equipment fee covers the cost of the required uniform top, name tag, stethoscope, health test, CNA pin, parking fees, CPR and first aid certification, a transfer belt and preventive lab tests in case of needlestick exposure. A watch with a second hand, uniform slacks, shirt and shoes are required but not covered by the fee.

Nursing Assistant Program

			<i>Credit Hours</i>
NA	101	Nursing Assistant Theory	4
NA	110L	Nursing Assistant Lab	2
NA	121C	Nursing Assistant Clinical Experiences	6
NA	131	Health Communications	3
NA	141	Mathematics	1
NA	151	Special Topics	0
Total			16

Course Descriptions

NA 101—Nursing Assistant Theory (4 cr)

(Prerequisite: enrollment in the program; corequisites: NA 110L, NA 121, NA 131, NA 141, NA 151) During the first nine weeks students attend classes covering basic nursing skills used in health care agencies and homes. Other topics covered are geriatrics, home management, community resources and purchase and preparation of foods.

NA 110L—Nursing Assistant Lab (2 cr)

(Corequisites: NA 101, NA 141) Students practice basic nursing skills in the laboratory. The class meets five hours a week for five weeks.

NA 121C—Nursing Assistant Clinical Experiences (6 cr)

(Prerequisites: NA 101, NA 110L, NA 131, NA 141, NA 151) The last six weeks of the program include supervised practice of nursing skills in hospitals, elder care centers and patients' homes throughout the city.

NA 131—Health Communications (3 cr)

(Corequisite: NA 101) This course includes introductions to medical terminology, anatomy and physiology, and nutrition. The basic structure and normal functions of the body systems and some of the health problems which can occur in those systems are covered.

NA 141—Mathematics (1 cr)

(Corequisite: NA 101) Basic math is reviewed with practice working selected problems.

NA 151—Special Topics (0 cr)

(Corequisite: NA 101) Special topics are covered such as nutrition labs, blood pressure practice, home health care post-conferences and clinical seminars.

PRACTICAL NURSING

Certificate Program

Main Campus

Begins in the Fall Term

This program prepares practical nurses to care for patients in a variety of health care facilities under the supervision of registered nurses and physicians. The T-VI/Presbyterian Hospital School of Practical Nursing is accredited by the National

League for Nursing and approved by the New Mexico State Board of Nursing (NMSBN).

Graduates of this program are eligible to take the licensing examination for practical nurses administered by the NMSBN. Following licensure, LPNs may find employment in long-term care facilities, hospitals, physicians' offices and other health care agencies.

Orientation sessions for the nursing programs are scheduled regularly. These sessions review levels of nursing, the petition process and program requirements. Individuals interested in nursing are strongly encouraged to attend one of these sessions. *Applications are being accepted for the Practical Nurse major.* When ready to enter clinical courses, students must petition for selection. *Petitions for selections are accepted early in the summer term for entrance in the fall term.* Students should contact the Health Occupations Department for the dates and times of the orientation sessions and when petitions for selection will be accepted. In addition, it is strongly recommended that applicants review prerequisites and program requirements with the Health Occupations counselor.

To be eligible to enroll in Practical Nursing courses a student must:

- ▲ Be a high school graduate or equivalent as stated on application.
- ▲ Earn satisfactory American College Test (ACT) scores within the past five years. Scores for ACT taken after November 1, 1989: English 19, Reading 18, Math 16, Scientific Reasoning: 19. Another test may be used; students should contact the department for more information.
- ▲ Score 85 percent on the Nursing/MLT Basic Math Test. Applicants may retest only once within the year of taking the test. Since there is only one retest per year, applicants with an unsuccessful attempt on the test are encouraged to complete a Health Occupations approved math course before retesting. Math test scores are valid for *one year only*.
- ▲ Have a cumulative T-VI GPA of 2.0 or higher.

Students are responsible for meeting the prerequisite criteria and petitioning for selection into the clinical courses. Should the number of students eligible to enroll in the first clinical course exceed the class size quota, priority will be given to those students who have completed all of the required Arts & Sciences courses including anatomy and physiology.

After selection into the first clinical course, students must submit:

- ▲ Completed physical examination and health forms with evidence of current immunizations before beginning clinical courses.
- ▲ Evidence of current certification in cardiopulmonary resuscitation (CPR) for health professionals before beginning clinical courses. CPR certification must be kept current throughout the program.

The Practical Nurse program includes Arts & Sciences courses for which college credit is awarded. The anatomy and physiology course must be completed within five years from the date of application. A minimum grade of C must be earned in all courses (Nursing and Arts & Sciences) to continue in the program and graduate. In

addition, competency in dosage calculations, as tested by the PN calculation exam, must be maintained for progress in the program.

Students must arrange for their own transportation to attend all classes, observations and clinical experiences as scheduled. There may be some required evening clinical hours as well as daytime hours.

There is an \$86 equipment fee for required uniforms, stethoscope, scissors, parking fee, transfer belts, identification tags and preventive lab tests in case of needlestick exposure. Students are responsible for the expenses of the physical examination, a watch with a second hand, uniform shoes, cap, graduation pin, textbooks and licensing exam fees.

Information about Licensure as a Practical Nurse (P.N.)

The New Mexico Board of Nursing may **deny**, revoke or suspend any license held or *applied for* under the Nursing Practice Act, upon grounds that the licensee or applicant violates any of the following actions:

1. is guilty of fraud or deceit in procuring or attempting to procure a license or certificate of registration;
2. is unfit or incompetent;
3. is convicted of a felony subsequent to licensure;
4. is habitually intemperate or is addicted to the use of habit-forming drugs;
5. is mentally incompetent;
6. is guilty of unprofessional conduct; or
7. willfully or repeatedly violates any provisions of the Nursing Practice Act;
8. has had a license to practice revoked, suspended or denied in any jurisdiction, territory or possession of the United States or another country for acts of the license similar to acts described in this subsection.

Practical Nurse Program

Credit Hours

Required Arts & Sciences Courses

¹ BIO	136	Human Anatomy and Physiology	3
¹ BIO	139L	Human Anatomy and Physiology Lab	1
ENG	101	College Writing	3
NUTR	125	Nutrition	3
² PSY	105	General Psychology	3
COMM	221	Interpersonal Communication	3

Practical Nurse Courses

NURS	115	Dosage Calculations	1
³ NURS	124C	Fundamentals of Nursing	7
⁴ NURS	125C	Medical-Surgical Nursing	8

⁵ PN	131	Pharmacology	3
PN	146C	Maternal-Child/Medical-Surgical Nursing	16
Total			50

¹BIO 237/247L (if taken before September 1989) or BIO 237/247L and BIO 238/248L (if taken after August 1989) may be substituted.

²PSY 102 or Psy 220 may be substituted.

³NURS 110/121C may be substituted.

⁴NURS 111/122C may be substituted.

⁵NURS 231 may be substituted.

In order to satisfy prerequisite and co-requisite requirements, the following order of courses is recommended:

Term I: NURS 115, NURS 124C, NUTRITION 125, BIO 136/139L, ENG 101

Term II: NURS 125C, PN 131, COMM 221, PSY 105

Term III: PN 146C



PRESBYTERIAN HOSPITAL SCHOOL OF PRACTICAL NURSING

The Presbyterian Healthcare Services (PHS) School of Practical Nursing was started in 1956 at Presbyterian Hospital. In 1965 T-VI assumed administrative responsibility for the school. Presbyterian continues to support the school by providing clinical facilities for patient care experiences. The PHS School of Practical Nursing in 1972 became the first practical nursing program in New Mexico to be accredited by the National League for Nursing. The program was reaccredited in 1989. It is also included in T-VI's accreditation from the Commission on Higher Education of the North Central Association of Colleges and Schools.

Practical Nurse Advanced Placement

There are two ways in which advanced standing can be given to Practical Nurse applicants: credit granted for equivalent coursework and/or successful completion of a challenge exam.

The Arts & Sciences courses required in the Practical Nurse program must be transferred, taken or challenged through the Arts & Sciences Department. The nursing courses must be transferred, taken or challenged through the Health Occupations Department. All advanced placement students must complete NURS 201 prior to entry into the program.

Transfer Application: T-VI will grant credit for equivalent coursework completed at an accredited technical-vocational school or college when official transcripts show grades of C or better on equivalent courses. Students desiring to transfer nursing courses to T-VI's Practical Nurse Program should contact the program director. Nursing courses are only valid for three years from the date of application to

T-VI. Transfer students are required to enroll a minimum of one term and complete 15 credit hours.

Challenge Application: Advanced placement by challenge exam is offered to students who meet one of the following criteria: completion of a formal course of study in a nursing-related field within a post-secondary educational institution (e.g.; military corps member) or performance of basic nursing skills during employment in an in-patient setting within the last three years.

Individuals interested in challenging nursing coursework must make an appointment with the director of the nursing programs to determine eligibility and to discuss the procedure. The challenge procedure includes theory and practical exams. Challenge exams are available for NURS 115, NURS 124C and NURS 125C. The cost ranges from \$15 to \$40 per course.

NURSING

Associate in Science Degree
Main Campus
Summer, Fall, Winter Terms

The associate degree in nursing (ADN) program prepares technical nurses to provide nursing care to individuals or groups admitted to health care agencies. The clients have common, well defined health problems. Graduates work in structured health care settings where they provide and manage client care, teach and promote communication while participating as members of the nursing profession.

Orientation sessions for the nursing programs are scheduled regularly. These sessions review levels of nursing, the petition process and program requirements. Individuals interested in nursing are strongly encouraged to attend one of these sessions. Students may apply to the program at any time but must petition for selection into the clinical courses. *Petitions for selection to the clinical courses are being accepted early in the term prior to the desired term of enrollment.* Students should contact the Health Occupations Department for the dates and times of the orientation sessions and to find out the dates petitions for selection will be accepted.

The ADN program is accredited by the National League for Nursing and approved by the New Mexico State Board of Nursing (NMSEB). Graduates are eligible to take the licensing examination for nurses administered by the NMSBN.

To be considered for enrollment in Nursing courses a student must:

- ▲ Be a high school graduate or equivalent as stated on application.
- ▲ Submit official transcripts of previous education including vocational school or college.
- ▲ Earn satisfactory American College Test (ACT) scores within the past five years. Scores for ACT taken after November 1, 1989: English 19, Reading

18, Math 16, Scientific Reasoning 19. Another test may be used; contact the department for more information.

College courses or 100 level courses may substitute for ACT scores in order to establish *eligibility for enrollment* in Nursing courses. Students should consult the Health Occupations Department counselor or admissions counselors for information on college course substitutes for ACT scores.

▲ Provide proof of meeting the chemistry/biology course requirements. These may be met by:

—Completion of BIO 123/124L, Biology for Health Sciences, and Chemistry 111/112L, Introduction to Chemistry or

—A year of high school chemistry and a year of advanced high school biology. Written approval from the Arts & Sciences Department is required.

▲ Score 85 percent on the Nursing/MLT Basic Math Test. Applicants may retest only once. Since there is only one retest per year, applicants with an unsuccessful attempt on the test are encouraged to complete a Health Occupations approved basic math course before retesting. Math test scores are valid for *one year only*.

▲ Have a cumulative T-VI GPA of 2.0 or higher.

Students are responsible for meeting the prerequisite criteria. Once all criteria are fulfilled students may petition for enrollment in the first term of nursing. Should the number of students eligible to enroll in the first clinical course exceed the class size, priority will be given to those who have completed all required Arts & Sciences courses including anatomy and physiology. After selection to the nursing courses students must submit to the nursing programs office:

▲ Completed physical examination and health forms with evidence of current immunizations before beginning clinical courses.

▲ Evidence of current certification in cardiopulmonary resuscitation (CPR) before beginning clinical courses. CPR certification must be kept current throughout the program.

Required anatomy and physiology and microbiology courses must have been taken within five years of the date of application to the nursing programs. Students must earn a minimum grade of C in all courses to advance to the next term and graduate. In addition, competency in dosage calculations, as tested by calculation exams, must be maintained for progress in the program.

Students must attend classes, observation and clinical experiences as scheduled, and arrange for their own transportation to the agencies and hospitals. There may be some required evening clinical hours as well as daytime hours.

Equipment fee for the first term is \$86 for required uniforms, stethoscope, scissors, transfer belts, parking fees, identification tags and preventive lab test in case of needlestick exposure. There is a \$10 fee the third term for parking fees. Students are responsible for the expenses of the physical examination, a watch with a second hand, uniform shoes, cap, graduation pin and licensing exam fees.

Information about Licensure as a Registered Nurse (R.N.)

The New Mexico Board of Nursing may deny, revoke or suspend any license held or *applied for* under the Nursing Practice Act, upon grounds that the licensee or applicant violates any of the following actions:

1. is guilty of fraud or deceit in procuring or attempting to procure a license or certificate of registration;
2. is unfit or incompetent;
3. is convicted of a felony subsequent to licensure;
4. is habitually intemperate or is addicted to the use of habit-forming drugs;
5. is mentally incompetent;
6. is guilty of unprofessional conduct; or
7. willfully or repeatedly violates any provisions of the Nursing Practice Act;
8. has had a license to practice revoked, suspended or denied in any jurisdiction, territory or possession of the United States or another country for acts of the license similar to acts described in this subsection.

Associate Degree in Nursing Program

		<i>Credit Hours</i>
Required Arts & Sciences Courses		
BIO	237	Anatomy and Physiology I.....3
BIO	247L	Anatomy and Physiology I Lab.....1
ENG	101	College Writing .....3
¹ PSY	105	General Psychology.....3
BIO	238	Anatomy and Physiology II .....3
BIO	248L	Anatomy and Physiology II Lab .....1
NUTR	125	Nutrition .....3
PSY	220	Developmental Psychology .....3
BIO	239	Microbiology for Health Sciences .....3
BIO	239L	Microbiology for Health Sciences Lab .....1
PHIL	245M	Biomedical Ethics .....3
² Elective		.....3
Required Nursing Courses		
NURS	115	Dosage Calculations .....1
³ NURS	124C	Fundamentals of Nursing.....7
⁴ NURS	125C	Medical-Surgical Nursing.....8
⁵ NURS	224C	Maternity Nursing .....5
⁶ NURS	225C	Psychiatric Nursing .....5
NURS	231	Pharmacology in Nursing .....3

NURS	242	Nursing Trends and Issues	1
NURS	246C	Pediatric/Advanced Medical-Surgical Nursing	10
		Total	70

¹May substitute PSY 101 or 102

²May be outside of Arts & Sciences with departmental approval; may not be a lab/science course

³May substitute NURS 110/121C

⁴May substitute NURS 111/122C

⁵May substitute NURS 210/221C

⁶May substitute NURS 211/222C

In order to satisfy prerequisite and corequisite requirements, the following order of courses is recommended:

Term I: NURS 115, NURS 124C, BIO 237/247L, ENG 101, PSY 105

Term II: NURS 125C, BIO 238/248L, NUTRITION 125, PSY 220

Term III: NURS 224C, NURS 225C, BIO 239/239L, NURS 231

Term IV: NURS 246C, NURS 242, PHIL 245M, Elective

Associate Degree in Nursing Advanced Placement

To apply for advanced standing in the Associate Degree Nursing program, individuals must meet the enrollment requirements for the program.

All advanced placement students must take NURS 201 prior to enrollment in the Nursing courses.

Advanced placement may be granted in three ways:

Challenge: challenge exam for students who meet one of the following criteria: Completion of a formal course of study in a nursing related field within a post-secondary educational institution (e.g. military corps member), or performance of basic nursing skills during employment in an in-patient setting within the last three years. Individuals interested in challenging nursing coursework must make an appointment with the director of the nursing program to determine eligibility and to discuss the procedure. The challenge process includes theory and practical exams. Challenge exams are available for NURS 115, NURS 124C, NURS 125C, and NURS 231. There is a \$15-\$40 fee for each challenge exam.

Transfer: transfer from an approved associate degree or baccalaureate nursing program with equivalent courses. To apply for transfer, the individual must submit evidence of completion of equivalent courses with minimum grades of C. Nursing courses are only valid for three years from the date of application. Transfer students are required to enroll a minimum of one term and complete 15 credit hours at T-VI. For specific information, students should contact the director of the nursing programs.

LPN Mobility: The associate degree program is designed to enroll qualified licensed practical nurses into the third term who meet the following requirements:

▲ Meet all enrollment criteria for the ADN program including official transcripts of previous education in a vocational school or college. (For credit

waiver for NURS 124C and NURS 125C students must provide proof of current LPN licensure.)

▲ Pass the Nursing Mobility Profile I examination if an approved post-secondary practical nurse program has not been completed.

▲ Provide proof of completion or challenge of the following courses with a minimum grade of C (anatomy and physiology and microbiology courses must be taken within five years from the date of application):

BIO 237/247L, Anatomy and Physiology I
BIO 238/248L, Anatomy and Physiology II
ENG 101, College Writing
PSY 105, General Psychology
PSY 220, Developmental Psychology
NUTR 125, Nutrition
NURS 115, Dosage Calculations (CR/NC)
NURS 201, Nursing Concepts

Students are responsible for meeting the prerequisites and notifying the departmental counselor. Students will be notified by mail when they are selected to enter the clinical courses. Should the number of advanced placement students eligible to enroll exceed the class size, priority will be given to those students who have completed all of the required Arts & Sciences courses. After selection for enrollment in the clinical courses, students must submit:

Completed physical examination and health forms with evidence of current immunizations before beginning clinical courses.

Evidence of current certification in cardiopulmonary resuscitation (CPR) before beginning clinical courses. CPR certification must be kept current throughout the program.

Students pay a \$10 equipment fee upon enrollment in NURS 224C for parking, name tags and preventive lab tests in case of needlestick exposure. Students also are responsible for the expenses of physical exams, uniforms, transfer belts, shoes, watch with a second hand, stethoscope, bandage scissors, graduation pin and licensing fees.

Course Descriptions

NURS 115—Dosage Calculations (1 cr)

(Prerequisite: Nursing Basic Math Test and Nursing director approval) Methods of dosage calculations for oral and parenteral medications, including intravenous therapy and pediatric dosages, are presented. The course is offered for CR/NC.

NURS 124C—Fundamentals of Nursing (7 cr)

(ADN Students—prerequisite: Nursing director approval; prerequisite or corequisite: BIO 237/247L, PSY 105, ENG 101, NURS 115. PN Students—prerequisite: Nursing director approval; prerequisite or corequisite: BIO 136/139L, NUTR 125, ENG 101, NURS 115) The conceptual framework of the curriculum and nursing process are introduced. Key concepts are developed using Orem's self-care deficit model. Nurs-

ing skills are developed to meet the universal and developmental needs of adults across cultures. Lecture: four hours; lab/clinical: nine hours.

NURS 125C—Medical-Surgical Nursing (8 cr)

(ADN Students—prerequisites: BIO 237/247L, NURS 115, NURS 124C, ENG 101, PSY 105; prerequisites or corequisites: BIO 238/248L, NUTR 125, PSY 220. PN Students—prerequisites: NURS 115, NURS 124C, BIO 136/139L; NUTR 125, ENG 101; prerequisites or corequisites: COMM 221, PSY 105, PN 131) Nursing process is used to identify ways to meet self-care deficits due to common illnesses or injuries of adult clients. The role of the nurse in promoting health deviation self-care in adult clients is presented. Lecture: four hours; clinical: 12 hours.

NURS 201—Nursing Concepts for LPN/Transfer Students (2 cr)

(ADN Students—prerequisites: acceptable ACT scores for admission, ENG 101, PSY 105, BIO 237/247L. PN Students—prerequisites: acceptable ACT scores for admission; prerequisites or corequisites: ENG 101, NUTR 125, BIO 136/139L) An introduction to the conceptual framework of the nursing program and an in-depth study of the nursing process. This course is required for LPNs and all applicants who seek advanced placement in the practical nurse or associate degree program. The course is offered two times a year.

NURS 224C—Maternity Nursing (5 cr)

(Prerequisites: Calculation Exam II, BIO 238/248L, NURS 125C, ENG 101, NUTR 125, PSY 220; corequisites: NURS 225C)* Presents a study of the child-bearing family with universal, developmental and health deviations self-care requisites. Content integrates the nursing process, client education, nursing care systems and assessment skills. Lecture: three hours; clinical: six hours.

NURS 225C—Psychiatric Nursing (5 cr)

(Prerequisites: Calculation Exam II, BIO 238/248L, NURS 125C, ENG 101, NUTR 125, PSY 220; corequisite: NURS 224C)* The study of self-care deficits in clients with psychiatric health deviations is presented. The concept of therapeutic communication is developed as a framework for using the nursing process to provide care for these clients. Lecture: three hours; clinical: six hours.

NURS 231—Pharmacology in Nursing (3 cr)

(Prerequisites: BIO 238/248L, NURS 125C) A study utilizing nursing process concepts necessary for nursing judgement in the use of chemical agents and the theoretical base required to administer medications. Information covers drugs in current use, including pharmacol kinetics, pharmacodynamics, therapeutic uses, adverse reactions, precautions and contraindications.

NURS 242—Nursing Trends and Issues (1 cr)

(Corequisite: NURS 246C) Students discuss the role of the technical nurse in relation to trends, legal/ethical issues, professional relationships and health care delivery. The

course is designed to develop critical thinking and application of principles of client-care management.

NURS 246C—Pediatric Advanced Medical Surgical Nursing (10 cr)

(Prerequisites: Calculation Exam III, NURS 224C, NURS 225C; prerequisite/corequisites: BIO 239/239L, NURS 231; corequisite: NURS 242)* A study, utilizing nursing process, of ways to meet the self-care needs of children as well as adults with complex health problems, including modifications to meet universal, developmental and health deviation needs of children and their families. Lecture: five hours; clinical: 15 hours.

NURS 296—Topics in Nursing (1-3 cr)

(Prerequisites: may vary) Various topics in nursing are presented.

PN 131—Pharmacology (3 cr)

(Prerequisites: BIO 136/139L, NURS 124C; corequisite: NURS 125C) Focus is on the effects of commonly used drugs on various body systems. Dosages, application, side effects and/or toxicity, laboratory tests performed to monitor actions, and effects of specific drugs are discussed. Nursing implications and responsibilities are integrated.

PN 146C—Maternal-Child/Medical-Surgical Nursing (16 cr)

(Prerequisites: PN Calculation Exam, NURS 125C, PN 131)* A study, using nursing process, of ways to meet self-care deficits due to developmental factors or more complex health conditions of maternal-child clients and adults. The legal/ethical role of the practical nurse is presented. Lecture: nine hours; clinical: 21 hours.

*Calculation exams must be passed with a score of 85% or better.

PHARMACY TECHNICIAN

Certificate Program

Main Campus

Winter, Summer Terms

The Pharmacy Technician Program is a two-term certificate program that prepares persons to assist pharmacists in the community or hospital. Students learn to prepare, mix, assemble and label medications. They also learn to prepare sterile products including irrigations and intravenous admixtures. Instruction is provided in the classroom, in laboratories on campus and in local health care facilities.

To be eligible to enroll in Pharmacy Technician courses a student must have a high school diploma or GED. In addition, a math placement test must be successfully completed.

Arts & Sciences courses listed in the curriculum may be taken prior to entering the program. These courses must be completed with a grade of C or better.

There is a \$35 lab fee for two lab coats, name tags and parking fees. Students are also required to purchase their own textbooks.

Pharmacy Technician Program

		<i>Credit Hours</i>
Term 1		
+CHEM	111/112	Introduction to Chemistry .....4
+CSCI	101	Computer Literacy .....4
PT	110	Introduction to Pharmacy Technician .....3
PT	111L	Pharmacy Technician Lab I .....3
PT	115	Pharmacy Technician Anatomy and Physiology .....3
Subtotal		17
Term 2		
+COMM	221	Interpersonal Communication Studies .....3
PT	120	Advanced Pharmacy Technician .....3
PT	121L	Pharmacy Technician Lab II .....2
PT	122C	Pharmacy Technician Practicum .....5
PT	125	Pharmacology for Pharmacy Technicians .....3
Total		33

+Arts & Sciences courses

Course Descriptions

PT 110—Introduction to Pharmacy Technician (3 cr)

This beginning course provides a discussion of the pharmacy technician's role, the Pharmacy Practice Act, ethics, prescription preparation and institutional drug distribution systems. The student also learns pharmaceutical calculations for oral, parenteral and IV preparations.

PT 111L—Pharmacy Technician Lab I (3 cr)

This campus lab will provide opportunities for skill development in prescription preparation and pharmaceutical calculations. Infection control and universal precautions will be emphasized.

PT 115—Pharmacy Technician Anatomy and Physiology (3 cr)

This course includes medical terminology and an integrated study of the structures and function of the human body. Common disease entities related to body systems are presented.

PT 120—Advanced Pharmacy Technician (3 cr)

This course covers compounding and packaging of drugs, preparation of intravenous admixtures, inventory maintenance, clerical skills and institutional drug distribution processes.

PT 121L—Pharmacy Technician Lab II (2 cr)

This campus lab will provide opportunities for skill development in compounding/reconstitution, labeling, aseptic technique, use of laminar flow hoods and use of the computer.

PT 122C—Pharmacy Technician Practicum (5 cr)

Students are assigned to institutional and community pharmacies for practical experience in applying what they have learned in classrooms and labs. The practicum requires 15 hours each week during the second term.

PT 125—Pharmacology for Pharmacy Technicians (3 cr)

This is a study of therapeutic drug categories.

PHLEBOTOMY

Certificate Program
Main Campus
Fall, Winter Terms

The primary work of a phlebotomist is to draw blood specimens from health care clients for testing. A phlebotomist works full or part time in a medical laboratory under the supervision of a registered technologist.

The job includes establishing a professional relationship with the client, selecting and preparing the blood collection site, collecting specimens, preparing and maintaining equipment used to obtain blood specimens, caring for the client after specimen collection, entering data into the computer for the testing process and performing clerical duties related to laboratory test record keeping. The job also requires a lot of walking, bending and standing.

To enroll in the Phlebotomy courses, students must have a high school diploma or GED, pass the admissions math test and read at the seventh-grade level. They must present evidence of current certification in cardiopulmonary resuscitation (CPR) before beginning the clinical part of the course. Students should possess the ability to communicate verbally with clients, basic math skills for timing tests, and manual dexterity required to handle laboratory equipment. Students must be able to read orders and labels associated with medical procedures.

To receive a certificate, a student must complete the 10-week program, which includes 250 hours of classroom instruction and clinical experience in local hospital and/or clinics, with a grade of C or better in all courses.

A \$50 equipment fee covers the cost of a lab coat, health tests, name tags, parking fees and preventive lab tests in case of needlestick exposure. Students are also required to purchase textbooks.

The program is offered on the basis of demand and need. Information on starting dates is available from the Health Occupations Department.

This program does not qualify students for Veterans Administration benefits or other financial aid.

Phlebotomist Program

		<i>Credit Hours</i>
PHLB	101L	Phlebotomist Theory and Lab 6
PHLB	121C	Phlebotomist Clinical Practice 3
Total		9

Course Descriptions

PHLB 101L—Phlebotomist Theory and Lab (6 cr)

(Prerequisite: enrollment criteria for the program; corequisite: PHLB 121C) Students learn the procedures for collecting blood and other specimens from patients. Theory associated with the procedures is stressed. An introduction to the anatomy and physiology of the major body systems, computer processes and laboratory clerical duties is also included.

PHLB 121C—Phlebotomist Clinical Practice (3 cr)

(Corequisite: PHLB 101L) Students practice skills and apply the theory learned in class during supervised clinical practice in city hospitals and/or clinics.

RESPIRATORY CARE PROGRAMS

Respiratory care is an allied health profession which deals with diagnostic testing, therapeutic treatment and critical care support for patients suffering from life-threatening or chronically disabling cardiopulmonary disorders.

A **respiratory therapy technician** is a graduate of a 12-month certificate program and is capable of performing specific respiratory care diagnostic tests and treatments covering a variety of well defined therapeutic techniques.

A **respiratory therapist** is a graduate of a two-year associate in science degree or four-year bachelor of science degree program and is capable of performing at the advanced practitioner level of respiratory care.

Under medical direction, the respiratory care practitioner must apply medical and scientific knowledge to the assessment and treatment of clinical problems in respiratory care. Respiratory care practitioners monitor and evaluate cardiorespiratory function, research treatment effectiveness in cardiopulmonary disease and act as consultants to physicians, nurses and other health care specialists concerning application of respiratory care to cardiopulmonary pathology. Respiratory care practitioners manage respiratory care departments in hospitals and supervise other practitioners in the delivery of pulmonary care. The respiratory care practitioner also serves as educator to patients and the public and in formal training programs.

Employment opportunities for respiratory care practitioners are available in urban and rural health care facilities nationwide, including veteran and military base hospitals. Employment opportunities also exist with medical equipment suppliers and agencies providing home health care and rehabilitation services for pulmonary patients.

RESPIRATORY THERAPY TECHNICIAN

Certificate Program

Main Campus

Begins in the Fall Term

The Respiratory Therapy Technician (RTT) program teaches the knowledge and skills required for diagnosis, treatment and care of patients with breathing problems. The one-year program includes classroom and laboratory instruction and supervised clinical experiences at local hospitals and other health care facilities.

The program is accredited by the American Medical Association's Committee on Allied Health Education and Accreditation and the Joint Review Committee for Respiratory Therapy Education. Graduates are eligible to take the National Board for Respiratory Care certification exam to obtain Certified Respiratory Therapy Technician (CRTT) credentials. Successful completion of this exam also allows individuals to be recognized as licensed Respiratory Care Practitioners (RCP) in New Mexico.

To be *eligible to enroll* in RTT courses students must:

▲ Declare RTT as their major at T-VI.

▲ Achieve a T-VI cumulative GPA of 2.0 or higher.

▲ Be a high school graduate or possess a GED diploma as stated on the application.

▲ Complete the ACT or an exam recognized by the Health Occupations Department (test taken within the last five years). Minimum ACT scores (after November 1989): Math 16, Scientific Reasoning 19, English 19, Reading, 18.

College courses or 100 level courses may substitute for ACT scores in order to establish *eligibility for enrollment* in RTT courses. Students should

consult the Health Occupations Department counselor or admissions counselors for information on college course substitutes for ACT scores.

▲ Complete BIO 123/124L (or its equivalent) with a grade of C or better.

▲ Submit a "Petition for Selection" packet to the Health Occupations counselor during dates published by the Health Occupations Department each year.

Students are responsible for meeting the eligibility requirements and petitioning for selection into the RTT courses. Students must make sure that required documents are on file in the Health Occupations Department counselor's office and the T-VI Records Office. Orientation sessions for the RT/RTT program and the petitioning process are offered each term. All interested students are urged to attend.

If the number of eligible students exceeds the number of positions available, preference will be given to those who have completed all required Arts & Sciences courses for the RTT curriculum. If necessary, petitioners will be ranked by date of completion of eligibility requirements.

Eligible students are selected to start RTT coursework each fall term. Required Arts & Sciences courses may be completed while students are progressing through the selection process.

Students permitted to enroll in RTT courses for the fall term must have a physical exam and submit a completed health form with evidence of current immunizations before beginning clinical courses.

Students pay a \$90 equipment fee when they begin the program to cover the cost of the required uniform, stethoscope, identification badges, CPR certification, parking fees and preventive lab tests in case of needlestick exposure. Additional student costs include purchase of bandage scissors, graduation pin, pre-entrance physical exam, and textbooks.

Students admitted to the program must earn a grade of C or better in all courses to progress through the program and graduate. A 2.0 GPA is required to graduate from the program.

Graduates of the Respiratory Therapy Technician program may continue their training by completing a second year of coursework in the Respiratory Therapist associate degree program. In addition, students who complete Terms I and II of the Technician Program may enter Respiratory Therapist courses under advanced placement (See Respiratory Therapist Advanced Placement).

Respiratory Therapy Technician Program

			<i>Credit Hours</i>
RTT	110	Respiratory Therapy Principles and Practices I.....	3
RTT	111	Respiratory Therapy Principles and Practices II	3
RTT	112	Respiratory Therapy Principles and Practices III	3
RTT	115L	Respiratory Therapy Lab I	1
RTT	116L	Respiratory Therapy Lab II	1
RTT	117L	Respiratory Therapy Lab III.....	1

RTT	121C	Clinical Experiences I	5
RTT	122C	Clinical Experiences II	5
RTT	123C	Clinical Experiences III	5
¹ RTT	131	Physics of Respiratory Therapy	3
RTT	132	Cardiopulmonary Physiology	3
RTT	133	Pharmacology of Respiratory Therapy	3

Required Arts & Sciences Courses

² BIO	136/139L	Human Anatomy and Physiology with Lab	4
CSCI	101	Computer Literacy	3-4
Total			43-44

¹A college physics course may be substituted for RTT 131.

²BIO 237/247L and BIO 238/248L may be substituted for BIO 136/139L.

Note: Additional college courses may be substituted for transfer credit if completed at a regionally accredited college or university with a grade of C or better and equivalent content coverage of subject and credit hours. Official transcripts must be sent to the T-VI Records Office for consideration of transfer credit eligibility prior to admission to the program.

In order to satisfy prerequisite and corequisite requirements along with RTT courses, the following order of coursework is recommended:

Fall term: RTT 110, RTT 115L, RTT 121C, RTT 131 and BIO 136/139L

Winter term: RTT 111, RTT 116L, RTT 122C, RTT 133 and CSCI 101

Summer term: RTT 112, RTT 117L, RTT 123C, RTT 132

Respiratory Therapy Technician Advanced Placement

There are two ways in which advanced standing can be granted to Respiratory Therapy Technician applicants: transfer and challenge. Advanced placement means enrollment in RT coursework above the level of RT 210. Persons wanting to transfer or challenge RTT courses should contact the Health Occupations Department.

Transfer: transfer credit for equivalent arts and science courses completed at a regionally accredited technical-vocational school, college or university. Transfer credit may be awarded for respiratory therapy technician courses completed at a CAHEA/JRCRTE accredited program. Credit may be given when the T-VI Records Office receives official transcripts showing grades of C or better on equivalent courses.

Challenge: challenge exams for people with documented respiratory therapy work experience. There is a \$15 fee for each challenge exam.

Challenge and transfer students accepted must submit transcripts of prior education and be a high school graduate or possess a GED diploma. They must also meet all eligibility requirements for selection into the program and have acceptable ACT scores if applicable. They must meet all requirements for selection to the program, including arts and science courses if applicable. They must pay required T-VI fees,

purchase school uniforms and other needed equipment, have current CPR certification and have a physical examination before admission.

Course Descriptions

RTT 110—Respiratory Therapy Principles and Practices I (3 cr)

(Prerequisites: permission of program director and BIO 123/124L; prerequisite or corequisite: BIO 136/139L; corequisite: RTT 115L, RTT 121C, RTT 131) This course covers respiratory therapy as a health sciences profession. It also covers practices of basic respiratory care including cardiopulmonary assessment, medical gas administration, oxygen therapy, microbiology, infection control, equipment maintenance, incentive breathing exercises and chest physiotherapy.

RTT 111—Respiratory Therapy Principles and Practices II (3 cr)

(Prerequisites: BIO 123/124L, BIO 136/139L, RTT 110, RTT 115L, RTT 121C, RTT 131; prerequisite or corequisites: CSCI 101; corequisites: RTT 116L, RTT 122C, RTT 133) Additional theory of respiratory therapy procedures is presented with emphasis on positive pressure breathing treatments, airway management, pulmonary function testing, arterial puncture and blood gas analysis. The procedure of administering medicated aerosol therapy is taught.

RTT 112—Respiratory Therapy Principles and Practices III (3 cr)

(Prerequisites: BIO 123/124L, BIO 136/139L, CSCI 101, RTT 111, RTT 116L, RTT 122C; corequisites: RTT 117L, RTT 123C, RTT 132) Concepts and principles of critical care are introduced for treating patients with life-threatening diseases. Emphasis is on learning mechanical ventilatory support for neonatal, pediatric and adult patients. Concepts and theories of critical care medicine are introduced.

RTT 115L—Respiratory Therapy Lab I (1 cr)

(Corequisites: RTT 110, RTT 121C, RTT 131) Students practice basic respiratory care procedures learned in RTT 110, using state-of-the-art equipment in the learning laboratory under simulated patient situations.

RTT 116L—Respiratory Therapy lab II (1 cr)

(Corequisites: RTT 111, RTT 122C, RTT 133) Students practice additional respiratory care procedures learned in RTT 111. Students use equipment in simulated patient situations.

RTT 117L—Respiratory Therapy Lab III (1 cr)

(Corequisites: RTT 112, RTT 123C, RTT 132) Students practice procedures learned in RTT 112. Advanced respiratory therapy procedures are simulated in lab sessions including extensive work with mechanical ventilation devices.

***RTT 121C—Clinical Experiences I (5 cr)**

(*Corequisites: RTT 110, RTT 115L, RTT 131*) Supervised clinical experiences in the hospital setting allow students to apply knowledge and skills learned in classroom and laboratory sessions. Students apply basic respiratory therapy skills in direct patient contact situations supervised by clinical faculty members.

***RTT 122C—Clinical Experiences II (5 cr)**

(*Corequisites: RTT 111, RTT 116L, RTT 133*) Supervised clinical experiences continue in area hospitals and health care facilities. Students also visit patients in the home setting.

***RTT 123C—Clinical Experiences III (5 cr)**

(*Corequisites: RTT 112, RTT 117L, RTT 132*) Supervised clinical experiences in the hospital setting continue. More emphasis is placed on caring for patients in critical care settings with special concentration on maintaining life support systems.

RTT 131—Physics of Respiratory Therapy (3 cr)

(*Corequisites: RTT 110, RTT 115L, RTT 121C*) Basic concepts of physics are covered relating to physiology of the lungs, gas laws, gas flow and mechanics of breathing. Concepts are applied to operation of respiratory therapy equipment. Basic math calculations are covered relating to respiratory physiology.

RTT 132—Cardiopulmonary Physiology (3 cr)

(*Prerequisites: BIO 123/124L and BIO 136/139L; corequisites: RTT 112, RTT 117L, RTT 123C*) More advanced knowledge of the physiologic processes of the circulatory, pulmonary, renal and nervous systems and their relationships to each other is emphasized. Basic principles of chemistry are covered as they relate to blood chemistry and blood gas analysis.

RTT 133—Pharmacology of Respiratory Therapy (3 cr)

(*Prerequisites: BIO 123/124L, BIO 136/139L, RTT 110, RTT 115L, RTT 121C, RTT 131; corequisites: RTT 111, RTT 116L, RTT 122C*) Concepts and principles of pharmacologic agents used in cardiopulmonary care are presented. Coursework includes study of biologic interactions, dosage calculations, side effects and indications for using drugs in cardiopulmonary diseases. Application to respiratory care, therapeutic and diagnostic procedures is covered.

*RTT 121C, RTT 122C, RTT 123C: During clinical experiences, students meet for formal lectures on the pathophysiology of the cardiopulmonary system. The lectures are given by the Respiratory Therapy Program's medical director and associate director, physicians from the UNM School of Medicine or other physicians in the community. Clinical pathologic disorders which require respiratory therapy diagnosis, treatment and care are covered. Students are required to develop written and verbal communication skills by completing case studies, article reviews and pathology reports. They must also present oral reports to the class and the medical director.

Students develop interpersonal communication skills through patient interactions in the clinical settings. They must also develop appropriate interactive communication skills during physician rounds supervised by the program's medical director.

RESPIRATORY THERAPIST

Associate in Science Degree

Main Campus

Courses Begin Each Summer Term

The Respiratory Therapist (RT) Program includes theory, laboratory and clinical coursework progressing from technician or entry level through the advanced practitioner level. The curriculum includes basic and advanced instruction in cardiorespiratory anatomy, physiology and pathophysiology. Coursework includes the study of critical care medicine, evaluation of cardiopulmonary function, respiratory home care, pulmonary rehabilitation and emphasis on developing problem-solving and decision-making skills for the advanced practitioner.

The programs includes extensive instruction by faculty from the University of New Mexico Medical Center and School of Medicine. An associate in science degree is awarded in respiratory care upon completion of the therapist curriculum, which includes Arts & Sciences requirements.

The Respiratory Therapist Program is accredited by the American Medical Association's Committee on Allied Health Education and Accreditation and the Joint Review Committee for Respiratory Therapy Education. Graduates of this program are eligible to take the National Board for Respiratory Care Certification and Registry examinations to obtain Certified Respiratory Therapy Technician (CRTT) and Registered Respiratory Therapist (RRT) credentials. Successful completion of the certification exam qualifies individuals to become recognized as licensed Respiratory Care Practitioners (RCP) in New Mexico.

To be *eligible to enroll* in RT courses students must:

- ▲ Declare RT as their major in writing.
- ▲ Achieve a T-VI cumulative GPA of 2.0 or higher.
- ▲ Be a high school graduate or possess a GED diploma.
- ▲ Complete the ACT or an exam recognized by the Health Occupations Department (test taken within the last five years). Minimum ACT scores (after November 1989): Math 16, Scientific Reasoning 19, English 19, Reading 18.

College courses may substitute for ACT scores in order to establish *eligibility for enrollment* in RT courses. Students should consult the Health Occupations Department counselor or admissions counselors/advisors for information on college course substitutes for ACT scores.

- ▲ Provide documented evidence of completed respiratory therapy technician level courses and prerequisite arts and science courses from an approved

respiratory therapy program. Courses completed in an approved technician or therapist program will be applied toward the associate in science degree.

▲ Submit a "Petition for Selection" packet to the Health Occupations Counselor during dates publicized by the Health Occupations Department each year.

Students are responsible for meeting the eligibility requirements and petitioning for selection. Students must make sure that required documents are on file in the Health Occupations Department counselor's office and the T-VI Records Office. Orientation sessions for the RT/RTT program and the petitioning process are offered each term. All interested students are urged to attend.

Sixteen students will be selected to start RT coursework each summer term. Required Arts & Sciences courses may be completed while students are progressing through the selection process. When a student enters the program, credit will be given for courses with final grades of C or better. If the number of eligible students exceeds the number of positions available, preference will be given to those who have completed all Arts & Sciences courses for the RT curriculum.

Students permitted to enroll in RT courses in the summer term must have a physical exam and submit a completed health form with evidence of current immunizations before beginning clinical courses.

Respiratory Therapist students pay a \$20 equipment fee when they begin the major courses. This covers the cost of the identification badges, parking fees and preventive tests in case of needlestick exposure. In addition, students are required to purchase their textbooks, have a current CPR certification, lab coats, a stethoscope, bandage scissors and a pre-entrance physical exam prior to the first clinical course. Students may purchase a graduation pin from the program upon completion of all coursework.

Students admitted to the program must earn a grade of C or better in all courses to progress through the program and graduate. A 2.0 GPA is required to graduate from the program.

Respiratory Therapist Program

Technician Level			<i>Credit Hours</i>
RTT	110	Respiratory Therapy Principles and Practices I.....	3
RTT	111	Respiratory Therapy Principles and Practices II	3
RTT	115L	Respiratory Therapy Lab I	1
RTT	116L	Respiratory Therapy Lab II	1
RTT	121C	Clinical Experiences I	5
RTT	122C	Clinical Experiences II	5
¹ RTT	131	Physics of Respiratory Therapy	3
RTT	133	Pharmacology of Respiratory Therapy	3

Therapist Level

RT	210	Advanced Respiratory Therapy I	3
RT	215L	Advanced Respiratory Therapy Lab I	1
RT	221C	Advanced Clinical Experiences I	4
RT	211	Advanced Respiratory Therapy II	3
RT	216L	Advanced Respiratory Therapy Lab II	1
RT	222C	Advanced Clinical Experiences II	4
RT	212	Advanced Respiratory Therapy III	3
RT	217L	Advanced Respiratory Therapy Lab III	1
RT	223C	Advanced Clinical Experiences III	4

Required Arts & Sciences Courses

² BIO	136	Human Anatomy & Physiology	1
² BIO	139L	Human Anatomy & Physiology Lab	3
CSCI	101	Computer Literacy	3-4
MATH	120	Intermediate Algebra	3
ENG	101	College Writing	3
CHEM	111	Introduction to Chemistry	3
CHEM	112L	Introduction to Chemistry Lab	1
PHIL	245M	Biomedical Ethics	3
BIO	239	Microbiology	3
BIO	239L	Microbiology Lab	1
³ Elective:	PSY 105 or SOC 101		3
Total			75-76

¹A college physics course may be substituted for RTT 131.

²BIO 237/247L and BIO 238/248L may be substituted for BIO 136/139L.

³PSY 101 or 102 may be substituted for PSY 105.

Note: Additional college courses may be substituted for transfer credit if completed at a regionally accredited college or university with a grade of C or better and equivalent content coverage of subject and credit hours. Official transcripts must be sent to the T-VI Records Office for consideration of transfer credit eligibility prior to admission to the program.

Suggested order of coursework: In order to satisfy prerequisite and corequisite requirements along with RTT and RT courses, the following order of coursework is recommended:

- Fall Term: RTT 110, RTT 115L, RTT 121C, RTT 131 and BIO 136/139L
- Winter Term: RTT 111, RTT 116L, RTT 122C and RTT 133, CSCI 101
- Summer Term: RT 210, RT 215L, RT 221C and MATH 120, ENG 101
- Fall Term: RT 211, RT 216L, RT 222C and CHEM 111/112L, PHIL 245M
- Winter Term: RT 212, RT 217L, RT 223C and BIO 239/239L, Elective

Respiratory Therapist Advanced Placement

There are two ways in which advanced placement can be granted to Respiratory Therapist applicants: transfer and challenge. Advanced placement means enrollment in RT coursework above the level of RT 210.

Transfer: transfer credit for equivalent coursework completed at a regionally accredited technical-vocational school, college or university. Entry will be granted on a space available basis. Challenge and transfer applicants must submit transcripts of prior education and proof of high school graduation or GED. They must also meet all prerequisites for admission to the Therapist program including arts and science courses required for the associate in science degree in respiratory therapy.

Transfer credit awarded for technician or therapist courses completed at other CAHEA/JRCRTE accredited programs or for arts and science coursework from other institutions will be given when the T-VI Records Office receives official transcripts showing a grade of C or better on equivalent courses.

Technician graduates with documented work experience in respiratory therapy may apply to challenge portions of the therapist curriculum.

Course Descriptions

***RT 210—Advanced Respiratory Therapy I (3 cr)**

(Prerequisites: permission of program director, BIO 123/124L, BIO 136/139L, CSCI 101, RTT 111; corequisites: RT 215L, RT 221C; prerequisites or corequisites: MATH 120, ENG 101) The course presents an integrated study of cardiopulmonary assessment and diagnosis for the advanced practitioner. Correlation of cardiopulmonary anatomy, physiology and pathophysiology with evaluation of cardiac and pulmonary function is presented.

***RT 211—Advanced Respiratory Therapy II (3 cr)**

(Prerequisites: RT 210, RT 215L, RT 221C; corequisites: RT 216L, RT 211C; prerequisites or corequisites: CHEM 111/112L, PHIL 245M) This course presents concepts of adult critical care medicine for the advanced practitioner. Topics cover adult intensive care and pathophysiology of diseases which require critical care medicine for adults.

***RT 212—Advanced Respiratory Therapy III (3 cr)**

(Prerequisites: RT 211, RT 216L, RT 222C; prerequisites or corequisites BIO 239/239L, elective; corequisites: RT 223C and RT 217L) This course presents concepts of critical care medicine for children and infants. An integrated study in the concepts of rehabilitative practice and home health care for patients with chronic cardiopulmonary diseases is provided.

RT 215L—Advanced Respiratory Therapy Lab I (1 cr)

(Corequisites: RT 210, RT 221C) Students are taught clinical assessment techniques, cardiopulmonary airway and physiology procedures, pulmonary function testing and

hemodynamic monitoring, using state-of-the-art equipment in the learning laboratory under patient simulated situations and using computer simulation programs.

RT 216L—Advanced Respiratory Therapy Lab II (1 cr)

(Corequisites: RT 211, RT 222C) Students practice mechanical ventilation procedures related to critical care medicine for adults. Activities include simulated patient situations and the use of computer simulation programs.

RT 217L—Advanced Respiratory Therapy Lab III (1 cr)

(Corequisites: RT 212, RT 223C) Students practice mechanical ventilation procedures related to critical care medicine for children and infants. Activities include simulated patient situations and the use of computer simulation programs.

RT 221C—Advanced Clinical Experiences I (4 cr)

(Corequisites: RT 210, RT 215L) Students are supervised in the applications of advanced respiratory care in clinical settings with emphasis on problem-solving and decision-making skills. Experiences include cardiopulmonary function and evaluation activities. Related activities will correlate the cardiopulmonary system in health and disease.

RT 222C—Advanced Clinical Experiences II (4 cr)

(Corequisites: RT 211, RT 216L) Students are supervised in the clinical application of respiratory care in adult critical care environments. Emphasis is placed on development of problem-solving and decision-making skills, patient evaluation skills and the evaluation of therapeutic care plans.

RT 223C—Advanced Clinical Experiences III (4 cr)

(Corequisites: RT 212, RT 217L) Students are supervised in the clinical application of respiratory care in pediatric and neonatal critical care environments and for home health care and pulmonary rehabilitation. Additional experiences will be provided in special clinical areas chosen by each student.

RT Elective

RT 296—Special Topics in Respiratory Care (1–6 cr)

(Prerequisite: permission of program director, RT 223C) Students participate in supervised learning activities of advanced, specialized practices. Areas of focus include rural health care, interdisciplinary problem-based learning, cardiopulmonary diagnostics, specialized perinatal/pediatric or adult critical care and expanded practice of Respiratory Care practitioners.

*Throughout the RT theory coursework, students meet for formal lectures on the pathophysiology of the cardiopulmonary system. These lectures are given by the program's medical director and associate medical director, physicians from the UNM School of Medicine or other physicians in the community. Clinical pathology which requires respiratory therapy diagnosis, treatment and care is covered.



TECHNOLOGIES

The high-skilled, high-tech jobs of the 21st century will demand specialized entry-level training and skill upgrading, and the Technologies Department offers both, along with state-of-the-art equipment to support them. Programs in the Technologies Department are among the longest at the Institute. The time necessary to complete one of the Technologies programs varies from 16 to 24 months depending on the student's course load.

To enter Technologies courses, the student must meet the prerequisites of MATH 100 or equivalent, reading at a minimum of eighth-grade level and CP 176L or equivalent.

Students in Electronics Technology and Architectural/Engineering Drafting Technology may choose to complete an associate in applied science degree or a certificate. Students in Electronics Technology must choose one of the four options: Consumer Electronics/Communication, Digital Computer Networking, Laser Electro-Optics or Process Control (replaces Instrumentation and Control Technology). Students in Architectural/Engineering Drafting Technology must choose one of two options: Engineering or Housing.

Because the Technologies programs are in high demand, interested persons should apply as early as possible. **It is strongly recommended that all beginning students meet with the department counselor to plan an individual course of study.**

Electronics Engineering Technology courses are offered at the Montoya Campus only. The Business Computer Programming Technology program is offered at both campuses. Other Technologies programs are offered only at the Main Campus. There are beginning groups each term in all Technologies majors.

Some credit courses are offered in the evening. Information is available in the current schedule of classes.

Challenge examinations are available for most courses numbered below 200. The cost is \$15 per examination.

A number of optional courses are available to enhance the education of those students meeting the required prerequisites. Optional courses and courses numbered 200 or above may not be offered every term and are subject to cancellation before the first day of the term due to insufficient enrollment; a minimum of 12 students is required.

Students enrolled in Technologies courses must purchase their textbooks and some courses require a supply fee. Students needing financial support should contact the Financial Aid office.

Students working toward an associate degree or a certificate must earn a grade of C or better in each Technologies course. Credit/no credit is not a grading option for students in Technologies courses.

ARCHITECTURAL/ENGINEERING DRAFTING TECHNOLOGY

Associate in Applied Science Degree/
Certificate Program
Main Campus

Architectural/Engineering Drafting Technology offers career preparation for persons with a strong interest in building design and construction. Following a general preparation in architectural drafting, the student chooses an Engineering Drafting or Housing concentration. Students in both options devote their final term to an intensive study of the A/E uses of computer aided drafting (CAD).

The program integrates mathematics, technical writing and blueprint reading into the technical courses at all levels. Computer applications are emphasized throughout the program. The curriculum includes the principles of architectural and engineering graphics and the theory and practice of construction technology.

Graduates are prepared for entry-level jobs as architectural or engineering drafting technicians in residential and commercial construction, and for estimating and sales positions with contractors, fabricators and suppliers. The potential for advancement into jobs with increasing responsibility and wider scope is good.

To enter Architectural/Engineering Drafting Technology courses the student must meet the prerequisites of MATH 100 or equivalent, reading at a minimum of eighth grade level and CP 176L or equivalent. If a student takes MATH 100, it is recommended that he or she also take the survey course in drafting from the Developmental Studies Department.

To receive an associate degree in Architectural/Engineering Drafting Technology a student must complete all required ARDR courses and the required Arts & Sciences courses. A grade of C or better in each ARDR course is required for either a certificate or degree. ARDR 180, 181 and 182 cannot be substituted for ARDR 213 and ARDR 214L. Students must purchase their own drafting tools.

It is strongly recommended that all beginning students meet with the department counselor to plan an individual course of study. Optional courses and courses numbered 200 or above may not be offered every term and are subject to cancellation before classes start due to insufficient enrollment. Entry into a course without the prerequisite may be allowed with the permission of the academic advisor.

Architectural/Engineering Drafting Technology Program

Certificate and Degree Requirements

			<i>Credit Hours</i>
Term 1			
ARDR	107L	Architectural Drafting I	7
ARDR	108	Architectural Mathematics	4
*ARDR	109	Building Materials and Methods I	4
*ARDR	176	Orientation to the Construction Industry	2
Term 2			
ARDR	113	Site Analysis	2
ARDR	114	Specifications & Estimating	2
ARDR	115	Building Materials and Methods II	4
ARDR	119L	Architectural Drafting II	7
Subtotal			32
Engineering Option			
ARDR	201	Structural Systems Analysis	4
ARDR	203L	Structural Systems Drafting	7
ARDR	204L	Civil Drafting	3
ARDR	212L	M/E Systems Drafting	5
ARDR	213	CAD Analysis	4
ARDR	214L	Architectural CAD	6
ARDR	215	M/E Systems Analysis	6
ARDR	217	Project Management	3
ARDR	221	Architectural/Engineering Drafting Seminar	1
Subtotal			71
Housing Option			
ARDR	174	Housing	2
ARDR	206	Environmental Systems Analysis	3
or			

ARDR	275	Design Applications for Interiors	3
ARDR	209L	Architectural Design	5
ARDR	210L	Sketching and Rendering	5
ARDR	211	Housing Construction Analysis.....	4
ARDR	213	CAD Analysis	4
ARDR	214L	Architectural CAD	6
ARDR	219	Housing Construction Management.....	3
ARDR	220L	Housing Drafting	7
ARDR	221	Architectural/Engineering Drafting Seminar	1
		Subtotal.....	72

*CP 176L is a prerequisite for this course.

Additional Courses Required for Certificate

BA	111	Communications (7½ weeks)	2-3
		or	
ENG	101	College Writing	
BA	131	Human Relations (7½ weeks).....	2-3
		or	
PSY	105	Introduction to Psychology	
		Total Credits for Certificate	75-78

Additional Courses Required for Degree

ART	260	Architecture History: Ancient through Modern.....	3
COMM	221	Interpersonal Communications.....	3
		or	
ENG	101	College Writing	
MATH	120	Intermediate Algebra	3
PHIL	245T	Ethics of Technology	3
		or	
PSY	105	Introduction to Psychology	
PHYS	102	Introduction to Physics	3
		Total Credits for Degree	86

Optional Courses[#]

ARDR	130	Drafting Fundamentals	3
ARDR	175	General Contractor Preparation	2
ARDR	180	Fundamentals of Computer Assisted Drafting.....	3
ARDR	181	Intermediate Computer Assisted Drafting	3
ARDR	182	Advanced Computer Assisted Drafting	3
ARDR	232	Architecture and Construction Planning	4

ARDR	261L	Construction Surveying	3
ARDR	295	CAD for Professional Drafters	5
ARDR	296	Special Problems	3
ARDR	297	Cooperative Education	3
ARDR	299	Internship	3

#Optional courses are used to enhance the education of the student. These courses may be taken at any time when prerequisites are met.

Course Descriptions

ARDR 107L—Architectural Drafting I (7 cr)

(Pre- or corequisites: ARDR 108, ARDR 109, ARDR 176) The fundamentals of architectural graphic representation are introduced as the foundation of all A/E drafting courses. Basic common assembly systems are explored and schedules are introduced. Supply fee: \$15. Note: Students must provide their own drafting kit.

ARDR 108—Architectural Mathematics (5 cr)

(Prerequisite: MATH 100 or equivalent) Basic concepts of geometry and trigonometry are covered with an emphasis on architectural and engineering applications and calculator use. Students must provide a full function scientific calculator with a ten-digit display.

ARDR 109—Building Materials and Methods I (4 cr)

(Prerequisites: CP 176L, ENG 100 and MATH 100 or equivalent; corequisites: ARDR 102, ARDR 176) Basic common materials systems and assemblies with wide applications in the building industry are examined.

ARDR 113—Site Analysis (2 cr)

(Prerequisite: ARDR 107L) Analytical factors of site design are examined, such as orientation and view, sound and light intrusions, contours and grading, drainage and foliage. Planning aspects of site size are introduced.

ARDR 114—Specifications and Estimating (2 cr)

(Prerequisite: ARDR 107L; pre- or corequisites: ARDR 113, ARDR 115) The theory and structure of specifications, data systems and sources, testing and code referencing are introduced, providing a background for exercises in specification writing and analysis. Estimating systems, takeoffs, coordination of specifications with costing systems and bidding decisions are then covered.

ARDR 115—Building Materials and Methods II (4 cr)

(Prerequisite: ARDR 107L) This course is a continuation of ARDR 103 with an intensified examination of interior and exterior finish materials and systems and an introduction to structural materials and systems.

ARDR 119L—Architectural Drafting II (7 cr)

(Prerequisite: ARDR 107L; pre- or corequisite: ARDR 115) In this continuation of ARDR 107L, the student develops representative architectural working drawings using the appropriate conventions of graphic, dimensioning and notation systems. Supply fee: \$15

ARDR 130—Drafting Fundamentals (3 cr)

This course covers the basics of architectural and construction drafting.

ARDR 174—Housing (2 cr)

(Prerequisite: ARDR 119L) Design considerations that affect housing forms are studied, including U.S. housing styles, site considerations and various arrangements of activity spaces. Drawings and models are made to show the effects of different spatial organizations.

ARDR 175—General Contractor Preparation (2 cr)

The class is designed for people interested in becoming general contractors in New Mexico. Licensing requirements, rules and regulations, business and law, the Uniform Building Code, construction methods and contract management are covered.

ARDR 176—Orientation to the Construction Industry (2 cr)

(Prerequisites: CP 176L, ENG 100 or equivalent) Students are introduced to the industry and the variety of jobs available. Topics include the construction environment and related disciplines of architects, engineers, landscape architects, interior designers, contractors, suppliers, insurers and other consultants.

ARDR 180—Fundamentals of Computer Assisted Drafting (3 cr)

(Prerequisite: CP 176L) This course introduces the student to the fundamentals of computer assisted drafting using AutoCAD. Supply fee: \$15

ARDR 181—Intermediate Computer Assisted Drafting (3 cr)

(Prerequisite: ARDR 180) Topics include customized menu making, attribute editing and extracting, and the drawing of isometrics. Supply fee: \$15

ARDR 182—Advanced Computer Assisted Drafting (3 cr)

(Prerequisite: ARDR 181) This course is an introduction to three dimensional CAD modeling using AutoCAD to enhance graphic representation and visualization. Supply fee: \$15

ARDR 201—Structural Systems Analysis (4 cr)

(Prerequisite: ARDR 119L) The basic principles of physics as they apply to construction and structural analysis are covered. Students are introduced to structural design in wood, steel and concrete. Students also learn to set up and solve elementary beam design problems.

ARDR 203L—Structural Systems Drafting (7 cr)

(Prerequisite: ARDR 119L; pre- or corequisite: ARDR 201) Students are introduced to drafting styles and conventions of structural drafting. They develop representative drawings of pre-cast and site-cast concrete, structural steel and heavy timber structures. Blueprint reading and development of graphic skills in a variety of media are emphasized. Non-mathematical concepts of building structures and methods of construction are covered. Supply fee: \$15

ARDR 204L—Civil Drafting I (3 cr)

(Prerequisite: ARDR 119L) This course provides an introduction to the concepts and practice of civil drafting as they relate to architecture, including an exploration of contours, grading, cut and fill, cross sections, boundaries and subdivisions.

ARDR 206—Environmental Systems Analysis (3 cr)

(Prerequisite: ARDR 119L) Students explore current energy conservation techniques, including passive solar design. Concepts of comfort zones, building orientation, heat transfer, thermal mass and overall energy efficiency calculations are introduced.

ARDR 209L—Architectural Design (5 cr)

(Prerequisite: ARDR 119L; pre- or corequisite: ARDR 174) The student executes two and three dimensional abstract exercises that teach basic design concepts. These concepts are applied to various built environment circumstances. Sketch drawings and study models are made to develop and explain design concepts in specific applications. Supply fee: \$15

ARDR 210L—Sketching and Rendering (5 cr)

(Prerequisite: ARDR 119L; pre- or corequisite: ARDR 209L) Students make drawings to develop perception, awareness of their environment and freehand drawing skills. Students explore basic forms, perspective, still life and figure drawing as applications of drafting problems. Large-scale drawings are executed in a variety of black and white media. Techniques of rendering and illustration are explored. Students work with perspective drawings in color media. Supply fee: \$15

ARDR 211—Housing Construction Analysis (4 cr)

(Prerequisite: ARDR 119L) This course provides an application of previous building materials and methods concepts to houses of all kinds, including an investigation of local and regional materials and practices.

ARDR 215—M/E Systems Analysis (6 cr)

(Prerequisite: ARDR 119L) General theory and layout information and code requirements for non-residential systems are studied. Topics include lighting, plumbing and air conditioning.

ARDR 212L—M/E Systems Drafting (5 cr)

(Prerequisite: ARDR 119L; pre- or corequisite: ARDR 212L) The student receives instruction in conventional drafting methods of mechanical and electrical systems including overlaying electrical, heating, ventilation and plumbing systems on architectural views. Engineering drawings are developed and engineering graphic skills are expanded with some emphasis on inking techniques. Supply fee: \$15

ARDR 213—CAD Analysis (4 cr)

(Prerequisite: completion of Engineering or Housing option; corequisite: ARDR 214L) This course covers beginning to advanced CAD concepts and commands as they apply to the production and coordination of A/E working drawings.

ARDR 214L—Architectural CAD (6 cr)

(Prerequisite: completion of Engineering or Housing option; corequisite: ARDR 213) The student develops representative working drawings using CAD software commonly employed in the A/E industry. Supply fee: \$15

ARDR 217—Project Management (3 cr)

(Prerequisite: ARDR 119L; pre- or corequisite: ARDR 212L) The student is introduced to the skills required to manage a building project. Topics include contracts, fees, estimating, bidding, specifications writing, scheduling and drawing coordination.

ARDR 219—Housing Construction Management (3 cr)

(Prerequisite: ARDR 119L) This course covers basic management systems required for effective project planning and scheduling; cost estimating, budgeting and cost control accounting; quality assurance; materials management; and the interrelationships among these.

ARDR 220L—Housing Drafting (7 cr)

(Prerequisite: ARDR 119L; pre- or corequisites: ARDR 211, ARDR 219) Students develop architectural working drawings for a variety of housing types. Supply fee: \$15

ARDR 221--Architectural/Engineering Drafting Seminar (1 cr)

(Prerequisite: completion of Engineering or Housing option; pre- or corequisites: ARDR 213, ARDR 214L) The student develops a resume and portfolio. Needs, requirements, personnel procedures, expectations of employers and trends of the professional community are examined.

ARDR 232—Architecture and Construction Planning (4 cr)

This course covers the planning cycle for a construction project.

ARDR 261L—Construction Surveying (3 cr)

(Pre- or corequisite: ARDR 204L or consent of academic advisor) The student is introduced to the basic techniques and equipment used in surveying including tape, level and theodolite. Note-keeping methods are emphasized. Field work and related computations cover leveling, distance and angle measurement and traversing related to mapping.

ARDR 275—Design Applications for Interiors (3 cr)

(Prerequisite: ARDR 119L; pre- or corequisites: ARDR 174, ARDR 209L) This course provides an introduction to basic color systems and psychology, light and lighting, space planning, code applications of finish selections, fabrics and furniture styles.

ARDR 295—CAD for Professional Drafters (5 cr)

(Prerequisites: CP 176L and completion of a post-secondary architectural drafting program or permission of the academic advisor) This class assumes professional drafter's skills and knowledge. The course covers CAD concepts and skills from a beginner's level to an advanced level. Supply fee: \$15

ARDR 296—Special Problems (3 cr)

(Prerequisites: ARDR 119L and permission of the program academic advisor) The student and instructor define a specific problem in the area of the student's interest and directly related to the program. The student then develops and executes a solution using analytical and drafting techniques appropriate to the problem. An oral presentation may be required.

ARDR 297—Cooperative Education (3 cr)

(Prerequisite: permission of the academic advisor) In cooperation with local industry, the student works for one term on a cooperative basis in an appropriate, defined training program. The position held by the student is a paid position.

ARDR 299—Internship (3 cr)

(Prerequisite: permission of the academic advisor) In cooperation with local industry, the student works for one term on a cooperative basis in an appropriate, defined training program. The position held by the student is not a paid position.

^ARDR 112—Architectural Trigonometry (5 cr)

(Prerequisite: ARDR 102) A calculator approach to trigonometry is used that includes architectural applications such as site planning.

^ARDR 116—Non-Residential Materials and Methods (5 cr)

(Prerequisites: ARDR 103, ARDR 105A and ARDR 105B or ARDR 105L) The critical decisions that take a non-residential project from conceptual design to construction documents are examined. These decisions include site development, code compliance

and the selection of building materials, systems and assemblies. Typical non-residential construction and detailing are explained throughout.

^ARDR 117L—Architectural Drafting (5 cr)

(Prerequisite: ARDR 105A and ARDR 105B or ARDR 105L; corequisites: ARDR 112, ARDR 116, ARDR 118L) The students' drafting skills are expanded to include the style and media commonly used in architects' offices. Students produce selected working drawings for light commercial structures using appropriate professional reference materials to solve typical problems.

^ARDR 118L—Architectural CAD (3 cr)

(Prerequisite: ARDR 106L; corequisite: ARDR 117L) The student builds on CAD skills developed in Introduction to CAD. Intermediate drawing and editing commands are learned and electronic spreadsheets are introduced. Supply fee: \$15

^ARDR 202—Structural Mathematics (5 cr)

(Prerequisites: ARDR 112, ARDR 117L) The basic principles of physics as they apply to construction and structural analysis are covered. The student is introduced to structural design in wood, steel and concrete. Students learn to set up and solve elementary beam design problems.

^ARDR 205L—Structural Drafting (5 cr)

(Prerequisite: ARDR 117L; corequisites: ARDR 202, ARDR 207L) Students are introduced to the drafting styles and conventions used in consulting engineers' offices. They develop representative drawings of pre-cast and site cast concrete, structural steel and heavy timber structures. Blueprint reading and the development of appropriate graphic skills using a variety of media are emphasized.

^ARDR 207L—Structural CAD (3 cr)

(Prerequisite: ARDR 118L; corequisite: ARDR 205L) Intermediate CAD drawing and editing skills are expanded and structural drafting applications are developed. Three dimensional views are introduced. Supply fee: \$15

^ARDR 208—Energy Systems (5 cr)

(Prerequisites: all first-term courses) Students explore current energy conservation techniques, including passive solar design. Concepts of comfort zones, building orientation, heat transfer, thermal mass and overall energy efficiency calculations are introduced. The student applies these techniques to residential designs.

^Courses are being phased out beginning fall 1993 term.

BUSINESS COMPUTER PROGRAMMING TECHNOLOGY

Associate in Applied Science Degree/
Certificate Program
Main and Montoya Campuses

In this program students learn to solve information and management problems using computer hardware and software. Graduates are prepared for jobs as entry-level business applications programmers, which can be the first step to a career in the computer field.

Computers currently used at T-VI are the IBM 4361 and IBM/XT/PS2 microcomputers and compatibles. Both microcomputers and a mainframe computer are used in Business Computer Programming courses.

Courses numbered below 200 will give students a sound background in fundamental skills used on a wide variety of computers and computer-related equipment. Courses numbered above 200 continue to build computer application skills with emphasis on problem solving techniques and the man-machine interface. A mainframe environment is used to teach three widely used business programming languages while three additional languages are taught on microcomputers. Optional courses also are available to students and the public.

Students entering Computer Programming Technology courses must meet the prerequisites of MATH 100 or equivalent and reading at a minimum of eighth grade level. If a student takes MATH 100 or lower, it is recommended that the student also take the survey course for computer programming from the Developmental Studies Department before taking courses within the major.

A grade of C or better in each Business Computer Programming course is required for a certificate.

Some courses require a supply fee at the beginning of the term.

It is strongly recommended that all beginning students meet with the department counselor to plan an individual course of study. Optional courses and courses numbered 200 or above may not be offered every term and are subject to cancellation before classes start due to insufficient enrollment. Optional courses may not be used to replace technical electives.

Entry into a course without the prerequisite may be allowed with the permission of the academic advisor.

Business Computer Programming Technology

Certificate Requirements

			<i>Credit Hours</i>
Term 1			
CP	103	Mathematics for Computer Programmers	4
CP	104	Data Processing Accounting I	4
CP	105	Fundamentals of Computer Programming	6
Term 2			
+CP	101A	ANSI COBOL	3
		and	
+CP	101B	ANSI COBOL	3
		or	
+CP	101L	ANSI COBOL	6
CP	114	Data Processing Accounting II	3
CP	115	Internal Storage and File Structure	4
CP	214L	Report Program Generator II/III	3
Term 3			
+CP	111A	Advanced ANSI COBOL	3
		and	
+CP	111B	Advanced ANSI COBOL	3
		or	
+CP	111L	Advanced ANSI COBOL	6
CP	202L	Assembler Language Programming	6
CP	272L	C Language Programming	3
Term 4			
CP	201L	Interactive Programming Techniques	3
CP	213	Database Programming and Concepts	4
CP	215L	Computer Operating Systems	6
		Required optional course numbered above 200	3
		Subtotal	61
Additional Certificate Requirements			
BA	111	Communications (7½ weeks)	2
		or	
ENG	101	College Writing	3
BA	131	Human Relations (7½ weeks)	2
		or	
PSY	105	Introduction to Psychology	3
		Total Credits for Certificate	65-67

*Students may take either the A and B courses or the L course. To be given credit for the entire course, both the A and B courses must be passed with a C or better.

Associate of Applied Science Degree Requirements

ENG	101	College Writing	3
ENG	119	Technical Communications	3
MATH	150	Advanced Algebra	3
MATH	145	Fundamentals of Probability and Statistics	3
		Humanities Elective	3
		Social Science Elective	3
Subtotal.....			18
Total Credits for Degree			79

Recommended Arts & Sciences Electives

COMM	221	Interpersonal Communication Studies	3
PHIL	156	Logic and Critical Thinking	3
PSY	105	Introduction to Psychology	3
MATH	180	Elements of Calculus I	3

Optional Courses[#]

CP	174L	BASIC Language Programming	3
CP	175L	C Language Programming	3
CP	176L	Introduction to Microcomputers	3
		or	
CSCI	101	Computer Literacy	3
CP	274L	Introduction to the UNIX Operating System	3
CP	276	ADA Language Programming	3
CP	278	Advanced C Language Programming	3
CP	279L	Advanced BASIC Language Programming	3
CP	280L	Advanced RPG II/III	3
CP	281L	Advanced C++ Language Programming	3
CP	282	Software Quality Assurance	3
CP	283	Introduction to Computer Networks	3
CP	296	Special Problems	3
CP	297	Cooperative Education	3
CP	299	Internship	3

[#]Optional courses are used to enhance the education of the student. These courses may be taken at any time when prerequisites are met.

Course Descriptions

CP 101A—ANSI COBOL (3 cr)

(Pre- or corequisite: CP 105 or permission of academic advisor) Elementary structured programming projects directly related to business and accounting applications are designed, coded, debugged and executed. Supply fee: \$10

CP 101B—ANSI COBOL (3 cr)

(Prerequisite: CP 101A) This course is a continuation of CP 101A. More advanced, structured programming projects are designed, coded, debugged and executed.

CP 101L—ANSI COBOL (6 cr)

(Corequisite: CP 105) Students are required to write structured programming projects directly related to business and accounting applications. The projects are designed, coded, debugged and executed using a mainframe computer system. Supply fee: \$10

CP 103—Mathematics for Computer Programmers (4 cr)

(Prerequisite: MATH 100 or equivalent) Algebra fundamentals are covered in this course along with selected applications in business and management math. BASIC language programming is used to program some of the applications.

CP 104—Data Processing Accounting I (4 cr)

(Prerequisite: MATH 100 or equivalent) Students are introduced to accounting theory, practice and terms, and their relation to business computer programming.

CP 105—Fundamentals of Computer Programming (6 cr)

This course includes computer vocabulary, structured programming techniques, programming logic and control using BASIC, operating system concepts and common software packages such as WordPerfect and Lotus 1-2-3.

CP 111A—Advanced ANSI COBOL (3 cr)

(Prerequisite: CP 101L) This course continues the development of structured programming skills developed in CP 101L with emphasis on indexed file processing. Supply fee: \$10

CP 111B—Advanced ANSI COBOL (3 cr)

(Prerequisite: CP 111A) This course continues the development of structured programming skills developed in CP 111A with emphasis on file update and subprogram concepts.

CP 111L—Advanced ANSI COBOL (6 cr)

(Prerequisite: CP 101L) Students continue the development of programming skills using the ANSI COBOL language. Emphasis is on sequential and indexed file processing, file maintenance, multi-dimensional table processing, sorts and interactive programming. Supply fee: \$10

CP 114—Data Processing Accounting II (3 cr)

(Prerequisite: CP 104) Students learn the vocabulary and concepts used in business accounting. Emphasis is placed on computerized accounting on microcomputers.

CP 115—Internal Storage and File Structure (4 cr)

(Prerequisites: CP 105, CP 103) Students study several common number systems, internal storage interpretation, control statements, utilities and file structures such as indexed files, linked lists, stacks and queues.

CP 174L—BASIC Language Programming (3 cr)

(For non-Business Computer Programming students) This introduction to BASIC includes use of input and output statements, arithmetic operations, comparison and branching commands, use of subroutines and the library functions. Algorithms associated with technological computations are developed. Supply fee: \$10

CP 175L—C Language Programming (3 cr)

(For non-Business Computer Programming students; prerequisite: a programming language) This course is an introduction to C language programming using microcomputers. Supply fee: \$10

CP 176L—Introduction to Microcomputers (3 cr)

Instruction is provided in computer vocabulary and students are introduced to MS-DOS, WordPerfect, Lotus 1-2-3 and DBase III. Supply fee: \$10

CP 201L—Interactive Programming Techniques (3 cr)

(Prerequisites: CP 111L, CP 115) Students develop interactive business applications on the IBM mainframe in the VSE environment. Command level CICS and VSAM file structures are used in teaching the special requirements of interactive processing.

CP 202L—Assembler Language Programming (6 cr)

(Prerequisites: CP 105, CP 115) Techniques necessary to write Assembler language programs are taught.

CP 213—Database Programming and Concepts (4 cr)

(Prerequisite: CP 111L or permission of academic advisor) General concepts and organization of database systems are included along with practical application of database management systems through the use of networks, telecommunication lines, hardware and a database programming language. Mainframe and/or microcomputers are used. Supply fee: \$10

CP 214L—Report Program Generator II/III (3 cr)

(Prerequisites: CP 105, CP 103) Students are introduced to the RPG II/III programming language used in business organizations. Students become familiar with the basic coding parameters. Programs are coded to perform a variety of business functions including inventory control and cost analysis, accounts receivable, payroll applications, loan amortization and depreciation.

CP 215L—Computer Operating Systems (6 cr)

(Prerequisite: CP 202L) This course covers topics designed to increase understanding of the use of microcomputers and mainframe computers. It includes the study of operating systems, macro assembler programming and microcomputer software packages.

CP 272L—C Language Programming (3 cr)

(Prerequisite: CP 105, CP 101L or permission of academic advisor) This course is an introduction to C language using microcomputers. Students in this course are assumed to know principles of structured computer program planning and programming. Supply fee: \$10

CP 274L—Introduction to the Unix Operating System (3 cr)

(Prerequisite: CP 115 or permission of academic advisor) The course covers basic commands, mail, inter-terminal communication, the file system, redirected I/O, pipes and shell programming. Supply fee: \$10

CP 276—ADA Language Programming (3 cr)

(Prerequisite: CP 111L or permission of the academic advisor or work experience as a computer programmer) This is an introductory course in ADA language programming. Supply fee: \$10

CP 278L—Advanced C Language Programming (3 cr)

(Prerequisite: CP 272L or permission of the academic advisor) A continuation of CP 272L, this class assumes considerable programming experience. Students write programs working with data structures such as stacks, linked lists, binary search trees and self-balancing trees. Supply fee: \$10

CP 279L—Advanced BASIC Language Programming (3 cr)

(Prerequisite: CP 105) This course emphasizes interactive programming, menu selection, search and retrieval routines and binary functions. Supply fee: \$10

CP 280L—Advanced RPG II/III (3 cr)

(Prerequisite: CP 214L) This is a continuation of CP 214L with emphasis on file processing and interactive techniques. Supply fee: \$10

CP 281L—Advanced C++ Language Programming (3 cr)

(Prerequisite: CP 278 or permission of the academic advisor) This course covers the programming principles of the computer language of C++. This is an advanced programming class. Supply fee: \$10

CP 282—Software Quality Assurance (3 cr)

(Prerequisite: CP 111L) Software testing methods are introduced. The students test an actual commercial piece of software and produce a software test plan along with documented test results. Deming's methods of quality systems are also covered.

CP 283—Introduction to Computer Networks (3 cr)

(Prerequisite: CP 176L or permission of academic advisor) This course covers hardware, software and the concepts used in various networking schemes including token ring, Novell, Starlan and others.

CP 296—Special Problems (3 cr)

(Prerequisite: enrolled only in Business Computer Programming courses numbered 200 or higher and/or permission of academic advisor) The student and instructor define a specific problem in the area of the student's interest and directly related to the program. The student then develops and executes a solution using analytical techniques appropriate to the problem. An oral presentation may be required.

CP 297—Cooperative Education (3 cr)

(Prerequisite: permission of academic advisor) In cooperation with local industry, the student works for one term on a cooperative basis in an appropriate training program. The position is a paid position.

CP 299—Internship (3 cr)

(Prerequisite: permission of academic advisor) In cooperation with local industry, the student works for one term on a cooperative basis in an appropriate training program. The position is not paid.

^CP 102—Introduction to Business Computer Programming (4 cr)

Students learn computer vocabulary, logic and control, and structured programming techniques including hierarchy charts and top-down planning.

^CP 121L—JCL/Utilities/File Structures (7 cr)

(Prerequisites: CP 101L, CP 102) Students code and execute job streams using the IBM Job Control Language, editor, power, job entry statements, procedures, utilities and VSAM file structures using the mainframe computer.

^CP 203—Business Systems Analysis and Design (4 cr)

(Prerequisite: CP 111L) This course teaches structured techniques of systems analysis and design. The system's life cycle is presented and several methods of analyzing existing systems are covered. Microcomputers are used to write documentation and run project management software.

^CP 211L—Programming Projects (3 cr)

(Prerequisites: CP 201L, CP 202L) Individual or group data processing projects are completed.

^CP 212L—Computer System Software (4 cr)

(Prerequisite: CP 202L) This course includes the study of operating systems, macro assembler programming and microcomputer software.

^Courses are being phased out beginning fall 1993 term.

DESIGN DRAFTING ENGINEERING TECHNOLOGY

Associate in Applied Science Degree
Main Campus

Design Drafting Engineering Technology is a complex field for persons with a strong interest in electronics and/or mechanical design. The program offers three options: Electronic Drafting and Design, Tool Design and a generalist option containing both electronic and tool design. All options have a heavy emphasis on mechanical design.

The program integrates the concepts of mathematics and science into the technical courses. The use of computer assisted design drafting (CADD) is emphasized throughout the program.

A well-rounded curriculum enables graduates to seek employment with engineering and scientific research or manufacturing organizations. Modern drafting stations, drafting machines and other typical drafting equipment are used along with micro-computers. Students are encouraged to join the T-VI chapter of the Society of Manufacturing Engineers (SME) and attend local SME seminars.

A grade of C or better in each design drafting course is required for a degree. Students must buy their own textbooks, drafting tools and a full function scientific calculator.

It is strongly recommended that all beginning students meet with the department counselor to plan an individual course of study. Optional courses and courses numbered 200 or above may not be offered every term and are subject to cancellation before classes start due to insufficient enrollment. Entry into a course without the necessary prerequisites may be allowed with the permission of the academic advisor.

The Design Drafting Engineering Technology associate degree program is accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology (TAC/ABET).

Design Drafting Engineering Technology Program

			<i>Credit Hours</i>
DDET	102L	Manufacturing Methods.....	3
DDET	104L	Introduction to Technical Drafting	4
DDET	105L	Basic Machine Tool	3
DDET	106L	Basic CADD	3
DDET	111L	Mechanical Detailing.....	3
DDET	114L	Structured Computer Programming	3
DDET	115L	Intermediate CADD	3
DDET	201L	Descriptive Geometry	3
DDET	205L	Machine Design	4

DDET	211L	Electromechanical Design	3
DDET	212	Applied Engineering Mechanics	3
DDET	214L	Materials Science	4
DDET	215L	Technical Computer Applications	3
Subtotal			41

Option I

Electronic Drafting and Design emphasis: All required courses plus the following:

DDET	116L	Basic Electronic Drafting	3
DDET	202L	Applied Electronic Drafting	3
DDET	208L	Electronic Drafting with CADD	3
Subtotal			9

Option II

Tool Design emphasis: All required courses plus the following:

DDET	206L	Jig and Fixture Design	4
DDET	207L	Production Tooling Design	4
DDET	216L	Dimensional Metrology	4
Subtotal			12

Option III

An associate of applied science degree may be earned without declaring an option. This option requires a combination of courses from Options I and II totaling a minimum of eight credit hours. Prerequisites and corequisites must be satisfied.

Required Arts & Sciences Courses

ENG	101	College Writing	3
ENG	119	Technical Communications	3
Humanities/Social Science Elective			3
MATH	121	College Algebra	3
or			
MATH	150	Advanced Algebra	
MATH	162	Calculus I	3-4
or			
MATH	180	Elementary Calculus	
MATH	123	Trigonometry	2
PHYS	151/	General Physics/	
	153L	Lab	4
Subtotal			21-22

Total Credits for Degree **70-75**

Optional Courses[#]

DDET	280	Introduction to Quality Assurance	3
DDET	281	Statistical Controls	3
DDET	282	Computer Applications for Quality Assurance	3
DDET	283	Coordinate Measurement Machines	3
DDET	284	Geometric Dimensioning and Tolerancing	3
DDET	285	ASQC Certification Preparation	3
DDET	291	Special Projects in CADD	3
DDET	296	Special Problems	3
DDET	297	Cooperative Education	3
DDET	299	Internship	3
WELD	170	Welding Skills Improvement	3

[#]Optional courses are used to enhance the education of the student. These courses may be taken at any time when prerequisites are met.

Course Descriptions

DDET 102L—Manufacturing Methods (3 cr)

(Pre- or corequisite: ENG 101) The student is introduced to manufacturing methods unique to modern industrial technology including machining, fabrication, hot and cold metal working processes, assembly operations and quality assurance. Properties of materials as affected by various manufacturing processes are introduced.

DDET 104L—Introduction to Technical Drafting (4 cr)

(Prerequisite: MATH 120 or ACT math score of 26 or equivalent) This is an introduction to fundamental drafting techniques including care and use of drafting equipment, lettering, sketching, linework, scaling and geometric construction.

DDET 105L—Basic Machine Tools (3 cr)

This course familiarizes students with the functional world of manufacturing and industry. Subjects include types, applications and use of hand and power tools; types, applications and specifications of common hardware; measuring equipment and inspection techniques; clearances, tolerances, fit and allowances; machine tool operation and applications including drilling, grinding, milling, turning, tapping and boring. Safety glasses must be worn in the laboratory.

DDET 106L—Basic CADD (3 cr)

Microcomputer CADD hardware and software are introduced including format and execution of basic command verbs, creation, editing and saving of drawing files, and generation of hard-copy output. Supply fee: \$15

DDET 111L—Mechanical Detailing (3 cr)

(Prerequisite: DDET 104L) This course introduces the student to the development of detail drawings including layout, view selection, notation, dimensioning, Y-14.5 tolerancing and revisions of mechanical parts.

DDET 114L—Structured Computer Programming (3 cr)

(Prerequisite: Math 120) This is a course in beginning computer programming using engineering applications. Supply fee: \$15

DDET 115L—Intermediate CADD (3 cr)

(Prerequisite: DDET 106L) The student continues use of CADD software in an applied situation. Advanced drawings include insertions, layering, auto-dimensioning and constructing library files. Supply fee: \$15

DDET 116L—Basic Electronic Drafting (3 cr)

(Prerequisite: DDET 104L) This course presents electronic drafting fundamentals including symbolic representation of electronic components and devices, block and connection diagramming, cable drawings and circuit schematics.

DDET 201L—Descriptive Geometry (3 cr)

(Prerequisite: MATH 121 or MATH 150) A graphical analysis of the relationship between points, lines and planes in space is presented. Advanced applications of trigonometry to dynamic mechanisms and point locations are covered.

DDET 202L—Applied Electronic Drafting (3 cr)

(Prerequisite: DDET 116L) This course introduces electronic drafting techniques unique to printed circuit board design including development of both discrete and integrated component layouts, artwork, fabrication and assembly drawings and chassis design.

DDET 205L—Machine Design Layout (4 cr)

(Prerequisites: DDET 105L, DDET 111L, DDET 115L; corequisite: DDET 201L or MATH 123) Students apply machine design principles including fixed and removable fastening techniques, dimensioning and tolerancing for assembly; functions of bearings, gears, cams, belts, pulleys and shafts; and parts list development. Force vectors and stress and strain are introduced. Layout formats, part searches and material specifications are made for each design.

DDET 206L—Jig and Fixture Design (4 cr)

(Prerequisite: DDET 205L) This design course centers around the science of three dimensional location, clamping and holding of work for machining and assembly. Cams, levers, screwlocks, air and hydraulic devices are covered. Time evaluation and accuracy are included; time and motion considerations and datum planes are taught.

DDET 207L—Production Tooling Design (4 cr)

(Prerequisite: DDET 206L) Students design tools for metal forming operations via power presses and brakes. Topics include the design of male and female hard dies, steel rule dies and urethane tooling for metal blanking, and forming and assembly operations.

DDET 208L—Electronic Drafting with CADD (3 cr)

(Prerequisites: DDET 115L, DDET 202L) Students produce complete electronic drawings by merging principles of CADD with standard drafting rules and conventions. Assignments are in the field of electronic drafting including multilayering.

DDET 211L—Electromechanical Design (3 cr)

(Prerequisite: DDET 205L) This course involves the study, experimentation, design and drafting of electromechanical devices and systems. Principal components of hydraulic, pneumatic, drive systems and control devices are covered in a hands-on laboratory. A major design project is required.

DDET 212—Applied Engineering Mechanics (3 cr)

(Prerequisite: MATH 123) This course analyzes the forces on mechanical elements at rest and in motion. The study of statics and complex forces on materials is also included.

DDET 214L—Materials Science (4 cr)

(Prerequisites: DDET 201L or MATH 123 and ENG 119) Students analyze and evaluate the engineering characteristics of materials used in modern manufacturing technology in typical applications. Mechanical, physical and chemical properties are included. A comprehensive research paper is required.

DDET 215L—Technical Computer Applications (3 cr)

(Prerequisite: DDET 115L) Students use the computer to solve engineering and related problems.

DDET 216L—Dimensional Metrology (4 cr)

(Prerequisite: DDET 111L or MATT 112) This laboratory and lecture course introduces students to the science of precision measure. Using a well equipped laboratory, students make direct and indirect measurements to 50 millionths of an inch. Measurements concentrate on linear and angular units. Students are introduced to equipment used in electrical, decibel and PPM measurements. Lab work includes SPC and CMM practicums.

DDET 280—Introduction to Quality Assurance (3 cr)

(Prerequisite: ENG 119) This course examines the philosophies of Deming, Juran and Taguchi as they apply to quality in the workplace. Total Quality Management (TQM), self-directed teams and teamwork also are studied.

DDET 281—Statistical Controls (3 cr)

(Prerequisite: MATH 145) Students learn to use hardware and software as they apply to quality assurance. Students study design of experiments, sampling techniques, SPC, control chart application and development and process reliability.

DDET 282—Computer Applications for Quality Assurance (3 cr)

(Prerequisite: DDET 114L or any programming course) Students write computer programs to solve statistical problems. Also used in the course are various statistical and graphic software packages.

DDET 283—Coordinate Measurement Machines (3 cr)

(Prerequisite: DDET 216L or permission of academic advisor) This is an advanced course in the theory and operation of CMM equipment. Geometric dimensioning and tolerancing are applied to CMM inspection.

DDET 284—Geometric Dimensioning and Tolerancing (3 cr)

(Prerequisite: DDET 111L or any course in ANSI-Y14.5) This course covers the design and use of gauges, fixtures and tools for inspection using GD&T specifications to meet ANSI-Y14.5 standards.

DDET 285—ASQC Certification Preparation (3 cr)

(Prerequisite: must meet ASQC certification requirements) This course prepares the student for the ASQC certification examination.

DDET 291—Special Projects in CADD (3 cr)

This course involves project work in electromechanical drafting using advanced CADD concepts.

DDET 296—Special Problems (3 cr)

(Prerequisites: enrolled only in 200 level technical courses and/or permission of the program academic advisor) The student and instructor define a specific problem in the area of the student's interest and directly related to the program. The student then develops and executes a solution using analytical and drafting techniques appropriate to the problem. An oral presentation may be required.

DDET 297—Cooperative Education (3 cr)

(Prerequisite: permission of the academic advisor) In cooperation with local industry, the student works for one term on a cooperative basis in an appropriate training program. The position the student holds is a paid position.

DDET 299—Internship (3 cr)

(Prerequisite: permission of the academic advisor) In cooperation with local industry, the student works for one term on a cooperative basis in an appropriate training program. The position is not paid.

ELECTRONICS ENGINEERING TECHNOLOGY

Associate in Applied Science Degree
Montoya Campus

The Electronics Engineering Technology program emphasizes the application of scientific and engineering methods along with related technical skills necessary to support engineering activity in research, development, production, maintenance and operation.

This program represents a rigorous, engineering-type course of study. Lectures, laboratory work and considerable homework provide the basis for developing the skills necessary for employment in a broad occupational area at levels between the electronics technician and the electrical engineer.

T-VI laboratory facilities contain modern equipment for testing, troubleshooting, calibrating, analyzing and designing electronic circuits. Such circuits may be found in communications equipment, computers, electronic instruments and many other electronic devices.

Students applying for this program should be seriously interested in the study of electronics with emphasis on mathematics and science and should have high standards of excellence.

It is strongly recommended that all beginning students meet with the department counselor to plan an individual course of study. Technical elective courses and courses numbered 200 or above may not be offered every term and are subject to cancellation before classes start due to insufficient enrollment.

Pre- or corequisites for each of the Engineering Technology courses may be waived by the academic advisor for a student who has related experience and/or course work. Credit for an EET course may be given if an official transcript from another institution indicating an equivalent course is approved by the academic advisor and department dean. Credit for an EET course may be given by passing a challenge exam. A grade of C or better in each EET course is required for a degree.

Students in this program are required to purchase all textbooks, laboratory manuals, calculator and drafting tool kit.

The Electronics Engineering Technology associate degree program is accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology (TAC/ABET).

Electronics Engineering Technology Program

		<i>Credit Hours</i>
EET	107L Graphics and Analytical Methods	3
EET	109L Circuit Analysis I	5
EET	113L Structured Computer Programming	3
EET	117L Digital Electronics I	3
EET	119L Circuit Analysis II	5
EET	207L Digital Electronics II	3
EET	208L Microprocessors	4
EET	209L Electronic Devices	5
EET	218L Microprocessor Interfacing	3
EET	219L Electronic Systems	5
Technical Elective#		3
Subtotal.....		42
 Required Arts & Sciences Courses 		
CHEM	111/ Introduction to Chemistry/ 112L Lab	4
or		
CHEM	121L General Chemistry	
ENG	101 College Writing	3
ENG	119 Technical Communications	3
Humanities/Social Science Elective		3
MATH	121 College Algebra	3
or		
MATH	150 Advanced Algebra	
MATH	123 Trigonometry	2
MATH	162 Calculus I	3-4
or		
MATH	180 Elements of Calculus I	
PHYS	151/ Physics/ 153L Lab	4-5
or		
PHYS	160 General Physics	
and		
PHYS	163L General Physics Lab	
Subtotal		25-27
Total Credits for Degree		67-69

#Technical Electives

EET	296	Special Problems	3
EET	297	Cooperative Education	3
EET	299	Internship.....	3
PC	201	Electromechanical Systems	3
CP	175L	C Language Programming	3

Any advanced course offered by the Technologies Department or any physical science or computer science course or mathematics course above that which is required with consent of the academic advisor.

Course Descriptions

EET 107L—Graphics and Analytical Methods (3 cr)

(Corequisite: MATH 150 or MATH 121) Mechanical and electronic drafting methods, including schematic preparation, printed circuit layout, chassis definition and wiring, are studied. Lab time is devoted to the development of skills and techniques required to prepare drawings. In addition, students gain experience in word processing, spreadsheet preparation, graphics, data base preparation and CAD. Supply fee: \$15

EET 109L—Circuit Analysis I (5 cr)

(Corequisites: ENG 101, EET 107L, MATH 150 or MATH 121) Passive DC circuits are analyzed using Ohm's Law, Kirchhoff's Laws, source conversions, network theorems and branch/mesh/nodal analysis. Transient analysis of R-C and R-L circuits is presented along with concepts of energy, power and efficiency. Computers are used for spreadsheet preparation, graphics and word processing.

EET 113L—Structured Computer Programming (3 cr)

This is a course in beginning computer programming using engineering applications. Supply fee: \$15

EET 117L—Digital Electronics I (3 cr)

(Prerequisite: EET 109L) Combinational logic and integrated circuits are analyzed and designed using Boolean algebra, Karnaugh maps and logic diagrams. Number systems, binary codes and code conversions are studied along with flip flops, multivibrators and circuit applications. Lab work emphasizes wiring and troubleshooting skill development while confirming circuit design objectives.

EET 119L—Circuit Analysis II (5 cr)

(Prerequisite: EET 109L; corequisites: ENG 119, MATH 123, MATH 162 or MATH 180) Passive AC circuits with dependent and independent sources are studied along with network theorems, phasor analysis, AC measurements, power factor analysis/correction, sweep generation usage and Fourier series. Computers are used for spreadsheet preparation, graphics, word processing and CAD.

EET 207L—Digital Electronics II (3 cr)

(Prerequisite: EET 117L) Logic circuit decoders, encoders, multiplexers, counters and registers are studied along with ADCs, DACs, RAM, ROM and applications. Microprocessor structure, timing/control, ALU operation, interface circuits and machine language programming are introduced.

EET 208L—Microprocessors (4 cr)

(Prerequisite: EET 113L; corequisite: EET 207L) Microprocessors and microcomputers are studied in depth with emphasis on machine and assembly language programming. Interrupts and DOS entry points are introduced.

EET 209L—Electronic Devices (5 cr)

(Pre- or corequisite: EET 119L) Diodes, bipolar transistors, FETs and circuits including rectifiers, zener diode regulators, clippers, clampers and amplifiers are studied. Transistor modeling and circuit analysis/design are stressed along with computer use for circuit analysis, spreadsheet preparation, graphics and word processing.

EET 218L—Microprocessor Interfacing (3 cr)

(Prerequisites: EET 208L, EET 209L) I/O devices including printers, terminals and proto board circuits are interfaced to a microcomputer. Each student makes an oral presentation and prepares documentation describing system operation and organization along with block diagrams, schematics and structured software.

EET 219L—Electronic Systems (5 cr)

(Prerequisite: EET 209L; corequisite: EET 218L) Electronic system schematics are studied along with frequency considerations, decibel usage, differential and operational amplifiers, power supplies, thyristors, PLLs, oscillators and feedback concepts. Each student prepares a technical manual for a computer-controlled system. Video monitor basics and introductory transmission line theory are presented. Computers are used for instrument control and data logging.

EET 296—Special Problems (3 cr)

(Prerequisite: enrolled only in 200-level technical courses and/or permission of the program academic advisor) The student and instructor define a specific problem in the area of the student's interest and directly related to the program. The student then develops and executes a solution using analytical and drafting techniques appropriate to the problem. An oral presentation may be required.

EET 297—Cooperative Education (3 cr)

(Prerequisite: permission of the academic advisor) In cooperation with local industry, the student works for one term on a cooperative basis in an appropriate training program. The position the student holds is a paid position.

EET 299—Internship (3 cr)

(Prerequisite: permission of the academic advisor) In cooperation with local industry, the student works for one term on a cooperative basis in an appropriate training program. The position the student holds is not a paid position.

ELECTRONICS TECHNOLOGY

Associate in Applied Science Degree/

Certificate Program

Main Campus

The Electronics Technology program, offering both certificate and associate degree options, provides the student with a broad base of skills in analog and digital electronics. To receive a certificate in Electronics Technology, the student must complete the occupational core program and a concentration in one of four areas—Digital Computer Networking, Laser Electro-Optics, Process Control or Consumer Electronics/Communication—plus other courses required for a certificate. An associate of applied science degree in electronics technology will be awarded upon completion of the occupational core program, a concentration in one of the above four areas and the Arts & Sciences component.

Training is provided in the fundamental concepts of electronics with emphasis on digital equipment such as computers and electronic control devices. Circuits which have application in the semiconductor, digital equipment manufacturing, measurement and control, communications and display industries are studied.

Laboratory facilities contain modern equipment for testing, troubleshooting, calibrating, analyzing and designing electronic circuits. Such circuits may be found in communications equipment, computers, electronic instruments and many other electronic devices.

Certificate program graduates who want to earn a degree must fulfill the Arts & Sciences and residency requirements and must satisfy technical course requirements according to the catalog in effect when the degree work was started.

Students entering Electronics Technology courses must meet the prerequisites of MATH 100 or equivalent and reading at a minimum of eighth grade level. CP 176L or equivalent is also required before taking 200-level courses. If a student takes MATH 100 or lower, it is recommended that he or she also take the survey course for electronics from the Developmental Studies Department before taking courses within the major.

A grade of C or better in each electronics course is required for a degree or certificate. **It is strongly recommended that all beginning students meet with the department counselor to plan an individual course of study.** Optional courses and courses numbered 200 or above may not be offered every term and are subject to

cancellation before classes start due to insufficient enrollment. Entry into a course without the prerequisite may be allowed with the permission of the academic advisor.

Electronics Technology Program
Certificate and Degree Core Requirements

			<i>Credit Hours</i>
+ELEC	103A	Electronics Fundamentals	4
	and		
+ELEC	103B	Electronics Fundamentals	4
	or		
ELEC	103L	Electronics Fundamentals	8
ELEC	104	Technical Mathematics	5
ELEC	105L	Digital Circuits	4
ELEC	111L	Introduction to Photonics	4
+ELEC	114A	Semiconductor Devices	3
	and		
+ELEC	114B	Semiconductor Devices	4
	or		
ELEC	114L	Semiconductor Devices	7
+ELEC	118A	Electromechanical Devices	3
	and		
+ELEC	118B	Electromechanical Devices	3
	or		
ELEC	118L	Electromechanical Devices	6
+ELEC	203A	Introduction to Microprocessors	3
	and		
+ELEC	203B	Introduction to Microprocessors	3
	or		
ELEC	203L	Introduction to Microprocessors	6
ELEC	205L	Analog Circuits	6
ELEC	214L	Troubleshooting Techniques	3
	Subtotal		49

+The student must pass both the A and B courses with a C or better in order to be given credit for the entire course.

Special Concentration Options for Certificate or Degree
(One Option Required)

		Consumer Electronics/Communication	
CEC	201	Telecommunications	3
CEC	202	RF/Modulation	3
ELEC	216	Consumer Electronics	6

ELEC	217	Computer Repair	3
ELEC	218	Computer Networking	3
Digital Computer Networking			
CEC	201	Telecommunications	3
DIG	211	System Fabrication	3
DIG	212	Electronic System Applications	6
DIG	215L	Advanced Digital Processes	6
Laser Electro-Optics			
LEOT	205L	Introduction to Laser Systems	4
LEOT	206	Optics	6
LEOT	217L	Advanced Laser Systems with Applications	6
PC	212L	Vacuum Systems	2
Process Control			
PC	201	Electromechanical Systems	3
PC	202	Process Control	6
PC	211	Power RF	2
PC	212L	Vacuum Systems	2
PC	213L	Control Circuits with Applications	6
or			
SMT	201	Semiconductor Manufacturing Technology I	3
and			
SMT	215	Semiconductor Manufacturing Technology II	3
Additional Certificate Requirements			
BA	111	Communications (7½ weeks)	2-3
or			
ENG	101	College Writing	
BA	131	Human Relations (7½ weeks)	2-3
or			
PSY	105	Introduction to Psychology	
Total Credits for Certificate			69-72
Additional Degree Requirements			
ENG	119	Technical Communications	3
CHEM	111/	Introduction to Chemistry/	
	112L	Lab	4
or			
CHEM	121L	General Chemistry	
Humanities/Social Science Elective			3

MATH	162	Calculus I.....	3-4
		or	
MATH	180	Elementary Calculus	
PHYS	151/	Physics/	
	153L	Lab.....	4
		or	
PHYS	160	General Physics	
Total Credits for Degree			82-84

Optional Courses[#]

CP	175L	C Language Programming.....	3
CP	274L	Introduction to the Unix Operating System.....	3
DDET	105L	Basic Machine Tool.....	2
ELEC	204L	Introduction to Computer Programming.....	4
ELEC	276L	Soldering Techniques (7½ weeks).....	2
ELEC	278	Modern Technological Advances.....	3
ELEC	279	Electronic Refresher.....	3
ELEC	280	Introduction to Quality Control.....	3
ELEC	282	Pulse Power.....	3
ELEC	296	Special Problems.....	3
ELEC	297	Cooperative Education.....	3
ELEC	299	Internship.....	3
FS	203	Hazardous Materials.....	3
MSP	103L	Tool Applications.....	3

[#]Optional courses are used to enhance the education of the student. These courses may be taken at any time when prerequisites are met.

Course Descriptions

CEC 201—Telecommunications (3 cr)

(Prerequisite: ELEC 205L) This course provides an overview of basic telecommunications techniques. Topics include digital modulation/demodulation, microwave theory, waveguides, satellite systems, signal sampling, the telephone system, modems and associated protocols.

CEC 202—RF/Modulation (3 cr)

(Corequisite: ELEC 205L) This is an introduction to radio frequency communication theory, circuits and problems. Topics include electromagnetic interference, analog modulation/demodulation techniques, transmission lines and antennas.

DIG 211—System Fabrication (3 cr)

(Prerequisite: ELEC 203L) Students study microcomputer architecture from a systems approach. They assemble and troubleshoot their own microcontroller, modem and Ethernet interface. Supply fee: \$30

DIG 212—Electronic System Applications (6 cr)

(Prerequisite: ELEC 205L) This course covers analog methods, signal conditioning, noise reduction and filtering techniques. Transducer theory, application, limitations and interfacing methods are presented.

DIG 215L—Advanced Digital Processes (6 cr)

(Prerequisite: ELEC 203L) This course is a systems approach to PC architecture, custom configuration and I/O. Students configure, construct, maintain and troubleshoot networks in Unix and MS-DOS environments. The students use the network for data acquisition, remote I/O and PLC programming.

ELEC 103A—Electronics Fundamentals (4 cr)

(Recommended corequisite: ELEC 104 or strong mathematics background or permission of academic advisor) This course covers the basic concepts of DC electronics with emphasis on Ohm's Law, Kirchhoff's Law, circuit analysis and component application with troubleshooting. Through laboratory exercises students obtain skills in constructing circuits from schematic diagrams and in the use of multimeters. Supply fee: \$15

ELEC 103B—Electronics Fundamentals (4 cr)

(Prerequisite: ELEC 103A) This course covers the basic concepts of AC electronics with emphasis on Ohm's Law, Kirchhoff's Law, circuit analysis and component application. Through laboratory exercises students obtain skills in constructing, analyzing and troubleshooting AC circuits with the use of multimeters, oscilloscopes and function generators.

ELEC 103L—Electronics Fundamentals (8 cr)

(Recommended corequisite: ELEC 104 or strong mathematics background) This course covers the basic concepts of DC and AC electronics with emphasis on Kirchhoff's Law, circuit analysis and component application with troubleshooting. Students obtain skills in the use of oscilloscopes, function generators and multimeters in laboratory exercises and in constructing circuits from schematic diagrams. Supply fee: \$15

ELEC 104—Technical Mathematics (5 cr)

(Prerequisite: MATH 100 or equivalent) This course covers algebra and trigonometry and their application to various technologies.

ELEC 105L—Digital Circuits (4 cr)

(Recommended corequisite: ELEC 104 or strong mathematics background) The fundamental concepts and applications of digital logic circuits are covered along with number systems and Boolean algebra. The basic logic gates and MSI, LSI circuits are used to develop operational digital circuits.

ELEC 111L—Introduction to Photonics (4 cr)

(Prerequisites: ELEC 103L) Fiber optics and optical transducer theory are studied including the basics of laser safety and operation. Laboratory experiments in all three areas strengthen concepts.

ELEC 114A—Semiconductor Devices (3 cr)

(Prerequisite: ELEC 103L) This course covers the basic concepts and applications of simple power supplies and operational amplifiers. In laboratory exercises students analyze and troubleshoot circuits containing basic electronic components, diodes, transformers, filters, regulators and op amps.

ELEC 114B—Semiconductor Devices (4 cr)

(Prerequisite: ELEC 114A) This course covers basic concepts, biasing techniques and applications of junction field effect transistors and bipolar transistors. In laboratory exercises students analyze and troubleshoot circuits of varying configurations.

ELEC 114L—Semiconductor Devices (7 cr)

(Prerequisites: ELEC 103L, ELEC 104) This course covers semiconductor devices, diodes, transistors, op amps and JFETS, and their application in simple power supplies and amplifiers. Students obtain skills in constructing, analyzing and troubleshooting semiconductor circuits.

ELEC 118A—Electromechanical Devices (3 cr)

(Prerequisite: ELEC 103L, ELEC 104) This course introduces the basic principles and components of hydraulic and pneumatic systems. In laboratory experiments students study component operation and principle application.

ELEC 118B—Electromechanical Devices (3 cr)

(Prerequisite: ELEC 118A, ELEC 105L) This course covers various control circuits for DC and AC motors and stepper motors. In laboratory experiments students analyze and troubleshoot servosystems for motor speed and positioning control.

ELEC 118L—Electromechanical Devices (6 cr)

(Prerequisites: ELEC 103L, ELEC 104, ELEC 105L) This course covers theory and application of mechanical devices and their control circuits. Topics include hydraulics, pneumatics, vacuum, AC and DC motors, stepper motors and servomechanisms. Students obtain skills in the assembly, operation and troubleshooting of small-scale electromechanical systems.

ELEC 203A—Introduction to Microprocessors (3 cr)

(Prerequisites: ELEC 118L, CP 176L) This course covers the organization of a microcomputer using the 8088 CPU, memory and I/O devices. Programs are written in Assembler language and in a higher level language to drive the PC's serial I/O, parallel printer port and disk drives.

ELEC 203B—Introduction to Microprocessors (3 cr)

(Prerequisite: ELEC 203A) The students build individual buffered interfaces that connect with the PC's I/O backplane for their custom I/O applications.

ELEC 203L—Introduction to Microprocessors (6 cr)

(Prerequisites: ELEC 118L, CP 176L) The course centers on the 8088 microprocessor in an MS-DOS environment. Programs are written in Assembler language and in a higher level language to drive the PC's serial I/O, parallel printer port and disk drives. The students build individual buffered interfaces that connect with the PC's I/O backplane for their custom I/O applications.

ELEC 204L—Introduction to Computer Programming (4 cr)

(Prerequisite: CP 176) The student is introduced to programming using a high-level language. Supply fee: \$15

ELEC 205L—Analog Circuits (6 cr)

(Prerequisites: ELEC 114L, ELEC 118L) This course presents the circuitry necessary for a measurement and control system through operational amplifier circuits, active filters, comparators, modulation and demodulation, voltage regulation, A-D converters and D-A converters and discrete transistors circuits.

ELEC 214L—Troubleshooting Techniques (3 cr)

(Prerequisite: ELEC 205L or equivalent) In this course students apply troubleshooting techniques to a complete electronic system. Emphasis is on systematic analysis to locate problems.

ELEC 216—Consumer Electronics (6 cr)

(Corequisite: ELEC 205L or permission of academic advisor) This course is a study of televisions, video camcorders and video recording methods and equipment with an emphasis on alignment, troubleshooting and repair.

ELEC 217—Computer Repair (3 cr)

(Prerequisite: CP 176L and ELEC 114L or permission of academic advisor) This course covers basic aspects of computer repair, troubleshooting techniques with and without software, modifications and replacement. It emphasizes microcomputers and related hardware. Supply fee: \$15

ELEC 218—Computer Networking (3 cr)

(Prerequisite: ELEC 203L, CP 176L) This course includes a study of encoding schemes and protocols involved in networking microcomputers. Students are exposed to various networking schemes but concentrate on Ethernet. Lab consists of constructing an Ethernet LAN, writing drivers in a high-level computer language and studying data transfers with diagnostic equipment.

ELEC 276L—Soldering Techniques (7½ weeks) (2 cr)

Students use a modern repair center to learn high-reliability soldering and desoldering techniques. Non-destructive printed circuit board repairs and component replacement techniques also are used. Supply fee: \$15

ELEC 278—Modern Technological Advances (3 cr)

Various topics on the forefront of today's technology are explored. Subjects include superconductivity, cryogenics, fiber optics applications, microelectronics, photonics, material interactions, holography, non-destructive testing, optical computing and chaos. Concepts include self-directed work teams and statistical process control.

ELEC 279—Electronic Refresher (3 cr)

(Prerequisite: completion of an electronics program or equivalent) This is a review of electronics, including basics, semiconductors, op-amps, digital electronics and microprocessors.

ELEC 280—Introduction to Quality Control (3 cr)

This is an introduction to the concepts and practices currently being used in industry to insure quality.

ELEC 282—Pulsed Power (3 cr)

(Prerequisite: ELEC 114L or permission of advisor) The generation, transmission and measurement of high-voltage, pulsed power systems are studied.

ELEC 296—Special Problems (3 cr)

(Corequisites: ELEC 202L, ELEC 203L and permission of the academic advisor) The student is given a problem to investigate and solve. The student then designs the solution using a combination of techniques.

ELEC 297—Cooperative Education (3 cr)

(Prerequisite: permission of the academic advisor) In cooperation with local industry, the student works for one term on a cooperative basis in an appropriate training program. The position held by the student is a paid position.

ELEC 299—Internship (3 cr)

(Prerequisite: permission of the academic advisor) In cooperation with local industry, the student works for one term on a cooperative basis in an appropriate training program. The position held by the student is not a paid position.

LEOT 205L—Introduction to Laser Systems (4 cr)

(Prerequisite: ELEC 111L) The theory and operation of solid-state and gas lasers are studied. Continuous wave and pulsed systems are discussed. Laboratory exercises provide hands-on operation of various types of lasers.

LEOT 206—Optics (6 cr)

(Prerequisite: ELEC 111L) Lenses and optical systems are studied from the standpoints of geometric and wave optics. Laboratory experiments are performed.

LEOT 217L—Advanced Laser Systems with Applications (6 cr)

(Prerequisite: LEOT 205L) The applications of laser systems to industry are covered. Students write a technical paper on their area of interest. Calibration techniques, interferometry and Q-switching are examples of laboratory exercises performed.

PC 201—Electromechanical Systems (3 cr)

(Prerequisites: ELEC 114L, ELEC 118L) This course uses electromechanical systems donated by local industries to expose students to equipment schematics, maintenance procedures and troubleshooting techniques. Students practice preventive and corrective maintenance procedures.

PC 202—Process Control (6 cr)

(Prerequisites: ELEC 203L, ELEC 205L) This course covers the fundamentals of process control, PLCs, microcontrollers and sensor technology. Also included are projects involving serial digital communication, PALs, interrupts, force sensors, photonic sensors and temperature sensors. Supply fee: \$20

PC 211—Power RF (7½ weeks) (2 cr)

(Prerequisite: ELEC 114L) This course is a study of RF energy and its applications in the manufacturing industries. Topics include plasma physics, RF applications, safety, RF generators, transmission lines and RF interference.

PC 212L—Vacuum Systems (7½ weeks) (2 cr)

(Prerequisite: ELEC 118L) This is a study of vacuum technology and vacuum systems. Topics include gas laws and properties, operation and applications of vacuum pumps, gauges and valves and systems leak detection.

PC 213L—Control Circuits with Applications (6 cr)

(Prerequisites: ELEC 203L, ELEC 205L) Topics include robotics, high level applications programming and transducer/computer interfacing projects. The PUMA industrial robot with VAL II control language, robot safety, a three wheel intelligent robot and the Rhino robot are used. A systems project is designed and constructed by the student. Supply fee: \$30

SMT 201—Semiconductor Manufacturing Technology I (3 cr)

(Recommended prerequisite: CHEM 111/112L or CHEM 121L) Students study several processes, materials and equipment used in semiconductor manufacturing. The areas of study are wafer preparation, contamination control, oxidation, diffusion, and thin films.

SMT 215—Semiconductor Manufacturing Technology II (3 cr)

(Prerequisite: SMT 201) Students continue to explore processes, materials and equipment used in semiconductor manufacturing. The areas of study are ion implantation, photolithography and etch.

^ELEC 116L—Introduction to Microcomputers (3 cr) This course covers micro-computer architecture, MS-DOS, word processing, spreadsheets, digital and analog circuit analysis software, computer assisted drafting and an introduction to computer programming. Supply fee: \$15

^ELEC 117—Introduction to Lasers (4 cr)

(Prerequisites: ELEC 103L, ELEC 104) This course introduces the student to the basic operation of the laser. The helium neon laser is used to discuss the nature of light, laser operation and laser safety. Manufacturers' safety data sheets are discussed.

^ELEC 118L—Electromechanical Devices (7 cr)

(Prerequisites: ELEC 103L, ELEC 104, ELEC 105L) This course covers theory and application of mechanical devices and their control circuits. Topics include hydraulics, pneumatics, vacuum, AC and DC motors, stepper motors and servomechanisms. Students obtain skills in the assembly, operation and troubleshooting of small-scale electromechanical systems.

^ELEC 202L—Electronic Circuits (7 cr)

(Prerequisite: ELEC 114L) Multiple class, small and large signal amplifier circuits, oscillators, signal conditioning, modulation circuits and operational amplifiers are covered. Students develop, analyze and troubleshoot complex circuits in laboratory experiments and assigned projects.

^ELEC 212L—Electronic Applications (7 cr)

(Prerequisite: ELEC 202L) This course includes an in-depth study of the differential amplifier and its application to the operational amplifier and various circuits, transducers including strain gauges and bridges, applications for thyristors, optoelectronic devices and switching mode power supplies. Related laboratory exercises provide experience in constructing and troubleshooting operating systems.

^ELEC 215L—Advanced Microprocessors (7 cr)

(Prerequisite: ELEC 203L) This course centers on the 80386 microprocessor and the IBM RISC System 6000. Programs are written in a high level language to drive the 80386's standard peripherals with emphasis on its VGA video circuitry. Students' 386s are then tied to the RISC System for an introduction to the Unix operating system. Students build PAL decoded I/O circuitry for their custom I/O applications. Other topics include PLC programming and PC networking techniques.

^ELEC 219—RF Communications for Radio/TV (3 cr)

(Corequisite ELEC 202L or IC 202L) This course is a study of radio frequency communication theory and devices. Topics include electromagnetic interference, modulation/demodulation techniques, transmission lines, wave propagation, antennas, waveguides, cavity resonators and associated microwave telecommunications.

^IC 202L—Linear Circuits (7 cr)

(Prerequisites: ELEC 114L, ELEC 118L) The student learns the circuitry necessary for a measurement and control system by studying operational amplifier circuits, active filters, comparators, modulation and demodulation, voltage regulation, A-D converters and D-A converters and discrete transistor circuits.

^IC 204L—Introduction to Computer Programming (3 cr)

(Prerequisite: ELEC 116) The student learns to program using a high level computer programming language. Emphasis is on structured, top-down program construction. Program requirements include input and output formats, arrays and files. A simulation project is required using graphics techniques. Supply fee: \$15

^IC 213L—Control Circuits (7 cr)

(Prerequisites: ELEC 203L, IC 202L, IC 204L) Topics include robotics, high level applications programming, transducer/computer interfacing projects and solid state motor controls. The PUMA industrial robot with VAL II control language, a three wheel intelligent robot and the Rhino robot are used for student projects. A systems project is designed and constructed by the student. Supply fee: \$20

^IC 214L—Instrumentation (7 cr)

(Prerequisites: IC 202L, ELEC 203L) This course covers instrumentation, calibration and troubleshooting and repair of equipment.

^IC 215L—Microcontroller Interfacing (3 cr)

(Prerequisite: ELEC 203L) This course provides experience in the practical application of the microcontroller. Also included are projects involving serial communication, PALs, PLDs, external and Internal interrupts, and motor controls.

^IC 216L—Industrial Systems (3 cr)

(Prerequisites: ELEC 114L, ELEC 118L) This course uses electromechanical systems donated by local industries to expose students to equipment schematics, maintenance procedures and troubleshooting techniques. In the lab students practice preventive and corrective maintenance procedures.

^LEOT 204L—Electronic Circuits (7 cr)

(Prerequisite: ELEC 114L) This course provides a study of multiple class amplifier circuits, oscillators, signal conditioning and operational amplifiers. In-depth study of these circuits as applied to power supplies is conducted. Students develop, analyze and troubleshoot these circuits in laboratory exercises.

^LEOT 208L—Introduction to Microprocessors (4 cr)

(Prerequisite: ELEC 116L) This course covers the architecture, programming, input/output and applications of a microprocessor.

^LEOT 214L—Advanced Microprocessors (4 cr)

(Prerequisite: LEOT 208L) A system of digital circuits is studied using a microprocessor. Interfacing to various devices is emphasized.

^LEOT 215L—Electronic Systems Analysis (2 cr)

(Prerequisite: LEOT 204L) Linear integrated circuits are studied. Power supplies are analyzed. Troubleshooting of electronic systems is emphasized.

^LEOT 218L—Laser Measurements (4 cr)

(Corequisite: LEOT 217L) Detection of radiation is covered. Various devices—calorimeters, photo-multiplier tubes, semiconductor diodes and pyroelectric detectors—and interferometric measurements also are studied.

^SMT 202L—Vacuum Systems (3 cr)

(Prerequisites: ELEC 118A) The field of vacuum technology is explored through the study of gas laws and their properties. The operation and applications of various roughing, high vacuum and ultra-high vacuum pumps comprise the major course of study, with gauges, valves, leak detection and other support equipment also emphasized.

^SMT 203—Manufacturing Methods (3 cr)

(Prerequisites: ELEC 104 and ELEC 116L) This course provides a basic understanding of statistics, productivity and efficiency as applied to industry. Statistical process control (SPC) is introduced. Computer software is used for data analysis and production control logistics.

^SMT 211—Semiconductor Manufacturing Technology II (3 cr)

(Prerequisite: SMT 201) Students continue to explore processes, materials and equipment used in semiconductor manufacturing. The areas of study are ion implantation, photolithography and etch.

^Courses are being phased out beginning fall 1993 term.

MANUFACTURING SPECIALIST

Certificate Program
Main Campus

The Manufacturing Specialist Program prepares students for entry-level positions in the manufacturing and production industry by teaching the philosophy, knowledge and skills required. This program also prepares persons needing to upgrade their present skills for better job opportunities.

The Manufacturing Specialist Program is designed as an open-entry, open-exit program consisting of a maximum of two terms of self-paced, directed instruction. Laboratory hours are arranged to provide flexible scheduling for employed and unemployed students.

This ten-credit program is self-paced with the assistance of a qualified instructor. The program consists of 20 modules, each with criteria for successful completion. The curriculum is divided into three parts: general skills, mechanical skills and electronic skills.

Upon completion of this program, the graduate will have the skills necessary for electronic and mechanical assembly, problem solving and preventive maintenance procedures. In addition, the graduate will be able to inspect work for quality and to work safely in an effort to prevent damage to self and product.

For successful completion of this program, a demonstrated 80% competency or B is required for each unit. Students demonstrating a competency of 100% on any unit will receive a grade of A. A final grade of A or B will be given, depending on the average of all unit grades.

This program requires an average of 400 hours for completion. Any student requiring more than 400 hours will be evaluated for progress at 450 hours. To complete the program within the two-term maximum, the student is required to work on the modules in and out of class.

Students must demonstrate a math skill equivalent to or exceeding MATH 99 offered in the Department of Developmental Studies. If a student takes MATH 99, it is recommended that he or she also take the Developmental Studies electronics course.

Students purchase a textbook and pay a one-time \$25 supply fee.

Students enrolled in this program may not be eligible to receive financial aid or Veterans Administration benefits.

MSP 101L—Manufacturing Specialist Program (8 cr)

(Prerequisite: MATH 099 or equivalent) This course is a self-paced laboratory course covering each topic listed below. Supply fee: \$25

MSP 102L—Manufacturing Specialist Program II (2 cr)

This course is used when a student requires a second term to complete the program.

MSP 103L—Tool Applications (3 cr)

Students acquire the skills necessary to use hand and power tools and mechanical components.

Manufacturing Specialist Skills Modules

General Skills

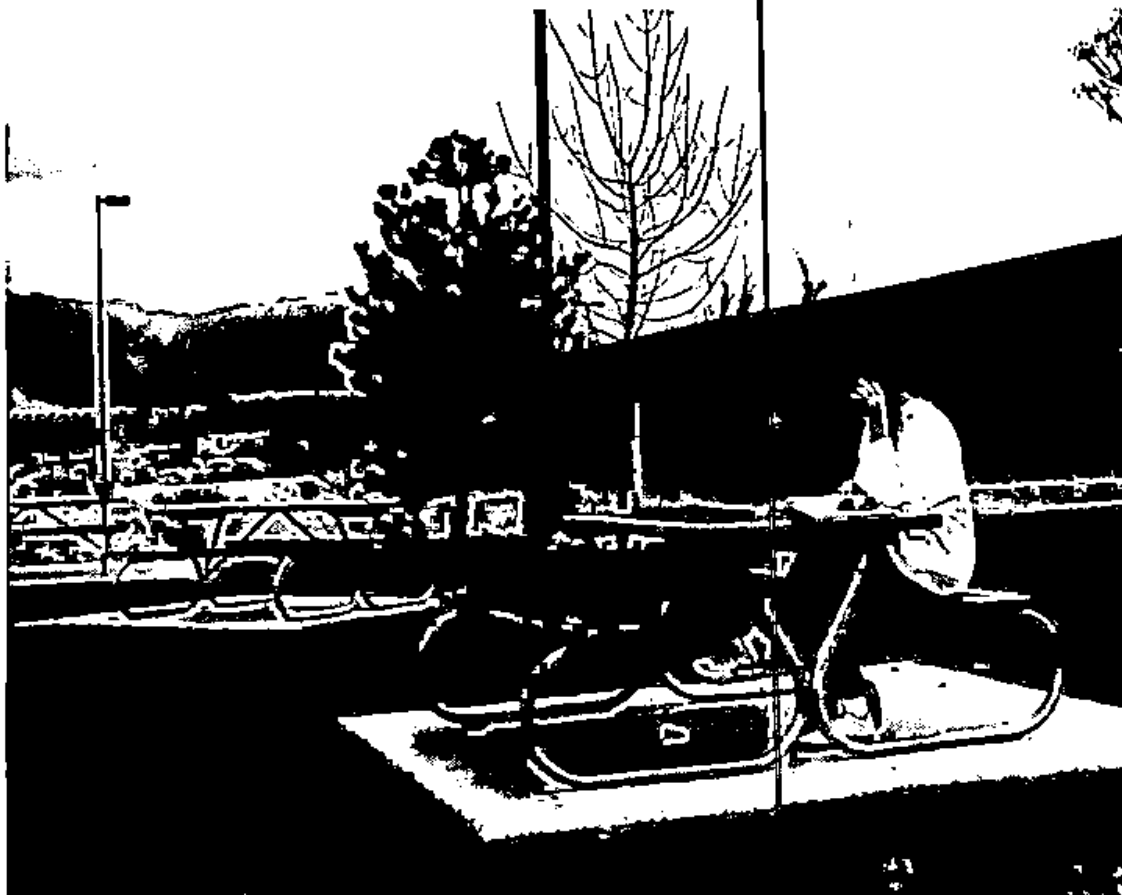
- Industrial Safety
- Hazardous Materials
- Quality Assurance
- Computer Literacy
- Problem Solving

Mechanical Skills

- Hand and Power Tools
- Mechanical Components
- Torque
- Tape & Die
- Measurement Devices
- Blueprint Reading
- Fluid Systems Components
- Mechanical Project

Electronic Skills

- Electronic Components and Basic Electronic Theory
- Basic Electricity
- ESD Hardware Handling
- Soldering Fabrication and Inspection
- Cable and Harness Assembly
- Wire Wrap
- Electronic Project







TRADES & SERVICE OCCUPATIONS

As our world becomes more complex, we continue to rely on skilled technicians to provide the goods and services we need. The Trades & Service Occupations Department prepares individuals for a variety of jobs in such fields as building trades, culinary arts, automotive body repair, mechanical trades and environmental technology.

The Trades department offers certificates and degrees that prepare individuals for entry-level positions, for job advancement and for skill upgrading. Classroom and hands-on training is offered in technical, industrial and service occupations. Most classes meet on the Main Campus.

Students are encouraged to participate in the student organization VICA (Vocational Industrial Clubs of America). VICA activities and programs are an integral part of the curriculum.

Cooperative education allows students who have acquired most of the skills and attitudes needed to succeed in an entry-level job to work for pay. A written agreement with specific objectives is signed by the student, T-VI and the employer. The cooperative education option may not qualify students for financial aid.

Students must furnish their own lab clothes that must be safe and appropriate for their programs. Safety glasses or goggles which conform to ANSI Z87.1 must be worn in all labs and work areas. Violations of safety regulations may result in suspension from T-VI.

Most Trades programs require that students be in good physical condition and be free of allergies or health conditions that could endanger themselves or others. A valid driver's license and drug screenings are required by most employers.

APPRENTICESHIP PROGRAMS

Note: Students enrolled in these programs may not qualify for financial aid or Veterans Administration benefits.

COMMERCIAL CARPENTRY APPRENTICESHIP

Main Campus

The Commercial Carpentry Apprenticeship for persons currently employed in the industry is offered in conjunction with the Rio Grande Chapter of Associated Builders and Contractors Inc. (ABC).

The program provides related classroom instruction.

There is a T-VI registration fee each term. Students must purchase textbooks and instructional materials through the local ABC chapter.

CCAP 198—Commercial Carpentry Apprenticeship (40 cr)

(Prerequisite: current full-time employment in the carpentry industry or department approval) This course consists of 600 hours of related classroom instruction. The classroom instruction covers orientation, safety, shop and trade math, commercial carpentry process for shop tools and equipment, supplies and materials, building systems, blueprint reading, concrete, specifications and code interpretation.

CULINARY APPRENTICESHIP

Main Campus

The Culinary Apprenticeship is offered for persons currently employed full-time in the food service industry.

The three-year program stresses safety, sanitation and work ethics. Classroom instruction results in certified cook skill levels. Beginning students are admitted each term as space permits.

There is a T-VI registration fee each term. Students must purchase a textbook and instructional materials through the American Culinary Federation Rio Grande Valley Chapter.

CUAP 198—Culinary Apprenticeship (36 cr)

(Prerequisite: current full-time employment in the food service industry or department approval) This course includes 400 hours of theory taught at T-VI. Theory covers culinary history, food decorating, food management and front-of-the-house techniques. A comprehensive written and practical final exam is administered in conjunction with the American Culinary Federation.

ELECTRICAL TRADES APPRENTICESHIP

Main Campus

The Electrical Trades Apprenticeship, for persons currently employed full-time in the electrical industry, is offered in conjunction with the Independent Electrical Contractors (IEC).

The program provides related classroom instruction.

There is a T-VI registration fee each term. Students must purchase books and instructional materials through the IEC office.

ETAP 198—Electrical Trades Apprenticeship (40 cr)

(Prerequisite: current full-time employment in the electrical trades industry or department approval) This course consists of 600 hours of related classroom instruction. The classroom instruction covers safety, electrical theory, blueprint reading and layout, National Electrical Code interpretation, tool usage and motor controls.

FIRE SPRINKLER APPRENTICESHIP

Main Campus

The Fire Sprinkler Apprenticeship is offered for persons currently employed in the fire sprinkler field. The program provides related classroom instruction. Beginning students are admitted each term as space permits.

There is a T-VI registration fee each term. Students must purchase books and instructional materials through the New Mexico chapter of the American Fire Sprinkler Association.

FSAP 198—Fire Sprinkler Apprenticeship (40 cr)

(Prerequisite: current full-time employment in the fire sprinkler or related industry or department approval) This course consists of 600 hours of classroom instruction, including sprinkler drawings, NFPA codes and standards, hydraulic calculations, wet/dry/pre-action/deluge systems applications, hazard classification inspections and design.

PLUMBING APPRENTICESHIP

Main Campus

The Plumbing Apprenticeship, for persons currently employed full-time in the mechanical trades (plumbing) industry, is offered in conjunction with the Rio Grande Chapter of Associated Builders and Contractors Inc. (ABC).

The program provides related classroom instruction.

There is a T-VI registration fee each term. Students must purchase textbooks and instructional materials through the local ABC chapter.

PLAP 198—Plumbing Apprenticeship (40 cr)

(Prerequisite: current full-time employment in the plumbing industry or department approval) This course consists of 600 hours of classroom instruction covering safety, shop and trade math, plumbing processes, blueprint reading and mechanical code (plumbing) interpretation.

SHEET METAL APPRENTICESHIP

Main Campus

The Sheet Metal Apprenticeship, for persons currently employed full-time in the sheet metal industry, is offered in conjunction with the Rio Grande Chapter of Associated Builders and Contractors Inc. (ABC).

The program provides related classroom instruction.

There is a \$20 registration fee each term. Students must purchase textbooks and instructional materials through the local ABC chapter.

SMAP 198—Sheet Metal Apprenticeship (40 cr)

(Prerequisite: current full-time employment in the sheet metal industry or department approval) This course consists of 600 hours of related classroom instruction. Instruction covers safety, shop and trade math, sheet metal processes for shop machinery, triangulation lay-out, radial line layout, parallel line layout, blueprint reading and Sheet Metal and Air Conditioning National Assn. (SMACNA) manuals.

ELECTIVE COURSES

At least 15 students must sign up and instructional space and budget must be available before an elective course can be offered. As a result, elective courses may be canceled because of budget or low enrollment. Courses may be offered in the evening when enrollment is sufficient. Not all courses are offered each term. Most are offered only at the Main Campus. Descriptions for most elective courses are included in their respective programs.

			<i>Credit Hours</i>
ACHR	170L	Pneumatic Control Systems	3
ACHR	171L	Basic Refrigeration Maintenance	3
ACHR	172L	Basic Air Conditioning, Heating and Refrigeration	3
ACHR	173L	Commercial Refrigeration	3
AUTC	170	Transportation Trades Machining	3
AUTC	172	Air Care Inspector	1
#BA	256	Employment Procedures and Techniques	2
CARP	170	Carpentry Fundamentals and Cabinetmaking	3
CARP	171	Construction Trades Blueprint/Math	3
CARP	172L	Basic Remodeling—Structural	3
CJ	170	Physical Fitness	1
CJ	171	Physical Fitness II	1
CMPR	170	Commercial Printing Skills Improvement: Basic	3
CMPR	171	Commercial Printing Skills Improvement: Desktop Publishing on the Mac	3
ELTR	170	Residential Wiring Circuitry	2
ELTR	171L	Conduit Hand Bending Fundamentals	1
ELTR	172L	Pole Climbing	1
ELTR	173	Industrial Motor Control Circuitry	2
ELTR	174L	Industrial PC Motor Control	3
ELTR	175	Fiber Optical Cable Installation	2
ELTR	176	Electrical Journeyman Preparation	3
ELTR	177L	Basic Remodeling—Electrical	3
FSMG	170L	Computers in Food Service	3
MATT	171	Precision Measurement	3
MATT	173	Machine Tool Technology Skills Improvement	3
MATT	174	Advanced Machine Tool Technology Skills Improvement	3
PLMB	170	Mechanical Trades Math	1
PLMB	171	Journeyman Preparation	3
PLMB	172L	Basic Remodeling—Plumbing	3
SCSE	170L	Power Equipment Technology Skills Improvement I	3
SCSE	171L	Power Equipment Technology Skills Improvement II	3
TRDR	170	Commercial Driver's License	2
TRDR	171	Material Handling	2

TRDR	172	Material Packaging	2
+VICA	174	Introduction to Professional Development.....	1
+VICA	175	Leadership	1
+VICA	176	Career Planning	1
+VICA	177	Employment Skills	1
+VICA	178	Civic Responsibility	1
+VICA	179	Total Quality Management.....	1
WELD	170	Welding Skills Improvement	3
WELD	171	Advanced Welding Skills Improvement	3

#Business Occupations course

+VICA 174—Introduction to Professional Development (1 cr)

This course is designed to assist students in developing goals and commitments. Skills include personal awareness, goal setting, time management, organization and communication. Students are required to pay state and national VICA dues and purchase supplies from national VICA.

+VICA 175—Leadership (1 cr)

(Prerequisite: VICA 174 or department approval) This course prepares students for committee work by covering agendas, parliamentary procedures and serving on a committee. Students also participate in community service projects and improve communication skills. Students are required to pay state and national VICA dues and purchase supplies from national VICA.

+VICA 176—Career Planning (1 cr)

(Prerequisite: VICA 175 or department approval) The skills taught include career information, report writing, conducting interviews, communication improvement and interaction with business and industry. Students are required to pay state and national VICA dues and purchase supplies from national VICA.

+VICA 177—Employment Skills (1 cr)

(Prerequisite: VICA 176 or department approval) The skills taught assist the student in job-seeking: writing resumes, business letters and memos and creating a job portfolio. Communication and interaction with business and industry also are covered. The student is required to pay state and national VICA dues.

+VICA 178—Civic Responsibility (1 cr)

(Prerequisite: VICA 177 or department approval) This course allows students to become involved in various community services as volunteers. Local government and community leaders' roles in the operation of the city are covered. Planning and carrying out a community project are included. The student is required to pay state and national VICA dues and purchase supplies from national VICA.

+VICA 179—Total Quality Management (1 cr)

(Prerequisite: VICA 178 or department approval) Students gain an understanding of the structure of business and industry and how total quality concepts can improve the workplace. The student is required to pay state and national VICA dues and purchase supplies from national VICA.

AIR CONDITIONING, HEATING AND REFRIGERATION

Certificate Program
Main Campus

The Air Conditioning, Heating and Refrigeration program prepares students for entry into the installation, maintenance and service field. With on-the-job experience and field training, the graduate of this program should be able to advance quickly.

Training includes safety, installing mechanical equipment, piping and electrical controls, servicing various air conditioning, heating and refrigeration components, troubleshooting systems and performing required preventive maintenance.

Most activities take place on campus, but some take place at off-campus building sites and are an integral part of the curriculum.

Students must be free of chronic respiratory diseases and allergies to sheet metal fluxes and metals and must have normal color differentiation. Students purchase all textbooks for this program.

Air Conditioning, Heating and Refrigeration students must pay a tool fee of \$104 before entering ACHR 101L, 102L or 103L; \$81 before entering ACHR 111L, 112L or 113L; and \$81 before entering ACHR 201L, 202L, 203L or 204L.

Air Conditioning, Heating and Refrigeration Program

			<i>Credit Hours</i>
ACHR	101	Basic Refrigeration Theory	2
ACHR	101L	Basic Refrigeration Lab	2
ACHR	102	Basic Control Circuitry Theory	2
ACHR	102L	Basic Control Circuitry Lab	2
ACHR	103	Basic Air Conditioning Theory	2
ACHR	103L	Basic Air Conditioning Lab	2
ACHR	104	Basic Refrigeration Math	1
ACHR	111	Intermediate Heating Theory	2
ACHR	111L	Intermediate Heating Lab	2
ACHR	112	Intermediate Control Circuitry Theory	2
ACHR	112L	Intermediate Control Circuitry Lab	2

ACHR	113	Intermediate Air Conditioning Theory	2
ACHR	113L	Intermediate Air Conditioning Lab	2
ACHR	114	Math for Systems Design	3
ACHR	201	Advanced Air Conditioning and Refrigeration Theory	2
ACHR	201L	Advanced Air Conditioning and Refrigeration Lab	2
ACHR	202	Commercial Air Conditioning and Refrigeration Theory	2
ACHR	202L	Commercial Air Conditioning and Refrigeration Lab	2
ACHR	203	Advanced Building Controls Theory	2
ACHR	203L	Advanced Building Controls Lab	2
ACHR	204L	Advanced Control Circuitry Lab	1
		Total	41

Course Descriptions

ACHR 101—Basic Refrigeration Theory (2 cr)

(Prerequisites: appropriate scores on BOTEL and math placement test or equivalent or department approval) Basic refrigeration theory and servicing techniques are covered. An introduction to domestic refrigeration systems is also included.

ACHR 101L—Basic Refrigeration Lab (2 cr)

(Pre- or corequisite: ACHR 101 or department approval) This lab course includes shop safety, basic tool use, soldering, brazing, basic refrigeration servicing and use of gauges. Also included are servicing techniques for domestic refrigerators.

ACHR 102—Basic Control Circuitry Theory (2 cr)

(Pre- or corequisite: ACHR 101 or department approval) This course is an introduction to basic electrical theory and control circuitry of domestic refrigeration. This course also covers single phase motor theory, use of sequences, interpretation and use of wiring diagrams and ladder schematics.

ACHR 102L—Basic Control Circuitry Lab (2 cr)

(Pre- or corequisite: ACHR 102 or department approval) Topics include the wiring, electrical servicing and troubleshooting of domestic refrigeration and window air conditioning units. Emphasis is on safety when working with electricity.

ACHR 103—Basic Air Conditioning Theory (2 cr)

(Pre- or corequisites: ACHR 101L, 102 or department approval) This course includes domestic refrigerator and window air conditioner techniques.

ACHR 103L—Basic Air Conditioning Lab (2 cr)

(Pre- or corequisites: ACHR 101L, 102L, 103 or department approval) This is an introduction to servicing and troubleshooting of domestic refrigerator and window air conditioners and gas-fired and electric heating systems.

ACHR 104—Basic Refrigeration Math (1 cr)

(Prerequisites: appropriate scores on BOTEL and math placement test or equivalent or department approval) This course reviews basic arithmetic functions. An introduction to Ohm's law with series, parallel and combination circuits is provided. Mechanical work and power calculations are also covered.

ACHR 111—Intermediate Heating Theory (2 cr)

(Prerequisites: ACHR 101, 102, 103 or department approval) The types and components of gas-fired furnaces are covered. Requirements of ventilation and combustion air are also covered. The installation, maintenance and servicing of heating systems are stressed.

ACHR 111L—Intermediate Heating Lab (2 cr)

(Pre- or corequisite: ACHR 111 or department approval) This lab covers installation, maintenance and servicing of heating systems. Safety is stressed when working with combustible gases and electricity.

ACHR 112—Intermediate Control Circuitry Theory (2 cr)

(Prerequisites: ACHR 101, 102, 103 or department approval) Topics include the design, installation and troubleshooting of heating, air conditioning and refrigeration control circuits. Emphasis is on developing and understanding ladder schematics and electrical control devices from various manufacturers.

ACHR 112L—Intermediate Control Circuitry Lab (2 cr)

(Pre- or corequisites: ACHR 111L, 112 or department approval) This lab covers the wiring, servicing and troubleshooting of heating, air conditioning and refrigeration systems. The use of electrical test instruments is emphasized.

ACHR 113—Intermediate Air Conditioning Theory (2 cr)

(Pre- or corequisite: ACHR 112 or department approval) This course covers the types and components of refrigeration and air conditioning systems, including packaged units, split systems and combination units. Installation, servicing and maintenance are stressed.

ACHR 113L—Intermediate Air Conditioning Lab (2 cr)

(Pre- or corequisite: ACHR 112L or department approval) The maintenance, installation and servicing of air conditioning and refrigeration units are covered. Safety is stressed when working with the refrigerants and power tools.

ACHR 114—Math for Systems Design (3 cr)

(Prerequisite: ACHR 104 or department approval) This course covers calculations required for residential heating and cooling system design, including computer-aided heat load calculation programs and equipment sizing and layout. This course also introduces the student to math, including basic algebra, as it applies to refrigeration.

ACHR 170L—Pneumatic Control Systems (3 cr)

Basic control system components and diagrams are included. Emphasis is on the installation and calibration of typical pneumatic control systems used for environmental control.

ACHR 171L—Basic Refrigeration Maintenance (3 cr)

The student is introduced to the types and components of refrigerators and window air conditioners. Evaporative coolers are also covered. Preventive maintenance is stressed. Simple servicing and troubleshooting skills are developed.

ACHR 172L—Basic Air Conditioning, Heating and Refrigeration (3 cr)

The students are introduced to state-of-the-art equipment and service techniques in the supermarket and food service industry. Emphasis is on installation and troubleshooting of parallel compressor systems, energy management systems and preventive maintenance programs.

ACHR 173L—Commercial Refrigeration (3 cr)

The student is introduced to the types and components of commercial refrigeration and ice machines. Preventive maintenance is stressed. Simple servicing and troubleshooting skills are developed.

ACHR 201—Advanced Air Conditioning and Refrigeration Theory (2 cr)

(Prerequisites: ACHR 113, 114 or department approval) The theory of installation, maintenance and service of heat pumps, rooftop air conditioners and ice machines is covered. Troubleshooting and servicing are stressed.

ACHR 201L—Advanced Air Conditioning and Refrigeration Lab (2 cr)

(Prerequisite: ACHR 113L or department approval) The installation, maintenance and service of heat pumps, rooftop air conditioners and ice machines are covered. Troubleshooting and servicing are stressed.

ACHR 202—Commercial Air Conditioning and Refrigeration (2 cr)

(Prerequisite: ACHR 201 or department approval) The theory of installation, maintenance and service of commercial air conditioners along with multi-zone heating/cooling units are covered. Chilled water and hot water systems are also covered. Computer room air conditioners are introduced.

ACHR 202L—Commercial Air Conditioning and Refrigeration Lab (2 cr)

(Prerequisite: ACHR 201L or department approval) The installation, maintenance and service of commercial air conditioners along with multi-zone heating/cooling units are covered. Computer room air conditioners are introduced.

ACHR 203—Advanced Building Controls Theory (2 cr)

(Pre- or corequisite: ACHR 201 or department approval) Basic control system components and diagrams are included. Emphasis is on the installation and calibration of building control systems.

ACHR 203L—Advanced Building Controls Lab (2 cr)

(Pre- or corequisites: ACHR 115L, 203L or department approval) Basic control system components and diagrams are included. Emphasis is on the installation and calibration of building control systems.

ACHR 204L—Advanced Control Circuitry Lab (1 cr)

(Prerequisite: ACHR 112 or department approval) Advanced electrical installation, maintenance and service of heat pumps, rooftop air conditioners and ice machines are covered. The safe use of test instruments is stressed.

ACHR 296—Special Topics (1–6 cr)

(Prerequisite: department approval) This flexible course enables students to pursue studies in specialized areas. This class also may be taken as an independent, guided study or as a refresher course to sharpen skills prior to licensing.

AUTOMOTIVE BODY REPAIR

Certificate Program

Main Campus

The Automotive Body Repair program prepares students for entry-level employment repairing collision damage on passenger and commercial vehicles. Safety procedures, work ethics and correct selection and use of tools and equipment are stressed.

Students must be free of chronic respiratory diseases and allergies to solvents. A valid driver's license and a good driving record are required by most employers. Students purchase all textbooks for this program.

Students must pay a tool fee of \$116 before entering AUBO 102L, 103L, 104L or 105L; \$86 before entering AUBO 112L, 113L, 114L, 115L or 116L, and \$58 before AUBO 202L, 203L, 204L, 205L or 206L.

Auto Body Repair Program

			<i>Credit Hours</i>
AUBO	101	Auto Body Theory I.....	3
#DETC	102	Math/Basic Electricity	3
AUBO	102L	Welding Plastics and Adhesives I.....	2

AUBO	103L	Metal Prep/Repair and Cooling Systems	2
AUBO	104L	Metal Finishing/Body Filling	2
AUBO	105L	Basic Refinishing Systems	2
AUBO	111	Auto Body Theory II	2
AUBO	112L	Welding Plastic and Adhesives II	2
AUBO	113L	Suspension and Alignment	3
AUBO	114L	Frame and Unibody Repair	2
AUBO	115L	Brake, Fuel and Exhaust Systems	2
AUBO	116L	Automotive Glass Theory/Lab	1
AUBO	201	Auto Body Theory III.....	3
AUBO	202L	Welding Plastics and Adhesives III	2
AUBO	203L	Advanced Refinishing Systems/Techniques	4
AUBO	204L	Advanced Restraint/Electrical Systems	1
AUBO	205L	Drive Train	1
AUBO	206L	Air Conditioning	1
		Total	38

#Diesel Equipment Technology course

Course Descriptions

AUBO 101—Auto Body Theory I (3 cr)

(Prerequisites: appropriate scores on BOTEL and math placement test or equivalent or department approval; corequisite: DETC 102) This lecture/theory course introduces students to all phases of non-structural analysis and collision damage repair. Basic information is presented on hand and power tools, safety, damage analyzing, metal finishing, painting and refinishing, and oxyacetylene and mig welding.

AUBO 102L—Welding Plastics and Adhesives I (2 cr)

(Pre- or corequisites: AUBO 101, DETC 102 or department approval) Basic safety and instruction in oxyacetylene welding, gas metal arc welding, plastics identification, welding and adhesive repairs are presented.

AUBO 103L—Metal Prep/Repair and Cooling Systems (2 cr)

(Pre- or corequisites: AUBO 101, DETC 102 or department approval) This learning lab provides experience in analyzing damage, damage estimates, safety, panel removal, replacement and adjustment, engine cooling system inspection and repair.

AUBO 104L—Metal Finishing/Body Filling (2 cr)

(Pre- or corequisites: AUBO 101, DETC 102 or department approval) Minor body dent repair, surface preparation, damage type, tool use and safety, metal finishing and body filler repair techniques are presented.

AUBO 105L—Basic Refinishing Systems (2 cr)

(Pre- or corequisites: AUBO 101, DETC 102 or department approval) Students practice paint safety, surface preparation by molding removal, surface cleaning, stripping, sanding materials and techniques, paint undercoats and applications, and spray gun operations.

AUBO 111—Auto Body Theory II (2 cr)

(Prerequisites: DETC 102, AUBO 101, 102L, 103L, 104L, 105L, or department approval) This theory/lecture course introduces students to all phases of structural analysis and collision damage repair. Basic information includes damage diagnosis, body measurements and repair of frame and unibody vehicle systems.

AUBO 112L—Welding Plastics and Adhesives II (2 cr)

(Pre- or corequisite: AUBO 111 or department approval) This lab course provides experience in safe gas metal arc welding, plastic welding and adhesives use.

AUBO 113L—Suspension and Alignment (3 cr)

(Pre- or corequisite: AUBO 111 or department approval) Students gain experience in damage diagnosis and repair of steering systems, front and rear suspensions, wheel alignment angles and adjustments.

AUBO 114L—Frame and Unibody Repair (2 cr)

(Pre- or corequisite: AUBO 111 or department approval) This lab course provides instruction in the safe use of frame and unibody pulling equipment, body measuring systems, pulling techniques, structural panel sectioning and replacement, corrosion protection materials and application.

AUBO 115L—Brakes, Fuel and Exhaust Systems (2 cr)

(Pre- or corequisite: AUBO 111 or department approval) This lab teaches students to safely remove, inspect, repair or replace brake parts, fuel tanks, fuel system components and exhaust systems.

AUBO 116L—Automotive Glass Theory/Lab (1 cr)

(Pre- or corequisite: AUBO 111 or department approval) Students learn to remove and replace fixed or rubber gasket windshields and manual and electrical door glass hardware.

AUBO 201—Auto Body Theory III (3 cr)

(Prerequisites: AUBO 111, 112L, 113, 114L, 115L, 116L or department approval) This theory/lecture course introduces students to advanced repair techniques using industry standards in mig welding, plastics, finishing paint systems, paint application problems, color matching and application, paint finish defects, passenger restraints, electrical components and air conditioning systems.

AUBO 202L—Welding Plastics and Adhesives III (2 cr)

(Pre- or corequisite: AUBO 201 or department approval) In this lab course students are presented more advanced gas metal arc welding techniques and plastic repair.

AUBO 203L—Advanced Refinishing Systems/Techniques (4 cr)

(Pre- or corequisite: AUBO 201 or department approval) Procedures used for painting spot, panel and complete repairs are taught. Students also solve paint application problems, including causes and corrections of finish defects. Personal safety equipment, detailing, environmental regulations and customer relations are taught.

AUBO 204L—Advanced Restraint/Electrical Systems (1 cr)

(Pre- or corequisite: AUBO 201 or department approval) This lab course covers the inspection and repair of active, passive and air bag restraint systems. Students will also learn to diagnose, adjust and repair various electrical components safely with up-to-date tools.

AUBO 205L—Drive Train (1 cr)

(Pre- or corequisite: AUBO 201 or department approval) This lab will teach students how to safely remove and replace power train assemblies, electronic sensors, align mounts, adjusting cables and linkages and to service front-drive half shafts.

AUBO 206L—Air Conditioning (1 cr)

(Pre- or corequisite: AUBO 201 or department approval) Instruction is provided in safety, environmental concerns, tools, equipment, servicing and repairing of air conditioning systems in passenger cars and trucks.

AUBO 296—Special Topics (1–6 cr)

(Prerequisite: department approval) This course is an in-depth study of problems and advanced techniques in auto body repair.

AUTOMOTIVE TECHNOLOGY

Certificate Program

Main Campus

The Automotive Technology program is designed to provide individuals with the skills needed to diagnose and repair mechanical problems on automobiles and light trucks. Safety procedures and work ethics along with the correct use and selection of hand tools and test equipment are stressed. The program is designed to qualify the successful student as an entry-level general automobile technician.

The employment outlook for qualified auto technicians is excellent. Employment opportunities include such positions as basic servicing, general mechanic, specialist,

service writer, shop foreman, service manager, sales representative and service station attendant.

This program is accredited by NATEF (National Automotive Technicians Education Foundation Inc.) as a master certified program in all eight specialty areas: automotive transmission/transaxle, brakes, electrical system, engine performance, engine repair, heating and air conditioning, manual drive train and axles, and suspension and alignment.

Students must be free of chronic respiratory diseases and allergies to fuels and solvents. A valid driver's license and a good driving record are required by most employers. All textbooks must be purchased for this program.

Students must pay a tool fee of \$116 before entering AUTC 101L, 102L or 103L; \$104 before entering AUTC 111L, 112L or 114L, and \$104 before entering AUTC 201L, 202L or 203L.

Automotive Technology Program

			<i>Credit Hours</i>
AUTC	101	Braking Systems Theory	1
#DETC	102	Math/Basic Electricity	3
AUTC	101L	Braking Systems Lab	2
AUTC	102	Suspension and Alignment Theory	2
AUTC	102L	Suspension and Alignment Lab	2
AUTC	103	Manual Transmission and Axles Theory	2
AUTC	103L	Manual Transmission and Axles Lab	2
AUTC	111	Engine Overhaul Theory	2
AUTC	111L	Engine Overhaul Lab	2
AUTC	112	Auto Transmissions and Transaxles Theory	2
AUTC	112L	Auto Transmissions and Transaxles Lab	2
AUTC	113	Transportation Electronics	3
AUTC	114	Heating and Air Conditioning Theory	1
AUTC	114L	Heating and Air Conditioning Lab	2
AUTC	201	Automotive Ignition Systems Theory	2
AUTC	201L	Automotive Ignition Systems Lab	3
AUTC	202	Automotive Fuel Systems Theory	2
AUTC	202L	Automotive Fuel Systems Lab	2
AUTC	203	Automotive Computer Systems Theory	2
AUTC	203L	Automotive Computer Systems Lab	2
Total			41

#Diesel Equipment Technology course

Course Descriptions

AUTC 101—Braking Systems Theory (1 cr)

(Prerequisites: appropriate scores on BOTEL and math placement test or equivalent or department approval; corequisite: DETC 102) This course teaches the students to identify mechanical, hydraulic and electrical parts in modern automotive brake systems. Students will also study brake systems theory and learn use of tools and equipment for the service and repair of brake systems.

AUTC 101L—Braking Systems Lab (2 cr)

(Pre- or corequisite: AUTC 101 or department approval) Students repair, replace and adjust automotive brake systems and components.

AUTC 102—Suspension and Alignment Theory (2 cr)

(Pre- or corequisites: appropriate scores on BOTEL and math placement test or equivalent or department approval) Students study problems in suspension systems and determine repairs needed. Front-end and four-wheel alignment methods and procedures are covered.

AUTC 102L—Suspension and Alignment Lab (2 cr)

(Pre- or corequisite: AUTC 102 or department approval) Students learn to use tools and equipment needed for repairs of suspension systems and perform both front-end and four-wheel alignments.

AUTC 103—Manual Transmissions and Axles Theory (2 cr)

(Pre- or corequisite: AUTC 101 or department approval) Students learn the design and operation of front and rear drive manual transmissions, differentials and drive lines of various styles. Maintenance, service procedures and troubleshooting theory are also emphasized.

AUTC 103L—Manual Transmission and Axles Lab (2 cr)

(Pre- or corequisite: AUTC 103 or department approval) Skills required to service, repair or overhaul automotive manual transmissions and clutches on front and rear drive vehicles are covered. Differential assemblies and drive lines, and diagnostic procedures used in solving vibration and harshness problems are also addressed.

AUTC 111—Engine Overhaul Theory (2 cr)

(Prerequisites: appropriate scores on BOTEL and math placement test or equivalent or department approval; corequisite: AUTC 111L) This course presents the theory of engine systems and the use of measuring tools to determine necessary repairs and services. The operation of the internal combustion engine and the basic principles of engine overhaul are covered.

AUTC 111L—Engine Overhaul Lab (2 cr)

(Pre- or corequisite: AUTC 111 or department approval) Students acquire skills needed to perform normal engine maintenance, including fluid changes, adjustments and minor repairs. Also included are the correct use of precision measuring tools and the testing, removal, replacement and overhauling of an automotive engine.

AUTC 112—Automatic Transmissions and Transaxles Theory (2 cr)

(Pre- or corequisites: appropriate scores on BOTEL and math placement test or equivalent or department approval) This course covers design and operating theory of automotive transmissions and transaxles. Servicing and troubleshooting transmissions are covered.

AUTC 112L—Automatic Transmissions and Transaxles Lab (2 cr)

(Pre- or corequisite: AUTC 112 or department approval) This course provides hands-on experience in servicing, overhaul and troubleshooting automatic transmissions and transaxles.

AUTC 113—Transportation Electronics (3 cr)

(Prerequisite: DETC 102 or department approval) Information required to test and replace malfunctioning electronic components is provided. The theory of solid-state devices and basic principles of electronics are included. Lab experiments are conducted on full wave rectifiers, voltage rectifiers, transistors and integrated circuits.

AUTC 114—Heating and Air Conditioning Theory (1 cr)

(Pre- or corequisites: appropriate scores on BOTEL and math placement test or equivalent or department approval) This theory course provides instruction in safety, environmental concerns, tools, equipment, operation of parts and servicing and repair of air conditioning systems in passenger vehicles.

AUTC 114L—Heating and Air Conditioning Lab (2 cr)

(Pre- or corequisite: AUTC 114 or department approval) This lab course is designed to teach safety, environmental concerns and repair of automotive heating and air conditioning systems.

AUTC 170—Transportation Trades Machining (3 cr)

Topics include basic machine shop repair practices particularly as they relate to gasoline and diesel engine repairs. Instruction is provided in safety, hand tools, elementary lathe, mill and drill press.

AUTC 172—Air Care Inspector (1 cr)

This theory/lab course provides the training required for mechanics to become certified air care inspectors for the City of Albuquerque's Vehicle Pollution Management program. The course covers the city and federal regulations governing air pollution and emissions inspections.

AUTC 201—Automotive Ignition Systems Theory (2 cr)

(Prerequisite: AUTC 113 or department approval) The focus is on the design, operation and troubleshooting of standard, electronic and distributor-less ignition systems.

AUTC 201L—Automotive Ignition Systems Lab (3 cr)

(Pre- or corequisite: AUTC 201 or department approval) This laboratory course presents the use of diagnostic equipment and troubleshooting techniques for various types of ignition systems.

AUTC 202—Automotive Fuel Systems Theory (2 cr)

(Pre- or corequisite: AUTC 113 or department approval) This is a theory course covering the design, operation, components, diagnosis and repair of fuel systems, including fuel pumps, carburetors and fuel injection.

AUTC 202L—Automotive Fuel Systems Lab (2 cr)

(Pre- or corequisite: AUTC 202 or department approval) The operation, testing and repair of different fuel systems are covered.

AUTC 203—Automotive Computer Systems Theory (2 cr)

(Pre- or corequisite: AUTC 113 or department approval) This is a theory course in the design, operation and repair of various automotive computer systems found on today's automobile.

AUTC 203L—Automotive Computer Systems Lab (2 cr)

(Pre- or corequisite: AUTC 203 or department approval) The focus is on troubleshooting, operation and repair of automotive computer systems.

AUTC 296—Special Topics (1–6 cr)

(Prerequisite: department approval) This course includes an in-depth study of problems and the advanced techniques automotive technicians use in responding to them.

BAKING

**Certificate Program
Main Campus**

This food service specialty prepares students for jobs as bakers in restaurants, bake shops and institutional kitchens. Students learn safety skills and hands-on skills in a lab furnished with commercial equipment.

Students must be free of chronic allergies. In addition, a physician's certificate must be presented to T-VI before the start of classes stating that the student is free from tuberculosis in a transmissible form.

Students purchase all textbooks for this program.

Students must pay a tool fee of \$116 before entering BKNG 103L, 104L, 105L or 106L; and \$35 before entering BKNG 112L, 113L, 114L, 115L or 116L.

Baking Program

	<i>Credit Hours</i>
BKNG 101 Baking Theory I	2
BKNG 102 Food Service Math	3
BKNG 103L Breads	2
BKNG 104L Sweet Yeast Goods	2
BKNG 105L Cake Batters	2
BKNG 106L Pies and Pastries	2
BKNG 111 Baking Theory II	3
BKNG 112L Yeast Doughs	2
BKNG 113L Batters	2
BKNG 114L Pastries and Cookies	2
BKNG 115L Icings and Fillings	2
BKNG 116L Cake Decorating	1
Total	25

Course Descriptions

BKNG 101—Baking Theory I (2 cr)

(Prerequisites: appropriate scores on BOTEL and math placement test or equivalent or department approval; corequisite: BKNG 102) This lecture/theory course introduces students to baking fundamentals through the scratch production of breads, sweet yeast goods and assorted pastries. The course includes ingredient function, storage, sanitation, safety, formulation and human relation skills.

BKNG 102—Food Service Math (3 cr)

(Prerequisites: appropriate scores on BOTEL and math placement test or equivalent or department approval; corequisite: BKNG 101) Basic arithmetic skills for sales, portioning and pricing of food products are reviewed and practiced. Use of cash registers is covered.

BKNG 103L—Breads (2 cr)

(Pre- or corequisites: BKNG 101, 102 or department approval) This lab course provides basic instruction on fundamentals of mixing and processing ingredients in a variety of pan, Pullman and hearth breads. Rolls and buns are also included with safety related activities highly emphasized.

BKNG 104L—Sweet Yeast Goods (2 cr)

(Pre- or corequisites: BKNG 101, 102 or department approval) This lab course covers basic instruction in retail production of donuts, sweet rolls, cinnamon rolls,

coffecake and danish. Sanitation technique, portion control, safety techniques and costing skills are included.

BKNG 105L—Cake Batters (2 cr)

(Pre- or corequisites: BKNG 101, 102 or department approval) Instruction in the fundamentals of processing ingredients in a variety of cake batters, icings and fillings is provided. Special emphasis is placed on basic cake decorating skills, ingredient storage, proper formulation, and care and use of bakery equipment.

BKNG 106L—Pies and Pastries (2 cr)

(Pre- or corequisites: BKNG 101, 102 or department approval) This lab course covers a variety of specialized pastries with emphasis on roll-in doughs and leavening agents. The students are introduced to safety, communication, human relation and interviewing skills.

BKNG 111—Baking Theory II (3 cr)

(Prerequisites: BKNG 101, 102, 103L, 104L, 105L, 106L or department approval) This lecture/theory course continues the principles of Baking I with emphasis on baking chemistry and advanced production procedures. More study of international pastries and desserts is provided with advanced decorating techniques. Safety and sanitation are stressed.

BKNG 112L—Yeast Doughs (2 cr)

(Pre- or corequisite: BKNG 111 or department approval) Supervision, safety techniques and advanced production procedures of a variety of breads, sweet doughs and croissants are covered in this course.

BKNG 113L—Batters (2 cr)

(Pre- or corequisite: BKNG 111 or department approval) Advanced production procedures of a variety of international cakes and tortes with emphasis on baking chemistry and safety are promoted.

BKNG 114L—Pastries and Cookies (2 cr)

(Pre- or corequisite: BKNG 111 or department approval) Advanced production techniques of international pastries, pies and petit fours are presented. The seven different methods of cookie production are emphasized. International roux products are introduced with advanced safety procedures utilized.

BKNG 115L—Icings and Fillings (2 cr)

(Pre- or corequisite: BKNG 111 or department approval) Advanced production techniques of international buttercreams, fondants, ganache and marzipan are presented; safety and sanitation requirements are stressed. Competition pieces are covered.

BKNG 116L—Cake Decorating (1 cr)

(Pre- or corequisite: BKNG 111 or department approval) In this lab course fundamental knowledge of the production of tiered, special occasion and sculpted cakes is expanded.

BKNG 296—Special Topics (1-6 cr)

(Prerequisite: department approval) This flexible course helps students enrolled in Food Service Management and Quantity Foods pursue specialized needs. The class may be taken as independent or directed study.

CARPENTRY

Certificate Program
Main Campus

The Carpentry program provides students with safety training and entry-level job skills to enter the construction industry. Classes meet on- and off-campus and in labs designed for residential construction and cabinet-making.

The fundamentals of residential framing and tools of the trade are taught. Emphasis is on residential and light commercial blueprint reading and material analysis. Students are involved with all phases of the construction of a project. Maintenance, remodel, interior finish carpentry and construction and installation of cabinets are taught.

Students must be free of chronic wood or wood product allergies and be able to lift 50 pounds. Students purchase all textbooks for this program.

Carpentry students must pay a tool fee of \$116 before entering CARP 102L, 103L, or 104L; and an additional \$81 before entering CARP 112L, 113L or 114L.

Carpentry Program

			<i>Credit Hours</i>
CARP	101	Carpentry Math/Blueprint Reading I	3
CARP	102	Foundations Theory	1
CARP	102L	Foundations Lab	2
CARP	103	Framing Theory	1
CARP	103L	Framing Lab	2
CARP	104	Exteriors Theory	1
CARP	104L	Exteriors Lab	2
CARP	111	Carpentry Math/Blueprint Reading II	3
CARP	112	Interior Finish Theory	1
CARP	112L	Interior Finish Lab	2
CARP	113	Cabinet-making and Millwork Theory	1

CARP	113L	Cabinet-making and Millwork Lab	2
CARP	114	Carpentry Remodel Theory	1
CARP	114L	Carpentry Remodel Lab	2
Total			24

Course Descriptions

CARP 101—Carpentry Math/Blueprint Reading I (3 cr)

(Prerequisites: appropriate scores on BOTEL and math placement test or equivalent or department approval) Topics include whole numbers, combining numbers, lumber sizing, scaling, centering and triangle theory. Instruction in the interpretation of elevation drawings, floor plans, symbols, notations, dimensions and structural information is included. Students are introduced to material estimation.

CARP 102—Foundations Theory (1 cr)

(Prerequisites: appropriate scores on BOTEL and math placement test or equivalent or department approval) This course provides instruction in the safety and use of hand and power tools, site layout, footing and stemwall construction and concrete work.

CARP 102L—Foundations Lab (2 cr)

(Pre- or corequisites: CARP 101, 102 or department approval) This lab course provides instruction in the safety and use of hand and power tools, site layout, footing and stemwall construction and concrete work.

CARP 103—Framing Theory (1 cr)

(Prerequisites: CARP 101, 102 or department approval) This theory course provides instruction in the layout of floor, wall, ceiling and roof structural members. The students will read blueprints and calculate the type of structural materials to be used in accordance with the Uniform Building Code (UBC).

CARP 103L—Framing Lab (2 cr)

(Pre- or corequisite: CARP 103 or department approval) This lab course will meet on- and off- campus on job sites where students will cut and assemble the structural material to construct floor, wall, ceiling and roof systems in accordance with the Uniform Building Code (UBC).

CARP 104—Exteriors Theory (1 cr)

(Pre- or corequisites: CARP 101, 102, 103 or department approval) This theory course provides instruction in the installation of exterior wall and roof sheathings, the roof system, exterior siding and windows and doors in accordance with the Uniform Building Code (UBC).

CARP 104L—Exteriors Lab (2 cr)

(Prerequisite or corequisite: CARP 104 or department approval) This lab course provides experience in installing exterior walls, roof sheathings, roof systems, exterior siding, windows and doors in accordance with the Uniform Building Code (UBC).

CARP 111—Carpentry Math/Blueprint Reading II (3 cr)

(Prerequisites: CARP 101, 102, 102L, 103, 103L, 104, 104L or department approval) Blueprint applications for residential homes, multiple family dwellings and commercial buildings are introduced. Instruction also is provided in the use of rules and formulas for material estimating, volume measure, ratio and proportion.

CARP 112—Interior Finish Theory (1 cr)

(Pre- or corequisite: CARP 111 or department approval) The focus is on the UBC requirements for the installation of various types of thermal insulation and drywall. Methods involved in painting, trimming and finishing interiors of residences and commercial structures are covered. Calculations for quantities of materials are determined.

CARP 112L—Interior Finish Lab (2 cr)

(Pre- or corequisite: CARP 112 or department approval) This lab course offers hands-on activities in insulation techniques, drywall installation, taping and texture of drywall, painting, trimwork and finishing of the interiors of residences and commercial buildings.

CARP 113—Cabinet-making and Millwork Theory (1 cr)

(Pre- or corequisite: CARP 111 or department approval) This course provides instruction in the design, layout and construction of wood cabinets in residential and commercial buildings.

CARP 113L—Cabinet-making and Millwork Lab (2 cr)

(Pre- or corequisite: CARP 113 or department approval) This lab course offers hands-on experiences in the safe use of equipment and power tools used in the construction and finish of wooden cabinets.

CARP 114—Carpentry Remodel Theory (1 cr)

(Pre- or corequisite: CARP 111 or department approval) This course covers the various types of construction found in residential and commercial buildings. Emphasis is placed on the Uniform Building Code requirements for remodeling an existing structure.

CARP 114L—Carpentry Remodel Lab (2 cr)

(Pre- or corequisite: CARP 114 or department approval) This lab course offers hands-on experiences in the safe use of power equipment and problem solving in remodeling.

CARP 170—Carpentry Fundamentals and Cabinet-making (3 cr)

This course introduces the student to the carpentry and cabinet-making field. Job, shop and hand/power tool safety are stressed. Students will be required to construct and finish a project out of materials and hardware furnished.

CARP 171—Construction Trades Blueprint/Math (3 cr)

Instruction is provided in reading and interpreting residential blueprints. Emphasis is on terminology, symbols, notations, scaling, dimensioning and drawing techniques. Construction methods and materials are studied. Calculations for material take-off and estimates are determined for materials.

CARP 172L—Basic Remodeling—Structural (3 cr)

This hands-on course includes instruction in the use, safety and care of portable carpentry tools. Structural principles and material estimation are taught as well as various methods of construction. A wide range of building materials are introduced.

CARP 296—Special Topics (1–6 cr)

(Prerequisite: department approval) This course includes an in-depth study of methods and advanced techniques.

COMMERCIAL PRINTING

Certificate Program

Main Campus

This program provides students with safety training and entry-level skills for jobs in the offset printing industry or in-plant print and duplication shops.

The lab contains desktop publishing computers, phototypesetters, paste-up and stripping tables, process cameras, plate makers, offset duplicators and presses, paper cutters, folder and bindery machines and other equipment used in the industry.

Students must be free of chronic allergies to lubricants, solvents, inks and photographic chemicals, and must have normal color differentiation with near- and far-point depth perception. Students purchase all textbooks for this program.

Commercial Printing students must pay a tool fee of \$35 before entering CMRP 103L, 104L, 105L, or 106L.

Commercial Printing Program

			<i>Credit Hours</i>
CMPR	101	Commercial Printing Math I	1
CMPR	102	Offset Theory I	3
CMPR	103L	Graphics Studio	2

CMPR	104L	Pre-press Lab	2
CMPR	105L	Press and Bindery Lab	2
CMPR	106L	Advanced Projects Lab	2
CMPR	111	Commercial Printing Math II	1
CMPR	112	Commercial Printing Theory II	3
CMPR	113L	Desktop Publishing	2
CMPR	114L	Estimating	2
CMPR	115L	Production Printing	4
		Total	24

Course Descriptions

CMPR 101—Commercial Printing Math I (1 cr)

(Prerequisites: appropriate scores on BOTEL and math placement test or equivalent or department approval; corequisite: CMPR 102) Instruction is offered in math as it applies to the printing trade for measurements, pica/point rulers, proportions, type specking, sizing of camera shots, exposures, ink formulas and paper.

CMPR 102—Offset Theory I (3 cr)

(Prerequisites: appropriate scores on BOTEL and math placement test or equivalent or department approval; corequisite: CMPR 101) This course covers the entire process of offset printing. Design theory, layout and paste-up techniques, typesetting, darkroom procedures, offset press and bindery are major areas of discussion. Learners are exposed to job seeking and job retention skills.

CMPR 103L—Graphics Studio (2 cr)

(Pre- or corequisites: CMPR 101, 102 or department approval) Graphic design principles are introduced through a wide variety of projects. Students practice manual layout and paste-up techniques using the most widely accepted tools, equipment and materials. Learners also acquire basic camera, specking, typesetting and proofing skills.

CMPR 104L—Pre-Press Lab (2 cr)

(Pre- or corequisites: CMPR 101, 102, 103L or department approval) This lab covers the next stage in the printing process, that of film assembly and platemaking. Students learn to shoot halftones and lineshots, strip for multiple burn plates, strip two color, the basics of contacting and platemaking.

CMPR 105L—Press and Bindery Lab (2 cr)

(Pre- or corequisites: CMPR 101, 102, 103L, 104L or department approval) In this lab students learn the procedures for set-up, operation, clean-up and maintenance of offset lithography presses. Students get initial training in custom ink mixing and basic bindery and finishing, including the operation of the folder and the power cutter.

CMPR 106L—Advanced Projects Lab (2 cr)

(Pre- or corequisites: CMPR 101, 102, 103L, 104L, 105L or department approval) This course simulates actual working conditions. Students are given individualized projects to overcome weaknesses, increase skills and develop additional abilities. A final project is taken from design to delivery to demonstrate the proficiencies necessary to proceed in the program.

CMPR 111—Commercial Printing Math II (1 cr)

(Pre- or corequisites: CMPR 101, 102, 103L, 104L, 105L, 106L, 112 or department approval) This course provides advanced instruction in math as it applies to the printing trade for measurements, ink and chemical formulas, paper cuts and job pricing.

CMPR 112—Commercial Printing Theory II (3 cr)

(Corequisite: CMPR 111 or department approval) Training continues in design theory, layout and paste-up, darkroom processes, chokes and spreads, and press operation. Students are exposed to professional desktop publishing hardware and software. Also covered are the requirements for estimating.

CMPR 113L—Desktop Publishing (2 cr)

(Pre- or corequisites: CMRP 111, 112 or department approval) This course covers the use of the most popular page layout software, including word processing and the production of simple graphics, tables and charts. Exceptional students will also be taught to use illustration software.

CMPR 114L—Estimating (2 cr)

(Pre- or corequisites: CMPR 111, 112, 113L or department approval) The basics of estimating costs, labor and overhead for a variety of printing jobs are covered. Students learn how to charge jobs in a simulated business environment using both catalog and computer methods from Franklin.

CMPR 115L—Production Printing (4 cr)

(Pre- or corequisites: CMPR 111, 112, 113L, 114L or department approval) In this lab, advanced camera, stripping techniques and signature layout are covered. An opportunity to run our two-color press is provided.

CMPR 170—Commercial Printing Skills Improvement: Basic (3 cr)

This course covers everything contained in CMPR 102 through 106L in condensed form. It is designed for individuals with industry experience who need to update their knowledge. The entire range of offset experience is covered with emphasis on improving quality.

CMPR 171—Commercial Printing Skills Improvement: Desktop Publishing on the Mac (3 cr)

(Prerequisite: instructor approval) This theory/lab course is for individuals in industry who need to upgrade their skills. The course provides desktop publishing on the Macintosh computer from the basics to recent upgrades of the most popular page layout and illustration software.

CMPR 296—Special Topics (1–6 cr)

(Prerequisite: department approval) This course includes an in-depth study of problems and the advanced techniques that commercial printing experts use in responding to them.

CONSTRUCTION TECHNOLOGY

Associate in Applied Science Degree
Main Campus

The Construction Technology program provides instruction in safety training and technical skills related to the residential and commercial construction industry. The associate in applied science degree has construction management, general construction and electrical options. Required courses are designed to develop professionalism, leadership and skills for successful entry-level employment.

Option 1: Construction Management

Required Trades & Service Occupations Courses

			<i>Credit Hours</i>
CM	132	Construction Graphics	3
CM	171	Construction Materials and Techniques	3
CM	201	Commercial Construction Theory	2
CM	201L	Commercial Construction Lab	3
CM	256	Statics for Non-Engineers	3
CM	257	Computer Estimating	3
CM	258	Construction Management	2
CM	263	Construction Equipment and Methods	3
CM	276	Construction Careers Seminar	1
CM	278	Mechanical and Electrical Blueprint Reading	2
CJ	170	Physical Conditioning I	1

Required Business Occupations Courses

ACCT	101	Accounting Principles I	4
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BA	211	Business Law	3
Required Technologies Courses			
ARDR	130	Drafting Fundamentals	2
ARDR	232	Architecture and Construction Planning	3
ARDR	261	Construction Surveying	3
Required Arts & Sciences Courses			
COMM	130	Public Speaking	3
ECON	201	Microeconomics	3
ENG	101	College Writing	3
Writing Elective			3
MATH	120	Intermediate Algebra	4
MATH	121	College Algebra	3
MATH	123	Trigonometry	2
MATH	150	Advanced Algebra	3
Physics Elective			3
Humanities/Social Science Elective			3
Computer Elective (any department).....			3-4
Total.....			74-75

Option 2: General Construction

Required Trades & Service Occupations Courses

			<i>Credit Hours</i>
CARP	101	Carpentry Math/Blueprint Reading I	3
CARP	102	Foundations Theory	1
CARP	102L	Foundations Lab	2
CARP	103	Framing Theory	1
CARP	103L	Framing Lab	2
CARP	104	Exteriors Theory	1
CARP	104L	Exteriors Lab	2
CARP	111	Carpentry Math/Blueprint Reading II	3
CARP	112	Interior Finish Theory	1
CARP	112L	Interior Finish Lab	2
CARP	113	Cabinet-making and Millwork Theory	1
CARP	113L	Cabinet-making and Millwork Lab	2
CARP	114	Carpentry Remodel Theory	1
CARP	114L	Carpentry Remodel Lab	2
CM	132	Construction Graphics	3
CM	171	Construction Materials and Techniques	3
CM	201	Commercial Construction Theory	2
CM	201L	Commercial Construction Lab	3
CM	263	Construction Equipments & Methods	3

CM	276	Construction Careers Seminar	1
CM	278	Mechanical and Electrical Blueprint Reading	2
EPT	213	Occupational Safety	3

Required Technologies Courses

ARDR	130	Drafting Fundamentals	2
ARDR	232	Architecture and Construction Planning	3
ARDR	261	Construction Surveying	3

Required Arts & Sciences Courses

Communication Elective			3
ENG	101	College Writing	3
Writing Elective			3
Humanities/Social Science Elective			3
Math Elective			3
Physics Elective			3

Computer Elective (any department)			3-4
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Total			73-74
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Option 3: Electrical

Required Trades & Service Occupations Courses

Credit Hours

ELTR	101	Electrical Theory I	3
ELTR	102	Electrical Math I	3
ELTR	103L	Electrical DC/AC Lab	3
ELTR	104L	AC Circuitry, Motors, Generators	3
ELTR	111	Electrical Algebra	3
ELTR	112	Residential Blueprint Reading I	3
ELTR	113	Electrical Theory II	3
ELTR	114L	Residential Wiring Lab	3
ELTR	115L	Residential Services	3
ELTR	201	Electrical Theory III	3
ELTR	202	Commercial Blueprint Reading II	3
ELTR	203	Electrical Motor Control Theory	3
ELTR	204L	Industrial Motor Control Lab	3
ELTR	205L	Industrial Power Distribution	3
ELTR	211	Industrial Electrical Circuitry and Safety	3
ELTR	212	Programmable Logic Controller Theory	3
ELTR	213L	PLC Installation and Operation	3
CM	276	Construction Careers Seminar	1

Required Arts & Sciences Courses

Communication Elective			3
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ENG 101 College Writing	3
Writing Elective	3
Humanities/Social Science Elective	3
MATH 120 Intermediate Algebra	3
Physics Elective	3
Computer Elective (any department).....	3-4
Total.....	73-74

Course Descriptions

CM 132—Construction Graphics (3 cr)

(Prerequisite: ARDR 130 or department approval) Emphasis is on principles and techniques of graphics used in the construction industry. Topics include geometry, multi-view projects and visualization with applications in structural and presentation problems.

CM 171—Construction Materials and Techniques (3 cr)

This course covers plan reading, elementary construction techniques, materials and construction documents. Microcomputers are used for word processing, graphics, spreadsheets and data bases. Assignments include written reports and oral presentations.

CM 201—Commercial Construction Theory (2 cr)

(Prerequisite: CM 160 or department approval) This course serves as an introduction to commercial drawing sets. Buildings are analyzed for code compliance and cost per square foot. Commercial and residential buildings are contrasted, and the Uniform Building Code is covered.

CM 201L—Commercial Construction Lab (3 cr)

(Corequisite: CM 201 or department approval) Students analyze costs, specifications and codes in order to learn the responsibilities of a construction supervisor.

CM 256—Statics for Non-Engineers (3 cr)

(Prerequisite: MATH 120 or department approval) Through the use of graphic and algebraic formulas, students are introduced to static forces, equilibrium, moments, stress and strain. Beams and columns in wood, steel and concrete are covered in reference to the Uniform Building Code and institutional manuals.

CM 257—Computer Estimating (3 cr)

(Prerequisites: CM 160, 201, 201L or department approval) This course includes a survey of contemporary software. Students complete cost estimates on buildings, using the Construction Specifications Institute formatted budgets and take-off techniques.

CM 258—Construction Management (2 cr)

State-of-the-art scheduling techniques are surveyed, including computer-assisted packages. Students break down a job into its basic tasks and reassemble it in a framework that controls time, work, materials and related activities.

CM 263—Construction Equipment and Methods (3 cr)

(Prerequisite: CM 258 or department approval) Large equipment used to move, lift and assemble components of commercial buildings is presented. Earth work, concrete forms and construction are covered, along with steel, wood and masonry methods, productivity, licenses and contract options.

CM 276—Construction Careers Seminar (1 cr)

(Prerequisites: all technical core and Arts & Sciences courses required for the degree) Topics include career information, report writing, interviews, communication techniques and interaction with community.

CM 278—Mechanical and Electrical Blueprint Reading

This course focuses on materials and equipment used in the electrical and mechanical systems of commercial buildings. The associated codes and costs of these systems are introduced.

CRIMINAL JUSTICE

Associate in Applied Science Degree
Main Campus

This program provides comprehensive instruction in criminal justice. Students who have already received a certificate from an approved New Mexico criminal justice academy with which T-VI has an articulation agreement are given credit for appropriate courses in the core curriculum. These students may enter the degree program after meeting T-VI admission requirements. Credit for the core curriculum will be posted at the completion of all courses in the degree program.

Some employers may require a high school diploma or GED. Students purchase all textbooks and supplies for this program.

Criminal Justice Program

Required Core Courses

		<i>Credit Hours</i>
CJ	101	Criminal Law and Procedure 3
CJ	102	Juvenile Justice and Procedure 3

CJ	103	Probation and Parole	3
CJ	104	Patrol Procedures	3
CJ	106	Police and Pre-sentence Investigation Reports	3
CJ	109	Introduction to Security Services	
	or	.....	3
CJ	114	Contemporary Enforcement Techniques	
CJ	111	Traffic Investigation and Enforcement	3
CJ	112	Criminal Investigation	3
CJ	113	Organized and White Collar Crime	3
CJ	170	Physical Fitness	1
CJ	276	Public Safety Careers Seminar	1

Required Arts & Sciences Courses

ENG	101	College Writing	3
ENG	119	Technical Communications	3
		Communications Elective	3
MATH	120 or higher	.....	3
		Psychology Elective	3
SOC	101	Introduction to Sociology	3
SOC	111	Criminal Justice System	3
SOC	211	Social Problems	3
SOC	212	Juvenile Delinquency	3
SOC	214	Sociology of Corrections	3
SOC	215	Criminology	3
SOC	216	Ethnic and Minority Groups	3
SOC	280	Social Science Research	3

Computer Elective (any department) 3-4

Total 71-72

Course Descriptions

CJ 101—Criminal Law and Procedure (3 cr)

(Prerequisites: appropriate scores on BOTEL and math placement test or equivalent or department approval) This course is a study of the historical development, purposes and goals of common and statutory criminal law and the procedures which control actions in the criminal justice system.

CJ 102—Juvenile Justice and Procedure (3 cr)

(Pre- or corequisite: CJ 101 or department approval) This course covers the juvenile court and justice system including the Children's Code and the Rules of Procedure.

CJ 103—Probation and Parole (3 cr)

(Pre- or corequisite: CJ 101 or department approval) This course includes the history, philosophy and legal basis governing investigation and supervision of juvenile offenders and adult violators placed on probation and parole.

CJ 104—Patrol Procedures (3 cr)

(Pre- or corequisite: CJ 101 or department approval) This course introduces the basic patrol function and the problems faced by law enforcement officers.

CJ 106—Police and Pre-sentence Investigation Reports (3 cr)

(Pre- or corequisite: CJ 101 or department approval; class is limited to 20 students) The course includes the study and use of police and pre-sentence investigation reports.

CJ 109—Introduction to Security Services (3 cr)

(Prerequisite or corequisite: CJ 101 or department approval) Topics include the history and development of security services, relationships to the legal process, career roles and operational processes in security operations. The course also helps homeowners make living quarters more secure and covers personal defense, report writing, emergency procedures and defensive driving.

CJ 111—Traffic Investigation and Enforcement (3 cr)

(Pre- or corequisites: CJ 101, CJ 104, CJ 106 or department approval) This course includes the study of traffic law enforcement and basic wreck checking, and progresses to the complete investigation of major accidents.

CJ 112—Criminal Investigation (3 cr)

(Pre- or corequisites: CJ 101, CJ 106 or department approval) Basic criminal investigation is studied from the preliminary investigation to final preparation and presentation in court.

CJ 113—Organized and White Collar Crime (3 cr)

(Pre- or corequisite: CJ 101 or department approval) This course includes the study of illegal activities of people and institutions whose purpose is profit through legitimate business, and illegal activity of people and organizations whose purpose is illegitimate gain through illegal enterprise.

CJ 114—Contemporary Enforcement Techniques (3 cr)

(Pre- or corequisites: CJ 101, CJ 104; limited to Criminal Justice majors or department approval) Verbal and manual skills which officers use on a daily basis—ranging from handcuffing and restraint to field notes and testimony—are studied.

CJ 170—Physical Fitness (1 cr)

(Prerequisite: health history questionnaire signed by a physician documenting student's ability to participate in an exercise program) This course offers a fitness assessment of muscular strength, muscular endurance, cardiorespiratory fitness, flexibility and body composition. Based on the results, the student will design and participate in an exercise program. The course is self paced.

CJ 171—Physical Fitness II (1 cr)

(Prerequisite: health history questionnaire signed by a physician documenting student's ability to participate in an exercise program) This advanced course offers a fitness assessment of muscular strength, muscular endurance, cardiorespiratory fitness, flexibility and body composition. Based on the results, the student will design and participate in an exercise program. The course is self paced.

CJ 276—Public Safety Careers Seminar (1 cr)

(Prerequisites: all technical core and Arts & Sciences courses required for the degree) Topics include career information, report writing, interviews, communication techniques and interaction with community.

CJ 296—Special Topics (1–6 cr)

(Prerequisite: department approval) This course includes an in-depth study of problems and the advanced techniques that criminal justice experts use in responding to them.

CULINARY ARTS

Associate in Applied Science Degree
Main Campus

The Culinary Arts associate in applied science degree provides students in Baking, Food Service Management and Quantity Foods an option to the certificate programs.

The program prepares individuals for entry-level jobs in bakeries, restaurants and commercial kitchens. The program also prepares individuals to become entry-level supervisors or managers. The program emphasizes safety, production sanitation, nutritional food preparation, cashiering, equipment use, human relations, supervisor and business practices.

Culinary Arts Program

			<i>Credit Hours</i>
QUFD	101	Quantity Food Theory I	2
QUFD	103L	Buffet Procedures	2
QUFD	104L	Salad and Pantry	2
QUFD	105L	Dinner	2
QUFD	106L	Fry	2
QUFD	111	Quantity Food Theory II.....	3
QUFD	112L	Dining Room Skills	1

QUFD	113L	Cold Preparation	2
QUFD	114L	Stocks and Sauces—Sous Chef	2
QUFD	115L	Entree (Meat Preparation)	2
QUFD	116L	Entree (Fish Preparation)	2
QUFD	102 or BKNG 102	Food Service Math	3
BKNG	101	Baking Theory I	2
BKNG	103L	Breads	2
BKNG	104L	Sweet Yeast Goods	2
BKNG	105L	Cake Batters	2
BKNG	106L	Pies and Pastries	2
BKNG	111	Baking Theory II	3
BKNG	112L	Yeast Doughs	2
BKNG	113L	Batters	2
BKNG	114L	Pastries and Cookies	2
BKNG	115L	Icings and Fillings	2
BKNG	116L	Cake Decorating	1
FSMG	101	Operations Management	3
FSMG	102	Human Resource Management	3
FSMG	103	Product Management	3

Required Arts & Sciences Courses

Communication Elective	3
ENG 101 College Writing	3
Writing Elective	3
Math Elective	3
Social Science/Humanities Elective	3
Computer Elective (any department)	3-4
Total	74-75

DIESEL EQUIPMENT TECHNOLOGY

Certificate Program
Main Campus

This program prepares students to work on a variety of diesel-powered equipment used in the trucking, heavy equipment and extraction industries.

The program meets in labs where students are introduced to safety and a variety of diesel engines, electrical and hydraulic test equipment, air conditioning equipment, drive train components, fuel injection test and calibration devices and related equipment.

The lab classes in this program consist of disassembly, evaluation, precision measurement, reassembly and testing of the following major components: engines, transmissions, drive units, electrical components, brake systems, hydraulic systems, air conditioning, transport refrigeration systems and fuel systems. The theory classes present operating principles and troubleshooting techniques.

Students must be free of chronic respiratory diseases and allergies to fuels and solvents. A valid driver's license and a good driving record are required by most employers. Students purchase all textbooks for this program.

Diesel Equipment Technology students must pay a tool fee of \$150 before entering DETC 103L, 104L or 105L; \$150 before entering DETC 111L, 114L or 115L; and \$116 before entering DETC 201L, 202L or 203L.

Diesel Equipment Technology Program

			<i>Credit Hours</i>
DETC	101	Diesel Drive Train Theory	3
DETC	102	Math/Basic Electricity	3
DETC	103L	Manual Shift Transmissions Lab.....	3
DETC	104L	Drive Axles, Brakes, Automatic Transmissions Lab ...	3
DETC	105L	Hydraulic Systems	2
DETC	111	Diesel Engine Theory	3
DETC	111L	Diesel Engine Overhaul	3
DETC	112L	Precision Measurement and Component Repair Lab ...	3
#AUTC	113	Transportation Electronics.....	3
DETC	113L	Engine Tune-up and Testing Lab	2
DETC	201	Diesel Electrical Theory	1
DETC	201L	Diesel Electrical Lab	3
DETC	202	Diesel Fuel Injection Theory	1
DETC	202L	Diesel Fuel Injection Lab	3
DETC	203	Transport Refrigeration/Air Conditioning Theory	1
DETC	203L	Transport Refrigeration/Air Conditioning Lab	3
Total.....			40

#Automotive Technology course

Course Descriptions

DETC 101—Diesel Drive Train Theory (3 cr)

(Pre- or corequisites: appropriate scores on BOTEL and math placement test or equivalent or department approval) Emphasis is on safety, job retention and learning disassembly, evaluation, reassembly, adjustment, troubleshooting and testing of drive train components. Additional skills learned will be air brake troubleshooting and repair, final drive units, hydraulic system components and circuits.

DETC 102—Math/Basic Electricity (3 cr)

(Pre- or corequisites: appropriate scores on BOTEL and math placement test or equivalent or department approval) Review and application of basic math skills, such as fractions, decimals, percentages, ratios, proportions, areas and volumes, and basic electricity principles and electrical circuits are presented.

DETC 103L—Manual Shift Transmissions Lab (3 cr)

(Pre- or corequisite: DETC 101 or department approval) Shop safety, disassembly, evaluation, assembly and adjustment of manual shift transmissions used in trucks are included in this course. Also covered are single and twin countershaft transmissions, auxiliary transmissions and transfer gear cases.

DETC 104L—Drive Axles, Brakes, Automatic Transmissions Lab (3 cr)

(Pre- or corequisite: DETC 101 or department approval) Shop safety and disassembly, evaluation, assembly and adjustment of automatic transmissions, drive axles, clutches and other drive train components are presented. Air and hydraulic brake system components are disassembled, evaluated and reassembled.

DETC 105L—Hydraulic Systems (2 cr)

(Pre- or corequisite: DETC 101 or department approval) Shop safety, disassembly, evaluation and assembly of hydraulic pumps, valves, actuators and hydraulic circuits used in the heavy-equipment industry are presented. Hydrostatic transmissions and in-line circuit testers are covered.

DETC 111—Diesel Engine Theory (3 cr)

(Prerequisites: minimum placement test scores of 9-12 in BOTEL or RDG 099 and 31—Part I in Math or MATH 099, DETC 102 or department approval) Emphasis is placed on two- and four-stroke cycle diesel engine operating principles. Operation, troubleshooting and repair procedures are covered for blocks, crankshafts, camshafts, rods, bearings, pistons, cylinder heads, lubrication systems, cooling systems, fuel systems, air induction and exhaust systems.

DETC 111L—Diesel Engine Overhaul (3 cr)

(Pre- or corequisite: DETC 111 or department approval) Engine disassembly, evaluation and reassembly techniques are covered in this course. The engine is assembled to manufacturer's recommended tolerances and specifications, adjusted and test run.

DETC 112L—Precision Measurement and Component Repair Lab (3 cr)

(Pre- or corequisites: appropriate scores on BOTEL and math placement test or equivalent or department approval) The uses of micrometers and dial indicators are presented. Measurements are done on engines and compared to manufacturer's specifications. Component repair will involve disassembly, evaluation and reassembly of units such as blowers, turbochargers, oil pumps, water pumps and fuel transfer pumps.

DETC 113L—Engine Tune-Up and Testing Lab (2 cr)

(Pre- or corequisites: appropriate scores on BOTEL and math placement test or equivalent or department approval) Engine adjustments and tune-ups are performed on major brands of engines. Troubleshooting and techniques are performed on engines in running condition.

DETC 201—Diesel Electrical Theory (1 cr)

(Prerequisite: AUTC 113 or department approval) Students study shop safety and diagnosis and troubleshooting procedures of electrical systems and diesel components.

DETC 201L—Diesel Electrical Lab (3 cr)

(Pre- or corequisite: DETC 201 or department approval) Students practice shop safety and diagnostic and troubleshooting procedures of electrical components and diesel systems.

DETC 202—Diesel Fuel Injection Theory (1 cr)

(Pre- or corequisite: DETC 201 or department approval) Students study safety, diagnosis, troubleshooting and repair of fuel injection systems and diesel components.

DETC 202L—Diesel Fuel Injection Lab (3 cr)

(Pre- or corequisites: DETC 201, 202 or department approval) Safety and diagnosis, troubleshooting and repair procedures on fuel injection systems and diesel components are presented.

DETC 203—Transport Refrigeration/Air Conditioning Theory (1 cr)

(Pre- or corequisite: DETC 201 or department approval) Students study shop safety and diagnostic, troubleshooting and repair procedures of transport refrigeration and air conditioning systems.

DETC 203L—Transport Refrigeration/Air Conditioning Lab (3 cr)

(Pre- or corequisites: DETC 201, 203 or department approval) Students practice shop safety skills and diagnostic, troubleshooting and repair procedures on transport refrigeration and air conditioning systems.

DETC 296—Special Topics (1–6 cr)

(Prerequisite: department approval) This course includes an in-depth study of problems and the advanced techniques diesel technicians use in responding to them.

ELECTRICAL TRADES

Certificate Program Main Campus

The program provides the student with safety and entry-level skills for employment in the construction industry and electrical maintenance and related electrical trades.

On- and off-campus projects enable students to gain on-the-job experience in residential construction and electrical installation under the supervision of instructors. In-depth study of the National Electrical Code and local wiring codes is included. Conduit bending, motor controls and the installation and use of programmable controllers in motor control are implemented in the advanced terms.

Student must have normal color differentiation and be able to lift 50 pounds. Employers participating in an approved apprenticeship program require high school algebra and a high school diploma. Students purchase all textbooks for this program.

Electrical Trades students must pay a tool fee of \$116 before entering ELTR 103L or 104L; \$99 before entering ELTR 114L or 115L; \$58 before entering ELTR 204L or 205L; and \$58 for entering ELTR 213L or 214L.

Electrical Trades Program

			<i>Credit Hours</i>
#BA	131	Human Relations.....	2
		or	
*PSY	105	Introduction to Psychology.....	3
#BA	111	Communications	2
		or	
*ENG	101	College Writing	3
ELTR	101	Electrical Theory I.....	3
ELTR	102	Electrical Math I.....	3
ELTR	103L	Electrical DC/AC Lab	3
ELTR	104L	AC Circuitry, Motors, Generators.....	3
ELTR	111	Electrical Algebra.....	3
ELTR	112	Residential Blueprint Reading I.....	3
ELTR	113	Electrical Theory II	3
ELTR	114L	Residential Wiring Lab	3
ELTR	115L	Residential Services.....	3
ELTR	201	Electrical Theory III	3
ELTR	202	Commercial Blueprint Reading II.....	3
ELTR	203	Electrical Motor Control Theory.....	3
ELTR	204L	Industrial Motor Control Lab	3
ELTR	205L	Industrial Power Distribution	3
ELTR	211	Industrial Electrical Circuitry and Safety	3

ELTR	212	Programmable Logic Controller Theory	3
ELTR	213L	PLC Installation and Operation	3
ELTR	214L	PLC Systems Operation and Troubleshooting	3
Total			58-60

#Business Occupations course

*Arts & Sciences course

Course Descriptions

ELTR 101—Electrical Theory I (3 cr)

(Prerequisites: appropriate scores on BOTEL and math placement test or equivalent or department approval; corequisite: ELTR 102) This lecture/theory course covers the basic concepts of DC and AC electricity with emphasis on Ohm's Law, Kirchoff's Law, circuit analysis and troubleshooting. Subject areas include DC and AC theory, symbol identification, schematic reading, circuit application, magnetism, basic transformers, single-phase motors and application of the National Electrical Code.

ELTR 102—Electrical Math I (3 cr)

(Prerequisites: appropriate scores on BOTEL and math placement test or equivalent or department approval; corequisite: ELTR 101) The student reviews basic arithmetic functions and is introduced to electrical formulas which include Ohm's and Kirchoff's laws. Calculations of material and circuit load requirements, rules for series, parallel and combination circuits and mechanical work and power are covered.

ELTR 103L—Electrical DC/AC Lab (3 cr)

(Pre- or corequisites: ELTR 101, 102 or department approval) This lab course covers the basic fundamentals of electricity. Emphasis is placed on safety. Topics include electrical circuitry, meters, power sources, conductors, insulators, reactive circuits and application of the National Electrical Code.

ELTR 104L—AC Circuitry, Motors, Generators (3 cr)

(Pre- or corequisites: ELTR 101, 102 or department approval) This lab course provides advanced instruction in electrical alternating current concepts. Subjects include combination circuit analysis, RLC circuitry, DC/AC motors, generators, solid-state components, wiring methods for single pole and three-way switches and application of the National Electrical Code.

ELTR 111—Electrical Algebra (3 cr)

(Prerequisites: ELTR 101, 102, 103L, 104L or 105L or department approval) This course advances the student's knowledge of electrical formulas into algebraic concepts and trigonometric functions as they apply to power production, magnetic circuitry, generators and three-phase motors in the electrical trade.

ELTR 112—Residential Blueprint Reading I (3 cr)

(Pre- or corequisite: ELTR 111 or department approval) Basic instruction is provided in reading and interpreting blueprints and specifications. Emphasis is on terminology, symbols, notations, scaling, dimensioning and basic blueprint drawing techniques. Construction methods, materials and structural support of residential, commercial and industrial buildings also are covered.

ELTR 113—Electrical Theory II (3 cr)

(Pre- or corequisite: ELTR 111, 112 or department approval) This course covers the application of the National Electrical Code, local codes and regulations for installation of branch circuits, services, feeders, temporary services and associated materials and equipment for residential and light commercial applications.

ELTR 114L—Residential Wiring Lab (3 cr)

(Pre- or corequisites: ELTR 111, 112, 113 or department approval) This lab course covers safety, tools, materials, single pole switches, receptacles, overcurrent protection, three- and four-way switches, pilot switches, door chimes, dryer and range receptacles and swamp coolers, as well as NEC requirements for residential and light commercial applications.

ELTR 115L—Residential Services (3 cr)

(Pre- or corequisites: ELTR 111, 112, 113 or department approval) This lab course allows students to study and build residential services, install circuit panels, cut and thread rigid conduit, hand bend and install EMT conduit in adherence to the National Electrical Code.

ELTR 170—Residential Wiring Circuitry (2 cr)

This theory course provides instruction in the interpretation, design and wiring of common residential switch, receptacle and related circuitry in accordance with the NEC and state and local codes.

ELTR 171L—Conduit Hand Bending Fundamentals (1 cr)

This theory/lab course provides instruction in the computation and placement of conduit hand benders to bend and install conduit systems in accordance with the NEC and state and local codes.

ELTR 172L—Pole Climbing (1 cr)

Instruction is provided in safety, use of equipment, climbing and maneuvering techniques and use of ladders on poles and spanlines.

ELTR 173—Industrial Motor Control Circuitry (2 cr)

This theory course provides instruction in the design, interpretation, drawing and installation of electromechanical relay type motor controls in accordance with the National Electrical Code.

ELTR 174L—Industrial PC Motor Control (3 cr)

This theory/lab course provides instruction in the operation of programmable logic controllers, interpretation of PLC logic diagrams and the installation of programming of PLC systems in accordance with the National Electrical Code.

ELTR 175—Fiber Optical Cable Installation (2 cr)

This theory course introduces the installation of fiber optical cable in various systems. Emphasis is placed on proper installation and termination.

ELTR 176—Electrical Journeyman Preparation (3 cr)

Instruction is provided in the use and application of the National Electrical Code Handbook. Students learn the responsibilities and duties encountered by journeymen on typical job sites.

ELTR 177L—Basic Remodeling—Electrical (3 cr)

This theory/lab course provides safety instruction and hands-on applications of residential remodeling and light commercial electrical techniques. A broad range of situations are discussed and the best solutions in accordance with the National Electrical Code are utilized.

ELTR 201—Electrical Theory III (3 cr)

(Prerequisites: ELTR 111, 112, 113, 114L or 115L or department approval) This theory class introduces students to the commercial/industrial aspects of electrical safety, tools, materials, power distribution systems, services, hazardous locations and intrusion/fire alarm systems in accordance with the National Electrical Code.

ELTR 202—Commercial Blueprint Reading II (3 cr)

(Pre- or corequisites: ELTR 112, 201 or department approval) Advanced instruction in reading blueprints and specifications is provided. The blueprints include transformers, feeders, distribution panels, sub-feeder panels, lighting circuits, motors and controllers, signal systems and power requirements.

ELTR 203—Electrical Motor Control Theory (3 cr)

(Pre- or corequisites: ELTR 201, 202 or department approval) This theory class introduces students to the symbology and method of interpreting and drawing electro-mechanical motor control circuitry. NEMA standards are studied in detail.

ELTR 204L—Industrial Motor Control Lab (3 cr)

(Pre- or corequisites: ELTR 201, 202 or department approval) Topics include safety, electromechanical relay-type motor control, momentary push button switches, limit switches, proximity switches, pneumatic timers, forward/reverse starters, three-phase motors and National Electrical Code requirements.

ELTR 205L—Industrial Power Distribution (3 cr)

(Pre- or corequisites: ELTR 201, 202 or department approval) This lab covers safety, use of mechanical and hydraulic benders, use of power threaders, knock-out punches, hammer drills and powder actuated fasteners, drop-in anchors, cable installation, cutting, splicing and termination, wire pulling and the application of the NEC.

ELTR 211—Industrial Electrical Circuitry and Safety (3 cr)

(Prerequisites: ELTR 201, 202, 203, 204L, 205L or 206L or department approval) This course provides instruction in safety principles and standards used in the electrical field. An introduction to the Occupational Safety and Health Act (OSHA) regulations is included. Techniques used for electrical troubleshooting are emphasized.

ELTR 212—Programmable Logic Controller Theory (3 cr)

(Pre- or corequisite: ELTR 211 or department approval) Students are introduced to programmable logic motor controllers. The student will learn the principles of operation of a programmable controller, the numbering systems used by controllers, logic fundamentals and basics of programming.

ELTR 213L—PLC Installation and Operation (3 cr)

(Pre- or corequisites: ELTR 211, 212 or department approval) This lab course enables a student to install and program programmable logic controllers in accordance with manufacturer's specifications and NEC requirements. Simulating fundamental industrial control processes with various input and output devices is also covered.

ELTR 214L—PLC Systems Operation and Troubleshooting (3 cr)

(Pre- or corequisites: ELTR 211, 212 or department approval) This lab course enables the student to learn intricate industrial wiring, motor controls and motor troubleshooting, programmable controller timer, counter and sequence program operations and the troubleshooting techniques involved.

ELTR 296—Special Topics (1–6 cr)

(Prerequisite: department approval) This course provides advanced, in-depth study and research into methods and current technological equipment used in the electrical trades.

ENVIRONMENTAL TECHNOLOGY

Associate in Applied Science Degree
Main Campus

The Environmental Technology program provides basic classroom instruction in the diverse field of environmental and occupational safety from a health and safety perspective. The curriculum also provides coursework designed to upgrade skills of individuals already employed in the field.

The student receives a broad, general understanding of environmental problems, as well as physical science instruction, in preparation for entry-level jobs. Instruction is provided in biology, chemistry, physics, ecology, environmental legislation, regulation compliance and abatement. The program addresses key areas of environmental protection including biological and hazardous waste, water quality protection, air quality protection, soil, domestic and industrial waste control, workplace safety, energy management and recycling.

Students purchase all textbooks and supplies for this program.

Environmental Technology Program

			<i>Credit Hours</i>
EPT	101	Emergency First Aid Response	1
EPT	111	Environmental Technology I.....	4
EPT	112	Hazards and Protection Training.....	3
EPT	173	Water Quality Protection.....	3
EPT	198	Cooperative Education	
	or	.....	3
Approved Elective			
EPT	211L	Environmental Technology II/Lab	4
EPT	212	Energy and Waste Management.....	3
EPT	213	Occupational Safety.....	3
EPT	215	Environmental Instrumentation and Analysis.....	3
EPT	232	Air Quality Protection	
	or	.....	1
AUTC	172	Air Care Inspector Certification	
EPT	276	Public Safety Careers Seminar	1
Required Arts & Sciences Courses			
BIO	111	Environmental Science	3
BIO	123	Biology for Health Sciences.....	3
BIO	124L	Biology Lab for Health Sciences	1
BIO	231L	Applied Environmental Microbiology	4
CHEM	111/112L	Introduction to Chemistry/Lab	4
CHEM	130L	Environmental Chemistry.....	3

CHEM 212L	Integrated Organic Chemistry and Biochemistry	4
	Communication Elective	3
ENG 101	College Writing	3
ENG 119	Technical Communication	3
MATH 120	Intermediate Algebra	3
MATH 121	College Algebra	3
PHYS 102	Introduction to Physics	3
	Social Science/Humanities Elective	3
	Computer Elective (any department)	3
	Total	75

Course Descriptions

EPT 101—Emergency First Aid Response (1 cr)

Training is provided in Red Cross multimedia system and cardiopulmonary resuscitation. Red Cross certification is issued. Instruction is also provided in hazardous materials and toxicology. Emphasis is on emergency temporary help in order to preserve life.

EPT 111—Environmental Technology I (4 cr)

(Prerequisites: MATH 100, ENG 100 or department approval; corequisite: BIO 111)
This course is an introduction to environmental protection methods and their ecological basis. All major areas of environmental concern are covered including air, water, soils and food sanitation.

EPT 112—Hazards and Protection Training (3 cr)

(Prerequisites: EPT 101, EPT 213, CHEM 111, CHEM 112L, computer elective or department approval) Training is provided in safe work practices at hazardous waste sites. Students learn those procedures specified by OSHA in the 29 CFR 1910.120 regulation concerning safety and health plans, site characterization and analysis, waste removal and remedial operations.

EPT 173—Water Quality Protection (3 cr)

(Prerequisites: EPT 111, CHEM 111, CHEM 112L, MATH 120, computer elective or department approval) This course provides training in the fundamentals of water quality preservation. Students study water supply system operations, distribution systems and basic hydraulics and become familiar with water quality protection and treatment techniques including backflow prevention and cross connection control.

EPT 198—Cooperative Education (3 cr)

(Prerequisite: department approval) The student is employed at an approved environmental job-related work station and applies environmental theory learned via goals and objectives.

EPT 211L—Environmental Technology II/Lab (4 cr)

(Prerequisites: EPT 111, BIO 231L, CHEM 212L, PHYS 102, MATH 120 or department approval) Technical, operational and regulatory aspects of environmental technology are explored. Students will learn to identify and handle biological, chemical and nuclear wastes. Also covered are site sampling, characterization and assessment, waste removal and site remediation methods.

EPT 212—Energy and Waste Management (3 cr)

(Prerequisites: EPT 111, CHEM 111, CHEM 112L, PHYS 102, MATH 120, computer elective or department approval) This course provides an orientation to energy and waste management in systems. Students learn to assess energy requirements through audits. Cost effective energy conservation techniques are emphasized. Instruction is provided in waste reduction and control.

EPT 213—Occupational Safety (3 cr)

Topics in current safety practices are introduced. Instruction in safety principles and standards is provided. Basic safety concepts and monitoring procedures are emphasized, culminating in inspections and projects that contribute to the T-VI safety program. An introduction to Occupational Safety and Health Act (OSHA) regulations is included.

EPT 215—Environmental Instrumentation and Analysis (3 cr)

(Prerequisites: EPT 111, MATH 120 or department approval; corequisite: EPT 211L) Contemporary environmental instrumentation and analytical techniques are explored in this hands-on introduction to the care and use of laboratory and field-portable instruments. Students learn maintenance, calibration and operation of instruments and meters. USEPA approved protocols are utilized.

EPT 232—Air Quality Protection (1 cr)

(Prerequisites: EPT 111, CHEM 111, CHEM 112L, MATH 120, computer elective or department approval) This course provides training in the fundamentals of vehicle pollution control. The course will also cover city, state and federal rules and regulations governing air pollution, general and point-source emissions and standard air pollution control methods.

EPT 276—Public Safety Careers Seminar (1 cr)

(Prerequisites: all technical core and Arts & Sciences courses required for the degree) Topics include career information, reporting writing, interviews, communication techniques and interaction with community.

EPT 296—Special Topics (1–6 cr)

(Prerequisite: department approval) This course includes an in-depth study of problems and advanced techniques.

FIRE SCIENCE

Associate in Applied Science Degree
Main Campus

The Fire Science program provides basic classroom instruction in the field of fire protection. Students earn an associate degree and are prepared for entry-level positions. The curriculum trains the student already employed in fire protection.

Some employers may require a high school diploma or GED. The T-VI application will provide verification. Students purchase all textbooks and supplies for this program.

Fire Science Program

			<i>Credit Hours</i>
FS	102	Fire Service Organization	3
FS	103	Introduction to Fire Science	2
FS	111	Fire Prevention	3
FS	112	Building Construction	3
FS	201	Fire Protection Systems	3
FS	202	Managing Community Fire Protection	3
FS	203	Hazardous Material	3
FS	211	Incident Command and Control	3
FS	212	Fire Investigation	3
FS	213	Industrial Fire Protection	3
FS	214	Facilities Inspection	3
FS	276	Public Safety Careers Seminar	1
CJ	170	Physical Fitness	
#EMS	160L	Emergency Medical Technician	6
EPT	213	Occupational Safety	3

Required Arts & Sciences Courses

ENG	101	College Writing	3
ENG	119	Technical Communications	3
CHEM	111/112L	Introduction to Chemistry/Lab	4
		Communications Elective	3
MATH	120	Intermediate Algebra	3
PHYS	102	Introduction to Physics	3
		Psychology Elective	3
SOC	101	Introduction to Sociology	3
SOC	216	Race and Ethnic Groups	3

Computer Elective (any department)3-4

Total73-74

#Health Occupations course.

Course Descriptions

FS 102—Fire Service Organization (3 cr)

History of fire service, operational definitions, types of organizations, fire department management techniques and governmental impact on fire service delivery, emergency management and future trends in fire protection are covered.

FS 103—Introduction to Fire Science (2 cr)

(Prerequisite: FS 102 or department approval) This course includes history of fire service, careers in fire protection, physical agility and fitness requirements, public and private fire protection organization and the behavior and chemistry of fire.

FS 111—Fire Prevention (3 cr)

(Prerequisite: FS 102 or department approval) This course presents basic principles of fire prevention, public fire and life safety education and protection provided by alarm and sprinkler systems.

FS 112—Building Construction (3 cr)

(Prerequisite: FS 102 or department approval) The student is introduced to building construction with emphasis on structural elements, fire spread in buildings, construction materials, testing fire loading and safe fire department operations in different building types.

FS 201—Fire Protection Systems (3 cr)

(Prerequisite: FS 102 or department approval) The design and operation of fire protection systems are covered, including water distribution, detection, alarm and watchman services, protection systems for special hazards, carbon dioxide, dry chemical, foam and water spray systems.

FS 202—Managing Community Fire Protection (3 cr)

(Prerequisite: FS 102 or department approval) This course includes risk assessment, resource management, measuring and evaluating productivity, legal aspects of emergency service delivery, principles of employee supervision and the changing mission and role of fire service in the community.

FS 203—Hazardous Materials (3 cr)

(Prerequisite: FS 102 or department approval) Students learn definitions, recognition and legal aspects of response to hazardous material incidents. Basic hazardous materials scene management and strategies for resolution of incidents including scene restoration are included.

FS 211—Incident Command and Control (3 cr)

(Prerequisite: FS 102 or department approval) Basic principles of fire-fighting strategies, fire ground operations, general and special emergencies, incident command and communication, and multi-jurisdictional incidents as they involve fire service response are discussed in this course.

FS 212—Fire Investigation (3 cr)

(Prerequisite: FS 102 or department approval) The student is introduced to the techniques of determining fire origin and cause. Topics include fire scene search, legal aspects and arson problems including motives and prevention strategies. Also included are interviews and arson case preparation techniques.

FS 213—Industrial Fire Protection (3 cr)

(Prerequisite: FS 102 or department approval) This course covers OSHA fire brigade regulations, organization of fire brigades and fire brigade functions. Problems in storage and use of hazardous materials commonly found in industry are included.

FS 214—Facilities Inspection (3 cr)

(Prerequisite: FS 102 or department approval) This course covers testing of fixed fire suppression and alarm systems, methods of inspection, report writing, enforcement and legal aspects, model building and fire codes, zoning and plan review problems.

FS 276—Public Safety Careers Seminar (1 cr)

(Prerequisites: all technical core and Arts & Sciences courses required for the degree) Topics include career information, report writing, interviews, communication techniques and interaction with community.

FS 296—Special Topics (1-6 cr)

(Prerequisite: department approval) This course includes an in-depth study of problems and advanced techniques.

FOOD SERVICE MANAGEMENT

Certificate Program

Main Campus

This program is available to persons employed in the hospitality/food service field who want to learn the skills necessary to become entry-level supervisors or managers. Safety and sanitation procedures are stressed.

Classroom instruction includes theory in human relations, supervision and business practices. A cooperative education portion is available under the supervision of the instructor.

This program may not qualify students for Veterans Administration training benefits or other student financial aid. Students must purchase textbooks for the program.

Food Service Management Program

			<i>Credit Hours</i>
FSMG	101	Operations Management	3
FSMG	102	Human Resource Management	3
FSMG	103	Product Management	3
FSMG	198	Cooperative Education	4
Total			13

Course Descriptions

FSMG 101—Operations Management (3 cr)

This course introduces the student to basic functions of supervision, management, sanitation, quality control, purchasing, record keeping, inventory criteria, storing, issuing, safety and oral and written communication skills. Certifications are available in sanitation, CPR and standard first aid.

FSMG 102—Human Resource Management (3 cr)

This lecture course introduces the student to skills in customer relations, interviewing and training, delegation, discipline, communications and human relations. Role playing and group participation are involved.

FSMG 103—Product Management (3 cr)

This lecture course introduces the student to safety, sanitation rules, food nutrition, menu planning, marketing and cost control formulas to advance into supervision and management. This course includes oral and written communication skills.

FSMG 170L—Computers in Food Service (3 cr)

(Prerequisites: FSMG 101, 102, 103 or department approval) This combination lab/theory course emphasizes the use of computers, including WordPerfect and Lotus software, in the food service industry. This course meets five hours per week.

FSMG 198—Cooperative Education (4 cr)

The student is employed at an approved job-related work site and applies management theory learned in FSMG 102, 103 and 104 via goals and objectives.

FSMG 296—Special Topics (1–6)

This course enables Culinary Arts students to pursue expanded studies in management skills in the hospitality industry. It also may be taken as an independent or guided study or refresher course. Hours are by arrangement.

MACHINE TOOL TECHNOLOGY

Certificate Program

Main Campus

The Machine Tool Technology program qualifies students for job entry as machine tool operators. All courses emphasize safe operations of various machine tools. Classes meet in well equipped labs where students are introduced to micrometers, gauges, drill presses, hand tools, engine lathes, milling machines, numerically controlled turning and machining centers and other equipment used throughout the metal working industry.

Students must be free of chronic respiratory diseases and allergies to oils, solvents and cutting fluids, must be able to stand on concrete floors for long periods of time and must have depth perception correctable in both eyes. Students purchase textbooks.

Machine Tool Technology students must pay a tool fee of \$116 before entering MATT 103L, 104L, or 105L; \$93 before entering MATT 117L or 118L; and \$81 before entering MATT 208L or 209L.

Machine Tool Technology Program

			<i>Credit Hours</i>
MATT	101	Machine Tool Technology Mathematics I.....	2
MATT	102	Machine Tool Technology Blueprint Reading I.....	2
MATT	103	Basic Engine Lathe Theory	2
MATT	103L	Basic Engine Lathe Principles	2
MATT	104	Milling Machine Theory.....	2
MATT	104L	Milling Machine Principles	2
MATT	105	Basic Supporting Machine Tool Theory	2
MATT	105L	Basic Supporting Machine Tool Principles	2
MATT	111	Machine Tool Technology Math II.....	2
MATT	113	Machine Tool Technology Blueprint Reading II	1
MATT	116	Numerical Control Programming I.....	3
MATT	117L	Intermediate Lathe Principles	4
MATT	118L	Intermediate Milling Machining and Support Equipment Lab	4
MATT	201	Geometric Tolerancing and Dimensioning	1

MATT 202	Metallurgy	2
MATT 207	Numerical Control Programming II	3
MATT 208L	Advanced Lathe Principles	4
MATT 209L	Advanced Milling Machining and Support Equipment	4
	Total	44

Course Descriptions

MATT 101—Machine Tool Technology Mathematics I (2 cr)

(Prerequisites: appropriate scores on BOTEL and math placement test or equivalent or department approval) The course provides a review of basic shop math including whole numbers, fractions and decimals. Instruction is provided in basic geometry, shop algebra and formula manipulation, Pythagorean theorem and triangulations and calculator usage.

MATT 102—Machine Tool Technology Blueprint Reading I (2 cr)

(Prerequisites: appropriate scores on BOTEL and math placement test or equivalent or department approval) This course begins with an introduction to the interpretation of shop drawings. Instruction is provided in sketching, orthographic projection, isometric drawings, notes, symbols, dimensioning and an overview of geometric tolerancing and dimensioning.

MATT 103—Basic Engine Lathe Theory (2 cr)

(Pre- or corequisites: appropriate scores on BOTEL and math placement test or equivalent or department approval) Students are introduced to the basic elements of the engine lathe. Information pertains to safety, terminology, machine elements, cutting physics, measurement for turning applications, formulas and calculations for turning applications and related operations.

MATT 103L—Basic Engine Lathe Principles (2 cr)

(Pre- or corequisite: MATT 103 or department approval) This lab course covers basic engine lathe operations. Instruction is offered in safety, nomenclature, speeds and feeds, use of three and four jaw chucks, turning, facing, shouldering, grooving, chamfering and drilling.

MATT 104—Milling Machine Theory (2 cr)

(Pre- or corequisites: appropriate scores on BOTEL and math placement test or equivalent or department approval) Basic elements of the milling machine are introduced. Information pertains to safety, terminology, machine elements, cutting physics, measurement for milling applications, formulas and calculations for milling applications and related operations.

MATT 104L—Milling Machine Principles (2 cr)

(Pre- or corequisite: MATT 104 or department approval) This lab course covers basic milling machine operations. Instruction is offered in safety, nomenclature, speeds, feeds and depths of cut, care and use of milling cutters, squaring, step milling, edge finding, drilling, reaming, countersinking, counterboring and tapping.

MATT 105—Basic Supporting Machine Tool Theory (2 cr)

(Pre- or corequisites: appropriate scores on BOTEL and math placement test or equivalent or department approval) This theory course introduces students to the basic elements of the drill press, bandsaws, grinders, benchwork, precision measurement equipment and hand tools. Information pertaining to safety, terminology, machine elements, cutting physics, layout and related formulas and calculations is covered.

MATT 105L—Basic Supporting Machine Tool Principles (2 cr)

(Pre- or corequisite: MATT 105 or department approval) Topics include basic drill press, bandsaw, grinder, benchwork, inspection and hand tool operations. Instruction is offered in safety, nomenclature, speeds and feeds, care and use of tooling and measuring instruments, machine maintenance and precision layout.

MATT 111—Machine Tool Technology Math II (2 cr)

(Prerequisite: MATT 101 or department approval) This is a continuation of algebra with emphasis on machine related problems, geometry and an introduction to trigonometry as applied to the trade. The geometric tolerancing and dimensioning system is also covered.

MATT 113—Machine Tool Technology Blueprint Reading II (1 cr)

(Prerequisite: MATT 102 or department approval) Instruction is provided in the interpretation of engineering drawings as they relate to the machining trade. Emphasis is placed on tolerances and allowances, surface texture, auxiliary views and working shop drawings.

MATT 116—Numerical Control Programming I (3 cr)

(Pre- or corequisite: MATT 111 or department approval) This course provides instruction in word address format programming languages. Students learn computer skills necessary to edit and prepare tapes for CNC equipment. This class offers instruction on CNC vertical milling machines and a turning center.

MATT 117L—Intermediate Lathe Principles (4 cr)

(Prerequisite: MATT 103 or department approval) This lab course covers power cutoff, boring, single point threading and introduction to carbide tooling. Operation of CNC turning centers and taper turning is introduced.

MATT 118L—Intermediate Milling Machining and Support Equipment Lab (4 cr)

(Pre- or corequisite: MATT 104L or department approval) This lab course covers operation of horizontal and vertical milling machines. Instruction is offered in climb and conventional milling, hole production, gear machining, operation of CNC milling machines, surface and pedestal grinders, and setup of precision measuring equipment.

MATT 171—Precision Measurement (3 cr)

This is an introduction to basic measurement principles and techniques. Student are instructed in the care, calibration, uses and applications of micrometers, vernier calipers, indicators and other measuring equipment specific to their majors.

MATT 173—Machine Tool Technology Skills Improvement (3 cr)

This theory/lab course is for students wishing to acquire basic knowledge or upgrade skills in the machine tool industry. Instruction is offered in safety, hand tools, lathe, mill, drill press, bench work, measurement, blueprint reading and shop math.

MATT 174—Advanced Machine Tool Technology Skills Improvement (3 cr)

(Prerequisite: MATT 173 or department approval) This course offers advanced instruction in lathe and mill work and surface grinding. More advanced precision measuring techniques, blueprint reading and shop math are covered.

MATT 201—Geometric Tolerancing and Dimensioning (1 cr)

(Prerequisites: MATT 101, 102, or department approval) The focus is on interpretation of engineering drawings using the geometric dimensioning and tolerancing system. Methods, equipment and setups to inspect workpieces relating to the geometric dimensioning and tolerancing system are also studied.

MATT 202—Metallurgy (2 cr)

(Pre- or corequisites: MATT 101, 102 or department approval) This theory course includes the care and application of tooling with emphasis on applications to commonly machined materials with high-speed steel and carbide cutters. Instruction covers structure, properties, alloying and heat treatment of ferrous and non-ferrous metals.

MATT 207—Numerical Control Programming II (3 cr)

(Pre- or corequisites: MATT 116 or department approval) Advanced instruction is provided in numerical control programming languages. Subjects include advanced canned cycles, subroutines, loops and macros. Students receive instruction and training in menu and interactive graphic programming and an introduction to CAD/CAM systems.

MATT 208L—Advanced Lathe Principles (4 cr)

(Pre- or corequisite: MATT 117L or department approval) This lab course covers pressure padding, trepanning, set-up and use of soft jaws, internal threading, internal

grooving and production machining. Students also receive training in the set-up and operation of CNC turning centers.

MATT 209L—Advanced Milling Machining and Support Equipment (4 cr)

(Pre- or corequisite: MATT 118L or department approval) This lab course covers advanced operations on horizontal and vertical ram milling machines. Instruction is offered in complex set-ups using rotary tables, indexing devices, production techniques, carbide shell mills, CNC milling centers, surface grinders and precision measuring equipment.

MATT 276—Metals Careers Seminar (1 cr)

(Prerequisites: all technical core and Arts & Sciences courses required for the degree) Topics include career information, report writing, interviews, communication techniques and interaction with community.

MATT 296—Special Topics (1–6 cr)

(Prerequisite: department approval) This flexible course enables students to pursue studies in specialized areas. This class may also be taken as an independent or guided study, as a refresher course or to sharpen skills prior to employer exams.

MECHANICAL TECHNOLOGY

Associate in Applied Science Degree
Main Campus

The Mechanical Technology associate in applied science degree is available with two options: air conditioning and plumbing. Cross training in both programs is provided.

All courses must be passed with a minimum grade of C to qualify for graduation.

Option 1: Air Conditioning, Heating and Refrigeration

			<i>Credit Hours</i>
ACHR	101	Basic Refrigeration Theory	2
ACHR	101L	Basic Refrigeration Lab	2
ACHR	102	Basic Control Circuitry Theory	2
ACHR	102L	Basic Control Circuitry Lab	2
ACHR	103	Basic Air Conditioning Theory	2
ACHR	103L	Basic Air Conditioning Lab	2
ACHR	104	Basic Refrigeration Math	1
ACHR	111	Intermediate Heating Theory	2
ACHR	111L	Intermediate Heating Lab	2

ACHR	112	Intermediate Control Circuitry Theory	2
ACHR	112L	Intermediate Control Circuitry Lab	2
ACHR	113	Intermediate Air Conditioning Theory	2
ACHR	113L	Intermediate Air Conditioning Lab	2
ACHR	114	Math for Systems Design	3
ACHR	201	Advanced Air Conditioning and Refrigeration Theory	2
ACHR	201L	Advanced Air Conditioning and Refrigeration Lab	2
ACHR	202	Commercial Air Conditioning and Refrigeration Theory	2
ACHR	202L	Commercial Air Conditioning and Refrigeration Lab	2
ACHR	203	Advanced Building Controls Theory	2
ACHR	203L	Advanced Building Controls Lab	2
ACHR	204L	Advanced Control Circuitry Lab	1

Additional Required Trades & Service Occupations Courses

PLMB	101	Basic Plumbing Theory	1
PLMB	101L	Basic Plumbing Lab	2
PLMB	102	Plumbing Systems Theory	1
PLMB	102L	Plumbing Systems Lab	2
PLMB	105	Plumbing Blueprint Reading I	1
PLMB	106L	Backflow Prevention	2
EPT	213	Occupational Safety	3

Required Arts & Science Courses

Communications Elective	3
ENG 101 College Writing	3
ENG 102 or ENG 119	3
Humanities/Social Science Elective	3
Math Elective	3
Physics Elective	3

Computer Elective (any department).....3-4

Total.....74-75

Option 2: Plumbing

			<i>Credit Hours</i>
PLMB	101	Basic Plumbing Theory	1
PLMB	101L	Basic Plumbing Lab	2
PLMB	102	Plumbing Systems Theory	1
PLMB	102L	Plumbing Systems Lab	2
PLMB	103	Heating Control Circuitry Theory	1
PLMB	103L	Heating Control Circuitry Lab	2

PLMB	104	Plumbing Mathematics	1
PLMB	105	Plumbing Blueprint Reading I	1
PLMB	106L	Backflow Prevention	2
PLMB	111	Systems Layout/Maintenance Theory	1
PLMB	111L	Systems Layout Lab	2
PLMB	112L	Systems Maintenance Lab	2
PLMB	113	Energy Management/Solar Application	1
PLMB	113L	Energy Management Lab	2
PLMB	114L	Solar Applications Lab	2
PLMB	115	Plumbing Blueprint Reading II	2

Other Required Trades & Service Occupations Courses

EPT	213	Occupational Safety	3
ACHR	101	Basic Refrigeration Theory	2
ACHR	101L	Basic Refrigeration Lab	2
ACHR	102	Basic Control Circuitry Theory	2
ACHR	102L	Basic Control Circuitry Lab	2
ACHR	103	Basic Air Conditioning Theory	2
ACHR	103L	Basic Air Conditioning Lab	2
ACHR	104	Basic Refrigeration Math	1
ACHR	111	Intermediate Heating Theory	2
ACHR	111L	Intermediate Heating Lab	2
WELD	170	Welding Skills Improvement	3

Required Business Occupations Course

BA	256	Employment Procedures and Techniques	3
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Required Technologies Course

ARDR	105A	Residential Drafting	3
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Required Arts & Sciences Courses

Communications Elective		3	
ENG	101	College Writing	3
ENG	102 or ENG 119	3
Humanities/Social Science Elective		3	
Math Elective		3	
Physics Elective		3	
Computer Elective (any department)		3-4	

Total 75-76

METALS TECHNOLOGY

Associate in Applied Science Degree
Main Campus

The Metals Technology associate in applied science degree is available with two options: machine tool technology and welding.

The program prepares individuals for entry-level positions in the metal working industry. The program also provides the opportunity to transfer to a four-year program.

Courses are from the Machine Tool Technology and Welding certificate programs along with Business Occupations, Technologies and Arts & Sciences.

Option 1: Machine Tool Technology

			<i>Credit Hours</i>
MATT	101	Machine Tool Technology Mathematics I.....	2
MATT	102	Machine Tool Technology Blueprint Reading I.....	2
MATT	103	Basic Engine Lathe Theory	2
MATT	103L	Basic Engine Lathe Principles	2
MATT	104	Milling Machine Theory.....	2
MATT	104L	Milling Machine Principles	2
MATT	105	Basic Supporting Machine Tool Theory	2
MATT	105L	Basic Supporting Machine Tool Principles	2
MATT	111	Machine Tool Technology Math II	2
MATT	113	Machine Tool Tech. Blueprint Reading II	1
MATT	116	Numerical Control Programming I	3
MATT	117L	Intermediate Lathe Principles	4
MATT	118L	Intermediate Milling Machining and Support Equipment	4
MATT	201	Geometric Tolerancing and Dimensioning	1
MATT	202	Metallurgy	2
MATT	207	Numerical Control Programming II	3
MATT	208L	Advanced Lathe Principles	4
MATT	209L	Advanced Milling Machining and Support Equipment	4
MATT	276	Metals Careers Seminar	1
Welding Electives			6
Business Occupations and/or Technologies Elective(s)			3
Required Arts & Sciences Courses			
Communication Elective			3
ENG	101	College Writing	3

ENG 119	Technical Communications	3
	Humanities/Social Science Elective	3
	Math Elective	3
	Physics Elective	3
	Computer Elective (any department)	3
	Total	74

Option 2: Welding

		<i>Credit Hours</i>
WELD 101	Welding Metallurgy Theory I	2
WELD 102	Welding Mathematics I	2
WELD 103	Welding Blueprint Reading I	1
WELD 104L	Oxyacetylene Welding and Cutting	2
WELD 105L	Oxyacetylene Brazing/Soldering and Fabrication	2
WELD 106L	Introduction to SMAW	2
WELD 107L	Introduction to SMAW Qualifications/Fabrication	2
WELD 111	Welding Metallurgy Theory II	2
WELD 112	Welding Blueprint Reading II	2
WELD 113	Welding Math II	1
WELD 114L	Advanced SMAW	2
WELD 115L	Introduction to GMAW/Fabrication	2
WELD 116L	Introduction to Gas Tungsten-Arc Welding/ Fabrication	2
WELD 117L	Qualifications for SMAW and GMAW	2
WELD 201	Welding Metallurgy Theory III	2
WELD 202	Welding Blueprint Reading III	3
WELD 203L	Basic Pipe Welding/Pipe Layout/Fabrication	4
WELD 204L	Advanced Gas Tungsten-Arc Welding/Fabrication	4
WELD 276	Metals Careers Seminar	1
	Machine Tool Technology Elective(s)	6

Required Arts & Sciences Courses

CSCI 101	Computer Literacy	4
	Communication Elective	3
ENG 101	College Writing	3
ENG 119	Technical Communications	3
	Humanities/Social Science Elective	3
	Math Elective	3
	Physics Elective	3
	Computer Elective (any department)	3
	Business Occupations and/or Technologies Elective(s)	3-6
	Total	75

PLUMBING

Certificate Program Main Campus

The Plumbing program provides safety training, technical knowledge and occupational skills necessary to enter the plumbing industry. Instruction is in the fundamentals of layout, assembly and installation, as well as nomenclature of tools and materials and practice with the tools of the trade.

Emphasis is on residential and light commercial work, maintenance and remodeling; installation of fixtures; alteration, planning and coordination of the job; repair of piping systems; installation of water, soil and vent lines and application of codes.

Students must be free of chronic respiratory diseases and allergies to plumbing fluxes, oils, glues, plastic compounds and able to lift 50 pounds. Students purchase all textbooks for this program.

Plumbing students must pay a tool fee of \$116 before entering PLMB 101L, 102L, 103L or 106L; and \$81 before entering PLMB 111L, 112L, 113L or 114L.

Plumbing Program

			<i>Credit Hours</i>
PLMB	101	Basic Plumbing Theory	1
PLMB	101L	Basic Plumbing Lab	2
PLMB	102	Plumbing Systems Theory	1
PLMB	102L	Plumbing Systems Lab	2
PLMB	103	Heating Control Circuitry Theory	1
PLMB	103L	Heating Control Circuitry Lab	2
PLMB	104	Plumbing Mathematics	1
PLMB	105	Plumbing Blueprint Reading I	1
PLMB	106L	Backflow Prevention	2
PLMB	111	Systems Layout/Maintenance Theory	1
PLMB	111L	Systems Layout Lab	2
PLMB	112L	Systems Maintenance Lab	2
PLMB	113	Energy Management/Solar Application Theory	1
PLMB	113L	Energy Management Lab	2
PLMB	114L	Solar Applications Lab	2
PLMB	115	Plumbing Blueprint Reading II	2
		Total	25

Course Descriptions

PLMB 101—Basic Plumbing Theory (1 cr)

(Prerequisites: appropriate scores on BOTEL and math placement test or equivalent or department approval) Procedures for installing plastic, steel, cast iron and copper

pipe are covered. Installation, addition, repair, replacement or maintenance of plumbing and gas piping systems are also covered.

PLMB 101L—Basic Plumbing Lab (2 cr)

(Pre- or corequisite: PLMB 101 or department approval) Identification of plumbing fittings and pipe nomenclature is covered. The correct procedures for soldering copper pipe, threading and cutting iron pipe, flaring copper pipe and making diagonal offsets are covered.

PLMB 102—Plumbing Systems Theory (1 cr)

(Pre- or corequisite: PLMB 101 or department approval) This class covers the design of drainage and vent systems, sprinkler systems and water supply systems. Also covered are the correct methods to rough in a system and top out of an installation. Installation of DWV, cast iron, ABS and PVC vent systems in combustible construction is also covered.

PLMB 102L—Plumbing Systems Lab (2 cr)

(Pre- or corequisites: PLMB 101, PLMB 102 or department approval) The student is introduced to the correct procedure for installation, repair and service of drainage and vent, sprinkler and water supply systems. Rough-ins and top outs are also covered.

PLMB 103—Heating Control Circuitry Theory (1 cr)

(Pre- or corequisites: PLMB 101, PLMB 102 or department approval) This course includes installation and troubleshooting of heating control circuitry. Control theory, terminology and symbols are covered. Instructional emphasis is on electrical control devices from various manufacturers. Also covered are the reading and developing of wiring diagrams and line schematics.

PLMB 103L—Heating Control Circuitry Lab (2 cr)

(Pre- or corequisites: PLMB 102L, PLMB 103 or department approval) The focus is on installation and troubleshooting of heating control circuitry. The correct use of electrical test instruments is stressed. Wiring and testing gas-fired heating test boards and actual furnaces are also covered.

PLMB 104—Plumbing Mathematics (1 cr)

(Pre- or corequisites: appropriate scores on BOTEL and math placement test or equivalent or department approval) This course covers basic arithmetic, whole numbers, fractions and decimals. Volumes and weight measurements are also covered.

PLMB 105—Plumbing Blueprint Reading I (1 cr)

(Prerequisites: appropriate scores on BOTEL and math placement test or equivalent or department approval) This course introduces blueprint reading. Also covered are sketching and reading blueprint working drawings for residential work.

PLMB 106L—Backflow Prevention (2 cr)

Students identify, test and repair backflow prevention assemblies. A minimum of 50 percent of class time is spent in the lab. Completion of the course qualifies the student to become a certified backflow prevention assembly tester.

PLMB 111—Systems Layout/Maintenance Theory (1 cr)

(Prerequisites: PLMB 103L, PLMB 106L or department approval) This course emphasizes design, layout and installation of water, soil and vent lines, fixtures and fittings; inspecting and testing systems; soldering; maintenance and repair of plumbing, solar systems and yard irrigation; and swimming pool, hot tub and spa installation and service.

PLMB 111L—Systems Layout Lab (2 cr)

(Pre- or corequisites: PLMB 106L, PLMB 111 or department approval) The emphasis is on layout and installation of water, soil and vent lines, related fixtures and fittings, inspecting and testing systems and soldering.

PLMB 112L—Systems Maintenance Lab (2 cr)

(Pre- or corequisites: PLMB 111, PLMB 111L or department approval) This course covers maintenance and repair of plumbing and yard irrigation as well as swimming pool, hot tub and spa installation and service.

PLMB 113—Energy Management/Solar Application Theory (1 cr)

(Pre- or corequisites: PLMB 111L, PLMB 112L or department approval) Instruction is provided in how life styles, design and orientation conserve natural resources. Emphasis is on the selection, installation, maintenance and repair of solar equipment for heating water and air.

PLMB 113L—Energy Management Lab (2 cr)

(Pre- or corequisites: PLMB 112L, PLMB 113 or department approval) Management of residential energy packages is presented. The course covers life styles, design and orientation as well as energy conservation methods and procedures.

PLMB 114L—Solar Applications Lab (2 cr)

(Pre- or corequisites: PLMB 112L, PLMB 113L or department approval) This course covers the selection, installation, maintenance and repair of solar equipment for heating water and air.

PLMB 115—Plumbing Blueprint Reading II (2 cr)

(Prerequisites: PLMB 104, PLMB 105 or department approval) Course content includes a detailed study of piping drawings, isometric pipe layouts, interpreting residential and light commercial blueprints, application of plumbing codes, knowledge of terms, and planning and coordinating the job.

PLMB 170—Mechanical Trades Math (1 cr)

Topics include basic arithmetic, whole numbers, fractions and decimals. Volumes, weight measurements and basic algebra as it applies to electricity are also covered.

PLMB 171—Journeyman Preparation (3 cr)

This course is designed for persons interested in becoming journeyman plumbers and natural gas fitters in New Mexico. Licensing requirements, rules and regulations and the Uniform Plumbing Code are covered.

PLMB 172L—Basic Remodeling—Plumbing (3 cr)

Safety and basic remodeling instruction are covered. The student learns to maintain, replace and enhance plumbing, gas and heating systems.

PLMB 296—Special Topics (1–6 cr)

This flexible course is designed to enable students currently in the plumbing trades to pursue studies in specialized areas. This class also may be taken as an independent or guided study or as a refresher to sharpen skills prior to licensing.

POWER EQUIPMENT TECHNOLOGY

Certificate Program
Main Campus

The Power Equipment Technology program provides entry-level skills needed to diagnose and repair problems on recreational vehicles, industrial equipment and outdoor power products. Safety procedures, work ethics and the use and selection of hand tools and test equipment are stressed.

Employment opportunities include such positions as general mechanic, specialist, service writer, service manager, shop foreman and sales representative. Graduates may seek employment at agricultural implement dealerships, park commissions, landscape firms, equipment rental shops, construction and industrial companies, department stores, recreational vehicle sales and service shops.

Students must be free of chronic respiratory diseases and allergies to fuels and solvents. A valid driver's license and a good driving record are required by most employers. Students purchase all textbooks for this program.

Students must pay a tool fee of \$116 before entering 102L, 103L or 104L; \$110 before entering 112L, 113L or 114L; and \$104 before entering 202L, 203L or 204L.

Power Equipment Technology Program

	<i>Credit Hours</i>
SCSE 101 Power Equipment Technology Theory I.....	3

#DETC	102	Math/Basic Electricity	3
SCSE	102L	Engine Service and Overhaul	3
SCSE	103L	Failure Analysis	2
SCSE	104L	Fuel Systems	2
SCSE	111	Power Equipment Technology Theory II.....	2
SCSE	112L	Transmission and Drive Line	2
+AUTC	113	Transportation Electronics	3
SCSE	113L	Steering, Suspension and Brakes	2
SCSE	114L	Electrical Systems II.....	3
SCSE	201	Power Equipment Technology Theory III	3
SCSE	202L	Hydraulic Systems.....	2
SCSE	203L	Electrical Systems III	3
SCSE	204L	Troubleshooting and Tune-up	2
SCSE	205	Management Skills	2
Total			37

#Diesel Equipment Technology course

+Automotive Technology course

Course Descriptions

SCSE 101—Power Equipment Technology Theory I (3 cr)

(Prerequisites: appropriate scores on BOTEL and math placement test or equivalent or department approval) This course introduces students to the outdoor power equipment industry. Information pertaining to safety, environmental issues, hand tools and test equipment is covered. Engine rebuilding procedures and testing are taught on both two- and four-stroke cycle gasoline engines.

SCSE 102L—Engine Service and Overhaul (3 cr)

(Pre- or corequisites: SCSE 101, DETC 102 or department approval) Students overhaul two- and four-stroke engines in this class. Areas addressed include tear-down procedures, cleaning, inspection, measuring, cylinder resizing, valve reconditioning, engine reassembly and final testing. Special tools needed for overhaul and testing are also taught.

SCSE 103L—Failure Analysis (2 cr)

(Pre- or corequisite: SCSE 101 or department approval) Problem solving is presented as it applies to mechanical devices and the internal combustion engine. Students analyze critical component wear points, study cause and effect relationships on failed engine parts, and develop conclusions about component failures based on facts.

SCSE 104L—Fuel Systems (2 cr)

(Pre- or corequisite: SCSE 101 or department approval) This course presents identification, diagnosis, inspection and repair of carburetion and fuel system components. Adjustment procedures and trouble shooting skills are emphasized.

SCSE 111—Power Equipment Technology Theory II (2 cr)

(Prerequisite: DETC 102 or department approval) Students diagnose and repair clutches, transmissions, transaxles and final drives found on outdoor power equipment. Brakes, steering and suspension systems, electrical starting, charging and ignition systems are also examined.

SCSE 112L—Transmission and Drive Line (2 cr)

(Pre- or corequisite: SCSE 111 or department approval) Various components of engine power transmission are studied. Clutches, constant mesh transmissions, transaxles, differentials and gear reduction units are disassembled, inspected, reassembled and tested.

SCSE 113L—Steering, Suspension and Brakes (2 cr)

(Pre- or corequisite: SCSE 111 or department approval) Students repair, service and do adjustment procedures on riding equipment suspension components, disc and drum brakes and steering systems.

SCSE 114L—Electrical Systems II (3 cr)

(Pre- or corequisite: SCSE 111 or department approval) Topics include electrical system diagnostic procedures and repair, starting, charging and ignition systems.

SCSE 170L—Power Equipment Technology Skills Improvement I (3 cr)

This basic theory/lab course offers instruction in the diagnosis and repair of small four-stroke engines. Safety, engine identification, special tools, ignition, cooling, lubrication, and fuel systems are studied in this course, which also includes engine overhaul.

SCSE 171L—Power Equipment Technology Skills Improvement II (3 cr)

(Prerequisite: SCSE 170L or department approval) This intermediate theory/lab course offers instruction and practice in repair of small two-stroke powered equipment. Chain saw service and chain sharpening, small outboard motor tune-up, blower and line trimmer service are addressed with continued safety instruction.

SCSE 201—Power Equipment Technology Theory III (3 cr)

(Pre- or corequisite: SCSE 111 or department approval) This course introduces the students to basic hydraulic theory and components of hydraulic systems. Additionally, equipment service procedures and engine tune-up techniques are taught. Emission controls and environmental concerns relating to the small engine industry are also addressed.

SCSE 202L—Hydraulic Systems (2 cr)

(Pre- or corequisite: SCSE 201 or department approval) In this course students disassemble, inspect, reassemble and test hydraulic motors, pumps, cylinders and valves. Circuits are assembled and tested using working components and a hydraulic test stand to simulate live conditions.

SCSE 203L—Electrical Systems III (3 cr)

(Pre- or corequisites: SCSE 114L, SCSE 201 or department approval) This lab involves more detailed electrical studies than SCSE 114L. Students learn how to diagnose, repair and adjust stationary and portable power generating equipment. Consumer Product Safety Commission (CPSC) mandated safety controls are examined on various types of power equipment.

SCSE 204L—Troubleshooting and Tune-up (2 cr)

(Pre- or corequisite: SCSE 201 or department approval) This course presents methods for developing sound diagnostic and troubleshooting skills for the mechanic or technician faced with today's complex engines and electrical components. Students complete all phases of minor and major tune-ups on various powered products.

SCSE 205—Management Skills (2 cr)

(Pre- or corequisite: SCSE 201 or department approval) Topics include customer and employee relations and shop management practices. Repair liability, including the responsibilities of employer and employee, is studied.

SCSE 296—Special Topics (1–6 cr)

(Prerequisite: Department approval) This is an in-depth study of problems and the advanced techniques used by mechanics.

QUANTITY FOOD PREPARATION

Certificate Program**Main Campus**

The Quantity Food Preparation program emphasizes occupational safety/sanitation criteria and nutritional food preparation. It prepares students for entry into the rapidly growing food industry—as saute cooks after the first term or dinner cooks upon completion of the full program.

Classes are held in industrial kitchens. Students prepare food for and operate a cafeteria line including cash registers.

Advanced students operate the Student Specialties program, a fine dining restaurant open to the public.

Graduates are encouraged to enroll in the Baking program, as space permits, to gain an additional job skill which may be helpful in their careers.

Students must be free of chronic allergies. Each student must also present a physician's certificate to T-VI before the start of classes stating that the student is free from tuberculosis in a transmissible form.

Students purchase all textbooks for this program.

Quantity Food Preparation students must pay a tool fee of \$116 before entering QUFD 103L, 104L, 105L or 106L, and another \$93 before entering QUFD 112L, 113L, 114L, 115L or 116L.

Quantity Food Preparation Program

			<i>Credit Hours</i>
QUFD	101	Quantity Food Theory I.....	2
QUFD	102	Food Service Math.....	3
QUFD	103L	Buffet Procedures	2
QUFD	104L	Salad and Pantry	2
QUFD	105L	Dinner	2
QUFD	106L	Fry	2
QUFD	111	Quantity Food Theory II.....	3
QUFD	112L	Dining Room Skills	1
QUFD	113L	Cold Preparation	2
QUFD	114L	Stocks and Sauces—Sous Chef.....	2
QUFD	115L	Entree (Meat Preparation)	2
QUFD	116L	Entree (Fish Preparation)	2
		Total	25

Course Descriptions

QUFD 101—Quantity Food Theory I (2 cr)

(Prerequisites: appropriate scores on BOTEL and math placement test or equivalent or department approval) This course provides instruction in preparing meats, vegetables, soups, sauces, sandwiches, salads and breakfast foods. Emphasis is placed on cost, nutrition, sanitation, safety, tools and equipment, cooking methods and techniques, speed and efficiency, and cafeteria line operation.

QUFD 102—Food Service Math (3 cr)

(Pre- or corequisite: QUFD 101 or department approval) Basic arithmetic for sales, portioning and costing of food products is covered. Students also learn how to use cash registers.

QUFD 103L—Buffet Procedures (2 cr)

(Pre- or corequisites: QUFD 101, 102 or department approval) This course provides instruction for safe and sanitary front-of-the-house serving techniques, cashiering and product tracking.

QUFD 104L—Salad and Pantry (2 cr)

(Pre- or corequisites: QUFD 101, 102 or department approval) Safe and sanitary procedures are utilized as assorted salads, dressings, sandwiches, soups, vegetables and condiments are produced.

QUFD 105L—Dinner (2 cr)

(Pre- or corequisites: QUFD 101, 102 or department approval) Entree preparation of various types, along with complementary sauces, is covered. The course ranges from breakfast to lunch and special main offerings. Safe and sanitary conditions are promoted.

QUFD 106L—Fry (2 cr)

(Pre- or corequisites: QUFD 101, 102 or department approval) Entree preparation of various types is stressed, including saute, deep fat and table side frying for the restaurant industry.

QUFD 111—Quantity Food Theory II (3 cr)

(Prerequisites: QUFD 101, 102, 103L, 104L, 105L, 106L or department approval) Methods of cooking stews, fricassees, garnishes, sauces and other dinner items are presented. Also covered are herbs and spices, salad preparation, use of recipes, application of costing procedures, pantry work, restaurant service and operation and customer service.

QUFD 112L—Dining Room Skills (1 cr)

(Pre- or corequisite: QUFD 111 or department approval) Setting tables, folding napkins, servicing customers, cashiering and managing a service staff in the dining room are covered in this course.

QUFD 113L—Cold Preparation (2 cr)

(Pre- or corequisite: QUFD 111 or department approval) Safe and sanitary basic salad and dressing preparations and dessert preparations are reviewed. Skills such as safe use of knives are presented.

QUFD 114L—Stocks and Sauces—Sous Chef (2 cr)

(Pre- or corequisite: QUFD 111 or department approval) Students safely prepare stocks and the basic sauces and derivations of these sauces.

QUFD 115L—Entree (Meat Preparation) (2 cr)

(Pre- or corequisite: QUFD 111 or department approval) Safe basic techniques of preparing meats and poultry are covered.

QUFD 116L—Entree (Fish Preparation) (2 cr)

(Pre- or corequisite: QUFD 111 or department approval) Basic techniques of preparing fish using safe and sanitary procedures are presented.

QUFD 296—Special Topics (1–6 cr)

(Prerequisite: department approval) This course enables students enrolled in Culinary Arts classes to pursue related studies in specialized areas. It also may be taken as independent or guided study or as a refresher course to sharpen skills prior to moving into management positions. Hours are arranged.

TRUCK DRIVING

Certificate Program Main Campus

The Truck Driving program provides students who are already licensed as automobile drivers the basic instruction required to become a professional truck driver.

Students learn how to handle a tractor trailer safely and efficiently. The goal is to prepare students to earn the commercial driver's license needed to operate tractor trailers.

Students must pay a non-refundable supply fee of \$200 prior to entering TRDR 101, \$100 prior to entering TRDR 102L and \$100 prior to entering 103L or \$400 prior to entering TRDR 105L.

The program is certified by PTDIA (Professional Truck Drivers Institute of America). The certification agency requires students to purchase textbooks.

Entering students:

▲ Must not have been convicted of or forfeited bond for more than four moving violations in the past three years.

▲ Must not have more than one at-fault, preventable accident in the past three years.

▲ Must not have been convicted of or forfeited bond for DWI or reckless driving.

▲ Must have a valid New Mexico license authorizing operation of vehicles that he/she is to drive.

▲ Must be able to pass a physical examination as set forth in Section 391.42 of the Federal Motor Carrier Safety Regulations. Students who do not have a regular primary care physician and do not have health insurance may take the physical at the T-VI Health Center and pay a fee of \$25 to the cashier.

▲ Must be at least 23 years old.

Each applicant is required to provide a certified copy of his or her New Mexico driving record for the past three years and a medical examiner's certificate signed by a physician.

This program may not qualify students for Veterans Administration benefits or other financial aid.

Truck Driving Program

			<i>Credit Hours</i>
TRDR	101	Basic Operation Theory	6
TRDR	102L	Basic Operational Lab	4
TRDR	103L	Advanced Operational Practices	3

¹ TRDR 105L Truck Driving Theory/Lab	13
Total	13

¹This course is designed for full-time students only and is equivalent to TRDR 101, 102L and 103L.

Course Descriptions

TRDR 101—Basic Operation Theory (6 cr)

(Prerequisites: appropriate scores on BOTEL and math placement test or equivalent or department approval) This course provides instruction in the fundamentals of control systems, hours of service requirements, trip planning, public and employer relations, accident procedures, defensive driving techniques, written commercial driver's licensing needs and state and federal regulations governing the professional truck driver.

TRDR 102L—Basic Operational Lab (4 cr)

(Pre- or corequisites: TRDR 101, CDL learner's permit or department approval) This hand-on course provides basic instruction in vehicle inspection, basic control, shifting, backing, coupling and uncoupling, hazard perception, visual search, speed and space management, preventive maintenance and handling cargo. These activities are carried out in driving range conditions.

TRDR 103L—Advanced Operational Practices (3 cr)

(Prerequisites: TRDR 101, 102L or department approval) Students gain higher skill levels needed to cope with hazards of the roadway environment. Learning activities are conducted during day and evening hours on mountain grades, urban and rural roads, interstates and docking facilities.

TRDR 105L—Truck Driving Theory/Lab (13)

(Prerequisites: appropriate scores on BOTEL and math placement test or equivalent or department approval) This course combines TRDR 101, TRDR 102L and TRDR 103L; see course descriptions above.

TRDR 170—Commercial Driver's License (2 cr)

The commercial driver's license (CDL) short course meets requirements for licensing tests for all commercial drivers.

TRDR 171—Material Handling (2 cr)

This theory/lab course provides instruction in basic forklift/hand truck operation and basic material handling. Instruction also covers forklift safety inspections and cost factors of improper handling.

TRDR 172—Material Packaging (2 cr)

This theory/lab course covers personal safety, cost efficient packaging and labeling techniques used in various manufacturing and related industries.

TRDR 296—Special Topics (1–6 cr)

This course includes an in-depth study of problems and the advanced techniques that experts in the trucking industry use to solve them.

WELDING

Certificate Program Main Campus

The Welding program provides safety training and qualifies students for entry-level employment in the metals-processing industry. Specific welding qualification is the goal of each term.

Students study, practice and qualify in oxyacetylene welding. Instruction and qualification tests also are provided in shielded metal-arc welding (SMAW) and gas metal-arc welding (GMAW). Tests are given in pipe welding and gas tungsten-arc welding to acquaint the student with standard operating procedures for various qualifications. Students must be making progress on these tests to qualify for cooperative education. Instruction also is offered on welding fabrication and materials testing.

Students must be free of chronic respiratory diseases and have depth perception correctable in both eyes. Students purchase all textbooks for this program. Welding students must pay a tool fee of \$116 before entering the program.

Welding Program

			<i>Credit Hours</i>
WELD	101	Welding Metallurgy Theory I	2
WELD	102	Welding Mathematics I	2
WELD	103	Welding Blueprint Reading I	1
WELD	104L	Oxyacetylene Welding and Cutting	2
WELD	105L	Oxyacetylene Brazing/Soldering and Fabrication	2
WELD	106L	Introduction to SMAW	2
WELD	107L	Introduction to SMAW Qualifications and Fabrication	2
WELD	111	Welding Metallurgy Theory II	2
WELD	112	Welding Blueprint Reading II	2
WELD	113	Welding Mathematics II	1
WELD	114L	Advanced SMAW	2
WELD	115L	Introduction to GMAW and Fabrication	2
WELD	116L	Introduction to Gas Tungsten-Arc Welding/ Fabrication	2
WELD	117L	Qualifications for SMAW and GMAW	2
WELD	201	Welding Metallurgy Theory III	2

WELD 202	Welding Blueprint Reading III.....	3
WELD 203L	Basic Pipe Welding/Pipe Layout/Fabrication	4
WELD 204L	Advanced Gas Tungsten-Arc Welding/Fabrication	4
	Total	39

Course Descriptions

WELD 101—Welding Metallurgy Theory I (2 cr)

(Prerequisites: appropriate scores on BOTEL and math placement test or equivalent or department approval) This theory course covers safety, general tools, welding materials, joints, manufacturing processes and properties of metals. Instruction is offered in the effects of temperature changes in welding, alloying elements, fluxes and gases for shielding.

WELD 102—Welding Mathematics I (2 cr)

(Prerequisites: appropriate scores on BOTEL and math placement test or equivalent or department approval) This course begins with basic arithmetic and continues with fractions, decimals, surface and direct measurements, graphs and charts. Payroll calculations are also studied.

WELD 103—Welding Blueprint Reading I (1 cr)

(Prerequisites: appropriate scores on BOTEL and math placement test or equivalent or department approval) Instruction is offered in basic drawing interpretation, welding symbols, terminology and details of fittings as applied to the welding area.

WELD 104L—Oxyacetylene Welding and Cutting (2 cr)

(Pre- or corequisite: WELD 101 or department approval) Topics include safety and use of general tools and oxyacetylene equipment. Instruction is provided in use of thermal cutting torches, techniques of brazing, various welding positions, tubing welding, welding of alloys and fusion welding.

WELD 105L—Oxyacetylene Brazing/Soldering and Fabrication (2 cr)

(Pre- or corequisites: WELD 101, 102 or department approval) The focus is on uses and applications of brazing and soldering. Fluxes will be applied to various metal and filler metals. Basic fabrication and repair problems will be used for practical applications.

WELD 106L—Introduction to SMAW (2 cr)

(Pre- or corequisite: WELD 101 or department approval) This basic course in shielded metal-arc welding (SMAW) offers introductory instruction in electrical arc welding. Instruction is in beading, build-ups and various types of joints.

WELD 107L—Introduction to SMAW Qualifications and Fabrication (2 cr)

(Pre- or corequisites: WELD 101, 102 or department approval) Instruction on procedure for arc welding qualifications is provided. AWS D1.1 Code is followed on A36

material with A501 electrodes. Basic fabrication and repair problems are used for practical applications.

WELD 111—Welding Metallurgy Theory II (2 cr)

(Prerequisites: WELD 101, 102 or department approval) This course provides instruction in filler metals, shrinkage and distortion, pre-heating and post-heating and difficulties and defects.

WELD 112—Welding Blueprint Reading II (2 cr)

(Pre- or corequisite: WELD 103 or department approval) The student reads commercial construction and fabrication drawings. The class also covers detail and assembly drawings related to the welding field.

WELD 113—Welding Mathematics II (2 cr)

(Pre- or corequisite: WELD 102 or department approval) This course provides instruction in area, perimeter and volumes of common structural shapes. Instruction is given in math to support Blueprint Reading II.

WELD 114L—Advanced SMAW (2 cr)

(Pre- or corequisite: WELD 111 or department approval) Advanced instruction in SMAW is offered. The student practices stringers, weaves and wash passes. Various electrodes and sizes are used.

WELD 115L—Introduction to GMAW and Fabrication (2 cr)

(Pre- or corequisite: WELD 111 or department approval) This course in mig welding provides instruction in spray and short-circuiting transfer. Fabrication and repairs are assigned for practical applications.

WELD 116L—Introduction to Gas Tungsten-Arc Welding/Fabrication (2 cr)

(Prerequisite: WELD 111 or department approval) Basic instruction in tig welding is provided on aluminum and stainless steel. Fabrication and repairs are assigned for practical applications.

WELD 117L—Qualifications for SMAW and GMAW (2 cr)

(Pre- or corequisite: WELD 111 or department approval) This course provides qualification procedures for arc and mig welding. The student qualifies in all positions with A36 material.

WELD 170—Welding Skills Improvement (3 cr)

This class includes instruction in safety practices, general tools and equipment, sources of heat, operation procedures, metals and their properties and applications of oxyacetylene and arc welding. Instruction is geared for the specific needs of all majors.

WELD 171—Advanced Welding Skills Improvement (3 cr)

(Prerequisite: WELD 170 or department approval) Instruction is provided in advanced welding process. Mig and tig welding and other processes such as plasma arc, resistance, flue core, carbon and submerged arc welding are included.

WELD 201—Welding Metallurgy Theory III (2 cr)

(Prerequisite: WELD 111 or department approval) This course deals with welding problems and processes used for carbon steels, stainless steels, aluminum and pipe. The course also covers lab theory and information on AWS inspection.

WELD 202—Welding Blueprint Reading III (3 cr)

(Pre- or corequisite: WELD 112 or department approval) Topics include the development of templates, materials estimating, pipe layout and development, structural print reading, performance of pipe qualification tests, transferring of measurements from blueprints, design considerations and layout related to fabrication.

WELD 203L—Basic Pipe Welding/Pipe Layout/Fabrication (4 cr)

(Pre- or corequisite: WELD 201 or department approval) Working speed and proficiency are emphasized through various practical fabrication and repair assignments. Instruction is provided in basic pipe welding and layout, materials testing and industrial safety. This course also deals with welding problems for carbon steels and their repairs.

WELD 204L—Advanced Gas Tungsten-Arc Welding/Fabrication (4 cr)

(Pre- or corequisite: WELD 201 or department approval) This course provides instruction on aluminum, stainless steel and carbon steel tig welding. Instruction is provided on AWS lab inspection and fabrication/repair.

WELD 276—Metals Careers Seminar (1 cr)

(Prerequisites: all technical core and Arts & Sciences courses required for the degree) Topics include career information, report writing, interviews, communication techniques and interaction with community.

WELD 296L—Welding Special Topics (1–2 cr)

(Prerequisite: department dean's approval) This flexible course is enables students currently in the welding trade to pursue specialized studies. This class also may be taken as an independent or guided study or as a refresher course to sharpen skills prior to certification or recertification exams.



OUTREACH & TRANSITION

The Outreach & Transition Department provides on- and off-campus courses to assist students in making the transition to other T-VI programs. Offerings include Adult Education courses (English as a Second Language and GED preparation, among others) and the Vocational Enrichment Program (VEP), which provides concurrent APS and T-VI credit.

ADULT EDUCATION

T-VI's Adult Education program provides free basic courses which can lead to successful completion of higher education. Adult Education courses include English as a Second Language, reading, writing, spelling and grammar, mathematics, GED preparation and special enrichment courses. Courses are taught in classroom settings and students may also receive instruction at the Adult Education Learning Labs. Students who complete Adult Education courses improve their basic skills. These courses also offer them the opportunity to find better jobs.

Hablamos Español: El programa de Educación para Adultos ofrece la oportunidad al alumnado de tomar cursos de educación elemental, los cuales pudiesen conducir a la terminación satisfactoria de una educación superior. Los cursos que este departamento ofrece son los siguientes: lectura, escritura, ortografía, matemáticas, inglés como segundo idioma, y cursos preparatorios para el examen de GED. También se ofrecen cursos que enriquecen y complementan el aprendizaje. Los cursos de este programa brindan al alumnado la oportunidad de superarse personalmente así como la de obtener un empleo mejor remunerado. La instrucción es absolutamente gratuita.

Inscripción: Prospectos estudiantes que deseen tomar cursos en el departamento de Educación para Adultos podrán hacerlo inscribiéndose en persona en cualquiera de las 2 localidades de T-VI. En Main Campus la inscripción es en la oficina P-1 (224-4266). En Montoya Campus la inscripción es en la oficina H-100 (224-5575). Los cursos del programa de Educación para Adultos van de acuerdo al horario de T-VI, esto es, con períodos de 15 semanas empezando en septiembre, enero, y mayo. Las inscripciones empiezan un mes antes del inicio de los cursos. Un asistente de inscripción le ayudará en la selección de cursos para que pueda usted satisfacer sus necesidades de horario. Durante el trimestre, habrá personal disponible en cualquiera de los 2 T-VI's (Main y Montoya) de lunes a jueves de 8 a.m. a 9 p.m. y los viernes de 8 a.m. a 5 p.m.

Registration: Anyone wanting to take an Adult Education course should begin by registering in person at either T-VI campus. At Main Campus, registration is in the Prep Building, Room P-1 (224-4266). At the Montoya Campus, registration is in Room H-100 (224-5575). Adult Education courses follow the T-VI schedule, with 15-week terms beginning in September, January and May. Registration begins one month before courses start. A registration assistant will help with course selection to meet individual needs and schedules. During the term, staff are available at both Main and Montoya campuses Monday through Thursday from 8 a.m. to 9 p.m. and Friday from 8 a.m. to 5 p.m.

Locations: Adult Education courses are offered at T-VI's Main and Montoya campuses and other locations throughout the Albuquerque area. Current off-campus sites include:

- Adobe Acres Elementary School, 1724 Camino del Valle SW
- Alamosa Elementary School, 6500 Sunset Gardens Rd. SW
- Armijo Elementary School, 1440 Gatewood Ave. SW
- Barcelona Elementary School, 2311 Barcelona Rd. SW
- Cochiti Elementary School, 3100 San Isidro NW
- Duranes Elementary School, 2436 Zickert Rd. NW
- East Central Multi-Service Center, 7525 Zuni SE
- East San Jose Community Center, 1830 Williams SE
- El Buen Samaritano, 700 Granite NW
- Eugene Field Elementary School, 700 Edith Blvd. SE
- Holy Family School, 562 Atrisco SW
- John Marshall Multi-Service Center, 1500 Walter SE
- La Mesa Elementary School, 7500 Copper NE
- Mountain View Elementary School, 5317 2nd Street
- Polk Middle School, 2220 Raymac SW
- Rio Grande High School, 2300 Arenal SW
- Tijeras Community Center, P.O. Box 727; Tijeras, NM
- Valle Vista Elementary School, 1700 Mae Ave. SW
- Washington Middle School, 1101 Park Ave. SW

Persons or groups interested in additional Adult Education courses in the community should contact the T-VI Adult Education office. It may be possible for T-VI to provide courses at locations not listed here.

Expenses: There are no tuition charges or fees for Adult Education courses. Textbooks are provided free to students.

Standards of Progress: Students will receive a certificate that indicates the total number of hours they attended in each course. No letter grades are given.

Attendance: Teachers take attendance at each class session. If a student is absent four classes in a row, the teacher tries to contact the student. A student may be dropped from the course after four consecutive absences. Students who have missed or dropped classes are encouraged to go to the Adult Education Learning Lab to continue their studies.

Student Records: The Adult Education office maintains permanent records which include the date a student enrolled in a course, date completed or dropped, total number of course hours and hours attended, and whether a certificate was issued to the student. Transcripts are furnished upon student request to the Adult Education office.

Basic Skills/GED Preparation

Basic Skills/GED courses offer introduction and review of grammar, spelling, composition, basic mathematics, literacy and reading improvement. This program also prepares students for the General Education Development (GED) examination for a high school equivalency diploma. The five areas covered for the GED exam are writing skills, social studies, science, literature and mathematics. A student registers for any of the following as needed: reading (covers social studies, science and literature), writing composition and/or mathematics.

These courses are planned for individual instruction and may be completed at the student's own pace. Students are encouraged to take the GED examination at the end of the term, but those with demonstrated ability may take the test earlier. The GED test and all books are free to the student.

GED courses are offered in Spanish to those who wish to take the official GED examination in Spanish. The course provides preparation in the five GED subjects. Upon passing the five GED exam components in Spanish, the students must pass a basic English proficiency test.

Prerequisite for taking the GED Exam: Persons wanting to take the GED exam or GED preparation courses must be at least 18 years old and must not be enrolled in any high school. A person who is 17 years old may enroll only if released from the New Mexico State Compulsory School Attendance Law and if granted a GED Underage Permission Form. Forms are available in the Testing Center at both T-VI cam-

uses. For additional information, please call 224-3244 at the Main Campus or 224-5761 at the Joseph M. Montoya Campus.

It is recommended that students take a pre-test. These pre-tests are given at the Main Campus and the Joseph M. Montoya Campus on an individual basis. Please call 224-4280 at Main Campus or 224-5582 at the Joseph M. Montoya Campus.

Spanish GED/GED en Español: El Departamento de Educación para Adultos ofrece clases de GED (equivalente al diploma de preparatoria/high school) en español para hispanohablantes que deseen tomar el examen de GED en su propio idioma. Este curso proporciona preparación en las cinco asignaturas del GED—ciencias sociales, ciencias naturales, literatura, matemáticas, y gramática y ortografía. Al aprobar las cinco asignaturas del GED en español los estudiantes deberán aprobar un examen en el uso del inglés.

El examen de GED se suministra mensualmente y los estudiantes pueden tomar este examen cuando se sientan preparados. Los libros de texto, las clases preparatorias y los exámenes necesarios para obtener el GED son absolutamente gratuitos.

Beginning Basic Language Skills: This course helps students learn the basic skills for reading and writing in English. The course includes letter formation (printing and cursive), relations between English sounds and letters, reading and writing single words and short sentences, and filling out short application forms.

Basic Skills/GED Reading: This course is for students who want to practice and improve their reading in the content areas of popular and classical literature, social studies, natural science and mathematics. It is for students who can read but who want to improve their comprehension and confidence.

Writing Improvement Skills (Composition): This course is for students preparing to take the Writing Skills component of the GED exam and for students wanting to improve their skills in writing standard English. Students will learn to write clear, complete sentences, unified, well-developed paragraphs and coherent full-length essays on a variety of topics.

Basic Spelling and Grammar: This course is for students wanting to improve their mechanics, usage and sentence structure in order to communicate more effectively. Students will use a variety of spelling improvement techniques, parts of speech and punctuation, and will write simple, compound and complex sentences. This course is an excellent supplement to Writing Composition.

Basic Mathematics Skills: This course is for students who want to develop and improve their skills in basic mathematics. Students are not required to have any prior knowledge of mathematics to enter this class. Instruction and materials will stress real-life situations and practical applications of mathematical skills. Students may progress at their own rate.

Computer Assisted Instructional Program (CAIP): This course provides preparation in the five GED subjects using computer assisted instruction.

Enrichment Clusters

These are short-term, intense, highly focused classes designed to meet the specific needs of Adult Education students. Classes usually meet Friday mornings in two-hour blocks. Topics and titles change according to the indicated needs of our students.

T-VI Orientation: This class acquaints students with the various offerings and services at T-VI and how to find the education they need. Written information is provided and tours are conducted at each campus.

Basic Ideas in Algebra: This class discusses concepts in elementary algebra, including variables and constants, fundamental operations, order of operations, an introduction to functions and the coordinate graph, and variation. No previous experience with algebra is required, and the course is specifically intended for those who are inexperienced with algebraic ideas.

The Metric System: This class provides a hands-on guide to working with the metric system of measurement.

Basic Mathematical Formulas: This class shows how to use basic algebraic ideas to manipulate and utilize some common mathematical formulas used in a variety of technical fields, including electronics, mechanics, nursing and business.

Critical Thinking Strategies: This class is for students wanting to improve or develop problem-solving abilities useful in school and in life. Critical approaches will be applied to math word problems, comprehension questions typical of the science and social studies components of the GED exam, and situations that require the application and evaluation of data. Emphasis is on improving reading and cultivating reasoning across the curriculum.

Job Skills: This class teaches students to write resumés, fill out job applications, scan classified advertising for jobs and market their skills confidently.

Study Skills: This is a class for students who need to learn or improve study habits. Time management and organizational techniques will be studied. Assistance will be provided in learning basic skills for success in educational pursuits.

Test Taking Tips: This class presents strategies for successful test taking. Students will learn the best approach for different kinds of tests. Guidance on effective test taking and tips for raising test scores will be provided.

Time Management: This is a class designed to help students learn to organize their time, study habits and personal life. The skills necessary to reach employment goals and personal goals are stressed.

Math Anxiety: This class helps students conquer the fear of mathematics. This is a rational approach to learning math; understanding the causes of anxiety will eliminate or reduce students' frustration.

Bilingual Literacy: This class is designed for students who need to develop their basic reading, writing, vocabulary and spelling skills in English/Spanish.

Reading Enrichment: ESL and GED students read, analyze, discuss and write about articles, short stories, novels and films on history or literature.

Creative Communications: The first part of this class prepares ESL and GED students to give speeches at the GED graduation. During the second part of the class students produce a book of their poetry and short stories.

Adult Education Learning Labs

The labs are supervised by master instructors who assist students in GED preparation, basic skill improvement and ESL practice. GED and basic skill instruction is also available in Spanish for those students who are interested in taking the GED exam in Spanish. Volunteers are available for special tutoring. The labs provide individualized instruction and independent study in reading, math, writing and English as a Second Language (ESL). A variety of instructional resources is available, such as audio cassette tapes, video cassette tapes, film strips, textbooks and computer software.

The lab at the Main Campus is located at 901 Buena Vista SE, BV-20A. The Montoya Campus lab is at 4700 Morris NE, TJ-2. Additional T-VI adult learning facilities are at community centers in the Albuquerque area; for information, call 224-4280.

The GED pre-test may be taken during regular lab hours. The lab is open Monday through Thursday from 8 a.m. to 9 p.m., Friday from 8 a.m. to 5 p.m. and Saturday at the Main Campus only from 8 a.m. to 5 p.m. For assistance or information, call 224-4280 (Main Campus) or 224-5582 (Montoya Campus).

English as a Second Language

ESL: English as a Second Language courses are for people who want to learn to speak, read and write English.

Aprénda inglés como segundo idioma.

Lerne Englisch als zweite Sprache.

Imparate l'inglese come una seconda lingua.

Apprenez l'anglais comme deuxième langue.

Aprénda inglés como segunda lingua.

Naucz się Angielskiego jako druga Mowa.

Hãy học anh ngữ như sinh ngữ thứ nhì.

Gusto kong matuto ng pangalawang linguahe.

Учти се Англицтину jako druhý jazyk.

УЧИТЬ АНГЛИЙСКОМУ, СВОЕМУ ВТОРОМУ ЯЗЫКУ

この英 語を 第二 として 学ぶ こと

Tanulj angolul, miutha ez lenne a második anyanyelved!

Beginning English as a Second Language: This course is for students who do not speak or who have a low proficiency in English. This level may be repeated. Students from the intermediate and advanced levels may take this course as a review.

Intermediate English as a Second Language: This course is for students who have satisfactorily completed Beginning ESL or have previously gained some proficiency in English.

Advanced English as a Second Language: This course is for students who have satisfactorily completed the intermediate course or who have attained this level through study elsewhere.

Advanced ESL Pronunciation and Conversation: This course is for advanced students of ESL who read, speak and understand English well, but want to improve their spoken English in order to be more easily understood by others. Conversation practice allows students to practice speaking English while using the English sounds and patterns of stress and intonation that they are learning in class.

Enrichment Clusters

ESL Literacy: This course teaches the basic skills for reading and writing. It should be taken by all students who do not read and write or those whose language does not use the same written alphabet as English.

ESL Pronunciation: This course concentrates on clear and correct formation and production of the sounds of the English language. Knowledge of grammar is not required, but some reading skills are needed.

ESL Conversation: This course supplements the ESL courses and provides practice in speaking and using the English language and its idioms.

ESL Writing: This course supplements the ESL courses and provides individualized practice in writing and using English grammar at sentence and paragraph levels as well as in essays.

English Through Drama: This course provides practice for high intermediate and advanced students in improvisation, pronunciation and expression, and in writing and performing plays. No previous acting experience is necessary.

American Culture for ESL: Students learn about American culture by viewing, discussing and writing about classic and contemporary films.

Creative ESL: This is a specialized conversation/American culture class using games, songs, puzzles and skits to promote conversation in English.

VOCATIONAL ENRICHMENT PROGRAM

The Vocational Enrichment Program (VEP) provides T-VI vocational credit courses for junior and senior students at Albuquerque public high schools. These courses are offered in many subject areas and are taught after regular school hours. Students take these T-VI courses under non-degree credit status while completing their high school education. These courses provide job training and enrichment in business, technology and trades subjects not normally available in high schools.

Course lists and additional information are available from high school counselors and both T-VI Adult Education offices.





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- Deborah Miller, chemistry instructor; B.S., Missouri Southern State College; M.S., Iowa State University
- William Miller, philosophy instructor; B.B.A., Ohio University; M.A., Kent State University
- Barbara Muller, English instructor; B.S., Abilene Christian University; M.A., University of New Mexico
- Jay J. Myers, mathematics instructor; B.A., Claremont McKenna College; Ph.D., California Institute of Technology
- Hana Samek Norton, history instructor; B.A., M.A., University of Western Ontario; Ph.D., University of New Mexico
- Boye Odom, physics instructor; B.S., M.S., University of Texas at El Paso
- Umesh Pandey, physics instructor; B.Ed., Delhi University; M.S., Agra University; M.S., New Mexico Highlands University
- Esther Pariente-Ahmed, Spanish instructor; B.A., Instituto del Profesorado San Miguel; M.A., Kansas State University
- Kate Parker, English and history instructor; B.A., University of Richmond; M.A., Western Kentucky University; Ph.D., University of New Mexico
- Harold Partin, mathematics instructor; B.S., M.A., Eastern New Mexico University; Ph.D., Texas A&M
- George Pletsch, mathematics instructor; B.S., M.A., Ph.D., University of New Mexico

Alan Pope, English and humanities instructor; B.A., University of South Florida; M.A., Ph.D., University of New Mexico

Mary Prentice, psychology instructor; B.A., University of New Mexico; M.S., New Mexico Highlands University

Fred Ream, mathematics instructor; B.S., M.A., University of New Mexico

James Rewalt, mathematics instructor; B.S., South Dakota State University; M.S., Northeast Louisiana University

Geri Rhodes, English instructor; B.A., Bucknell University; M.A., Tufts University; Ph.D., University of New Mexico

Virginia Roberts, sociology instructor; B.A., M.A., University of Montana

Janet Shagam, biology instructor; B.S., University of Massachusetts; M.S., University of Arizona; Ph.D., University of New Mexico

Wayne Shrubbsall, English instructor; B.S., M.A., Ball State University; Ph.D., University of New Mexico

Beverly Smith, psychology instructor; B.A., University of Washington; B.A., M.S., Ph.D., University of New Mexico

James Swan, biology instructor; B.S., M.S., Florida State University

Patricia Walter, English instructor; B.A., Eastern New Mexico University; M.A., Texas Tech University

Tadg Woods, mathematics instructor; B.S., M.A., University of New Mexico

Shawn Wright, biology instructor; B.S., Penn State University; M.S., Northeastern University

BUSINESS OCCUPATIONS

Dawn Addington, CPA, accounting instructor; B.B.A., M.S. Acc., University of New Mexico

Joyce Barefoot, administrative assistant instructor; B.B.A., University of New Mexico

Cheryl Bartlett, CPA, accounting instructor; B.B.A., University of New Mexico

David Bency, CPA, accounting instructor; B.B.A., New Mexico State University

Brenda Byerly, court reporting instructor; B.S., Illinois State University

Lois Carlson, CPA, assistant to the dean; B.S.N., University of Minnesota; M.B.A., University of New Mexico

Priscilla Carrillo, court reporting instructor; B.S., M.A., University of New Mexico

Leigh Anne Chavez, legal assistant studies instructor; B.A., University of Nevada/Las Vegas; J.D., University of California, Los Angeles

- Susie Cutler, administrative assistant instructor; B.B.A., Lamar University; M.A., Webster University
- Chuck Edelman, business administration instructor; B.S., Sophia University; M.B.A., University of New Mexico
- Sally Fish, business administration instructor; B.A., San Diego State University; M.B.A., National University
- Anita Frantz, legal assistant studies instructor; B.S., J.D., University of New Mexico
- Jean Gallegos, accounting instructor; B.A., Adams State College
- Precilliano Garcia, administrative assistant instructor; B.A., M.A., New Mexico Highlands University
- Marianne Gardner, administrative assistant instructor; B.A., University of Kentucky; M.S., University of Dayton
- Hossein Giasi, business administration instructor; B.S., University of Albuquerque; M.B.A., University of New Mexico
- Elmo Gomez, administrative assistant instructor; B.S., University of New Mexico
- Fred Gordon, accounting instructor; A.A., B.A., University of Albuquerque; M.A., New Mexico Highlands University
- Marcella Green, administrative assistant instructor; B.S., Eastern New Mexico University; M.A., University of New Mexico
- Joann Griffin, administrative assistant instructor; B.S., University of New Mexico
- Nadine Grosjean, administrative assistant instructor; B.Ed., University of Toledo; M.A., University of New Mexico
- Sue Gunckel, CPA, accounting instructor; B.A., M.S.W., University of Denver
- Gary Hays, sales and cashiering instructor; B.A., Eastern New Mexico University
- Mary Carole Helton, administrative assistant instructor; B.S., University of New Mexico
- Debbie Hester-Rael, CPA, accounting instructor; B.B.A., University of Albuquerque
- Bob Hildenbrand, CPA, accounting instructor; A.A.S., Suffolk County Community College; B.P.S., State University College at Utica; M.S., State University of New York, Albany
- Guy Hobbs, accounting instructor; B.S., University of Tennessee at Chattanooga
- Jim Holmes, accounting instructor; B.B.A., M.A., University of New Mexico; M.B.A., New Mexico Highlands University
- Judy Johnson, administrative assistant instructor; A.A., Mohawk Valley Community College; B.S., Western Kentucky State University
- Marilyn Konnick, administrative assistant instructor; B.S., University of Albuquerque; M.A., University of New Mexico
- Deborah LaPointe, administrative assistant instructor; B.S., Illinois State University; M.S., Northern Illinois University
- Myron Liberman, business administration instructor; B.A., City College of New York; M.A., University of New Mexico

Barbara Logan, CPS, business administration instructor; B.S., M.A., University of New Mexico

Fannie Lujan, administrative assistant instructor; B.S., University of New Mexico

Anna Machemehl, administrative assistant instructor; B.S., University of New Mexico

Marilyn Maclay, administrative assistant instructor; B.B.A., University of Texas

Gail Maddoux, administrative assistant instructor; B.S., Oklahoma State University; M.A., University of New Mexico

Gloria Madrid, administrative assistant instructor; B.A., M.A., New Mexico Highlands University

Joyce Matthews, administrative assistant and accounting instructor; B.S., Miami University; M.A., University of New Mexico

Judy McCutcheon, administrative assistant instructor; B.S., M.A., University of New Mexico

Nancy NtiAsare, legal assistant studies instructor; B.S., City University/Seattle; J.D., Willamette University

William Price, accounting instructor; B.S., Metropolitan State College; M.A., University of Arizona

Shirley Quintana, court reporting instructor; B.S., University of New Mexico

Robert Reeback, legal assistant studies instructor; B.A., M.A., Ph.D., University of Rochester; J.D., University of New Mexico

David Steele, business administration instructor; B.A., Eastern New Mexico University; M.B.A., University of New Mexico

Anita Sterchi, administrative assistant instructor; B.S., M.A., University of New Mexico

Anita Vaughn, court reporting instructor; B.S., Indiana University

John Warns, business administration instructor; B.A., University of New Mexico

Linda Webb, administrative assistant instructor; B.S., University of New Mexico

Joe Webster, CMA, accounting instructor; B.S., University of Albuquerque; M.B.A., College of Santa Fe

Maja Whittington, accounting instructor; B.A., M.B.A., University of Texas, El Paso

Kim Wong, business administration instructor; B.S., Brigham Young University; M.B.A., J.D., Boston College; M.S., Massachusetts Institute of Technology

Anna Wormald, administrative assistant instructor; B.S., M.A., University of New Mexico

HEALTH OCCUPATIONS

- Teresa Brito-Asenap, program director, child development; M.A., University of New Mexico
- Marsha Brown, RN, nursing instructor; B.S.N., State University of New York at Albany; M.S.N., University of New Mexico
- Tamara G. Campbell, RN, nursing instructor; B.S.N., Adelphi University; M.S., Boston University
- Margaret Dahrling, RN, nursing instructor; B.S.N. University of New Mexico; M.S.N., University of New Mexico
- Charles Fatta, RRT, RCP, respiratory care instructor; B.A., University of New Mexico; M.B.A., University of Phoenix
- Pamela Fletcher, R.D./L.D., nutrition instructor; B.S., Michigan State University; M.A., University of New Mexico
- Charlene Fritts, RN, major instructor, health unit clerk and perioperative nursing; A.D.N., University of Albuquerque; B.S., B.S.N., Graceland College, College of Saint Francis; M.A., Webster University
- Richard Gentile Jr., RRT, RCP, program director, respiratory care; A.A.S., Milwaukee Technical College; B.S., Georgia State University; M.Ed., University of Houston
- Diane E. Jacobi, RN, nursing instructor; B.S.N., M.S.N., University of New Mexico
- Monya Kmetz, MT (ASCP), program director, medical laboratory technician; B.S., Eastern New Mexico University; M.A., University of New Mexico
- Marcia Lee, RN, nursing instructor; B.S., California State University, Chico; M.S., University of California, San Francisco
- Ruth McCall, MT (ASCP), major instructor, phlebotomy; B.S., University of Iowa
- Paulette McNeill, RN, nursing instructor; B.S.N., M.S.N., University of New Mexico
- Gloria Monek-Kovanis, RN, nursing instructor; B.S.N., Temple University; M.S.N., Gwynedd Mercy College
- Patricia L. O'Brien, RN, nursing instructor; B.S.N., University of Kansas; M.A., University of New Mexico; M.S.N., University of Texas, El Paso
- Lori Ponge, RN, nursing instructor; B.S.N., University of Massachusetts
- Marie Rea, RN, nursing instructor; B.A., Mount St. Mary's College; M.S.N., University of California, Los Angeles
- Paul Sands, RRT, RCP, clinical coordinator, respiratory care programs; A.S., University of California at Davis; B.A., University of New Mexico
- Richard Simler, RN, nursing instructor; B.S.N., Atlantic Christian College; M.S.N. University of New Mexico
- Ann E. Sims, RN, major instructor, nursing assistant; B.S.N., University of New Mexico
- Nancy Stephens, RN, nursing instructor; B.S.N., M.S., University of Maryland

Patricia Stephens, RN, director of nursing programs; B.S.N., University of Iowa; M.S., University of California, San Francisco; M.A., Denver Seminary

Glenda Sterling, RN, nursing assistant instructor; diploma, Pennsylvania Hospital School of Nursing; B.S.N., M.S.N., University of New Mexico

Diana Swihart, RN, nursing instructor; B.S.N., Wilmington Bible Institute and College; M.S.N., University of New Mexico

Carol Winkles, RN, nursing instructor; B.A.N., Gustavus Adolphus College; M.S.N., University of Wisconsin, Eau Claire

TECHNOLOGIES

Karl Asendorf, electronics instructor; A.A., Georgia Military Institute; B.S., Southern Illinois University

David Bleacher, business computer programming instructor; A.B., University of California at Fresno

William Boettcher, electronics engineering instructor; B.S., M.S., University of Wisconsin

Bruce Bush, electronics instructor; B.S., Southern Illinois University

David Clauss, electronics instructor; B.A., University of New Mexico

David Conger, business computer programming instructor; B.S., Brigham Young University

Joseph Downey, business computer programming instructor; B.S., Southern Illinois University

Steven Fraker, architectural/engineering drafting instructor; B.S., Eastern New Mexico University; M.A., University of New Mexico

Hayward Franklin, business computer programming instructor; B.A., American University; Ph.D., University of Arizona

Jerome Frisch, business computer programming instructor; B.S.E.E., M.E.E.E., University of Oklahoma

Joel Gellman, laser electro-optic instructor; B.A., Canaan College

Judith George, architectural/engineering drafting instructor; B.A., Carleton College

Beverly Gersema, business computer programming instructor

James Green, electronics instructor; A.S., State Technical Institute at Memphis; B.S., University of New Mexico

Gordon Hall, registered architect, architectural/engineering drafting instructor; B.F.A., M.Arch., University of New Mexico

Ted Harris, electronics instructor; B.G.E., University of Nebraska, M.A., Ball State University

James Hart, electronics instructor; B.U.S., University of New Mexico

Raymond Isengard, electronics instructor

Paul Kirkpatrick, architectural/engineering drafting and computer programming instructor; B.U.S., University of New Mexico

- Alfred E. Lauber, registered architect, registered landscape architect, architectural/engineering drafting instructor; B. Arch., University of Oregon; M.A., University of Wyoming
- Donald Lentz, business computer programming instructor; B.A., New Mexico State University; B.S.N., University of New Mexico
- Aaron Loggins, electronics instructor; B.S., U.S. Military Academy; M.S., AFIT, Wright-Patterson A.F.B.; M.B.A., University of New Mexico; Ph.D., Texas Tech University
- Fabian Lopez, electronics instructor
- Thomas Lucero, registered architect, architectural/engineering drafting instructor; B.F. Arch., M.A., University of New Mexico
- Charles Meuser, electronics engineering instructor; B.S., Purdue University; M.A., University of New Mexico
- Earnestine Mitchell, business computer programming instructor; B.A., Grambling College of Louisiana
- Walter Rice, electronics instructor; A.A.S., Capitol Radio Engineering; B.S., New Mexico State University; M.A., University of New Mexico
- Laurence Rose, laser electro-optic instructor; B.S., New Mexico Highlands University; M.S., University of New Mexico
- Richard Schutzberger, design drafting engineering instructor; B.S.E.E., M.S.E.E., University of New Mexico
- Daniel Shaffer, design drafting engineering instructor; A.A., New Mexico Junior College; B.S., Kansas State College; M.A., University of New Mexico
- Susan Sujka, math/electronics instructor; B.S., New Mexico Institute of Mining and Technology
- Theodore Trujillo, electronics instructor; B.S., University of Albuquerque
- Thomas Walling, electronics instructor; B.S., University of Southern Maine
- Wesley Wesbrooks, electronics instructor
- Michael White, electronics engineering instructor; B.S., M.S., Texas Tech University
- Elizabeth Wilkinson, design drafting engineering instructor; B.A., University of New Mexico

TRADES & SERVICE OCCUPATIONS

- Alain Archuleta, electrical trades instructor
- Earnest Arko, electrical trades instructor; B.A., Highlands University
- Paul Baxter, automotive body repair instructor; B.S., New Mexico State University
- Paul Beck, machine tool technology instructor; B.S., University of New Mexico
- David Bergsland, commercial printing instructor; B.F.A., University of Minnesota
- Richard Birkey, administrative assistant; B.S., University of Illinois; M.A., University of New Mexico
- Joe Bowdich, criminal justice instructor; B.S., University of Albuquerque
- Timothy Brown, electrical trades instructor; B.S., Iowa State University
- Thomas Bryant, truck driving instructor; B.S., Southern Illinois University
- Glen Bugge, automotive technology instructor; B.S., Illinois State University
- Darcy Buland, quantity foods instructor; B.S., Mankato State University
- Kayleigh Carabajal, baking instructor; B.A., University of Albuquerque
- Mary Chambers, fire science instructor; B.S., Stanford University; M.A., Duke University
- Ted Chavez, air conditioning, heating and refrigeration instructor; B.S., Southern Illinois University
- Darrell Creel, truck driving instructor; B.A., Western New Mexico University
- James DeMarcus, air conditioning, heating and refrigeration instructor; B.S., Southern Illinois University
- Frederick Downum, carpentry instructor; B.S., Northern Arizona University
- Douglas D. Dunning, quantity foods instructor; A.S., Northern Oklahoma College; B.S., M.S., Oklahoma State University
- John P. Gabaldon, electrical trades instructor; B.S., University of New Mexico
- Rudy Garcia, food service management instructor; B.U.S., University of New Mexico
- Scott Henrickson, automotive technology instructor; B.U.S., University of New Mexico
- Dave Hinchcliffe, carpentry instructor; B.S., Southern Illinois University
- Joyce Jones, quantity foods instructor; B.S., Southern Illinois University
- Robert Kho, automotive technology instructor; B.A., California State University
- Barry King, environmental technology instructor; B.S., M.S., University of Houston
- Samuel E. Lovelette, electrical trades instructor; B.S., Ferris State College
- Ted Modica, diesel equipment technology instructor; A.S., State University of New York; B.S., Southern Illinois University
- Larry Mounger, power equipment technology instructor; B.S., Southern Illinois University

John Murray, air conditioning, heating and refrigeration instructor; B.A., University of New Mexico
Paul Jay Musselman, air conditioning, heating and refrigeration instructor; A.S., B.S., Northern Arizona University
Walter Niederberger, criminal justice instructor; B.A., M.S., San Jose State University
Simon Nunez, Jr., plumbing instructor; B.S., Western New Mexico University
John Pierce, carpentry instructor; B.A., University of New Mexico
William Riley, criminal justice instructor; B.S., University of Albuquerque
Dennis Ross, welding instructor; B.S., University of New Mexico

Harold Senke, environmental technology instructor; A.S., B.S., New Mexico State University
Wayne Sprong, environmental technology instructor; B.A., State University of New York; M.P.A., Golden Gate University
Richard Warren, machine tool technology instructor; B.S., University of New Mexico
Alton Whittier, welding instructor
Charles R. Yonker, machine tool technology instructor; A.S., Moraine Valley Community College; B.S., Chicago State University

OUTREACH & TRANSITION

Marie Chávez, bilingual instructor; M.A., University of New Mexico
June E. Entringer, adult education lab instructor; M.A.T., Alaska Methodist University
M. Sue Fox, basic skills instructor; M.B.A., University of Phoenix
Eugenia Sproul Lott, English as a second language instructor; M.A., Instituto Tecnológico y de Estudios Superiores de Monterrey
Charles E. McKenzie, math instructor; M.A., University of New Mexico

Priscilla H. Rogers, English as a second language instructor; M.S., University of Wisconsin
Joe F. Sackett, basic skills instructor; M.A., University of New Mexico
Glenna M. Siddons, English as a second language instructor; M.A., University of New Mexico
Arturo T. Talamante, adult education lead lab instructor; M.A., University of New Mexico

CAMPUS DIRECTORY

Main Campus

Switchboard/Locator	224-3000
Admissions	224-3160
Admissions TTY	224-3193
Adult Education	224-4266
Learning Lab	224-4280
GED	224-4268
Bookstore	224-4490
Business Occupations Learning Center	224-3840
Cashier	224-4767
Economic Development Center	224-4246
Financial Aid	224-3090
Health Center	224-3080
Instructional Programs/Counselors	
Administration	224-3321
Developmental Studies ...	224-3931
Arts & Sciences	224-3561
Business Occupations	224-3811
Health Occupations	224-4111
Technologies	224-3340
Trades & Service Occupations	224-3711
Outreach & Transition ...	224-4300
Library	224-3274
Security	0 or 224-4632
Special Services	224-3259
Special Services TTY	224-4739
Student Activities	224-3239
Student Job Placement	224-3060
Student Records	224-3202
Testing	224-3244
Tutorial/Learning Center	224-4306

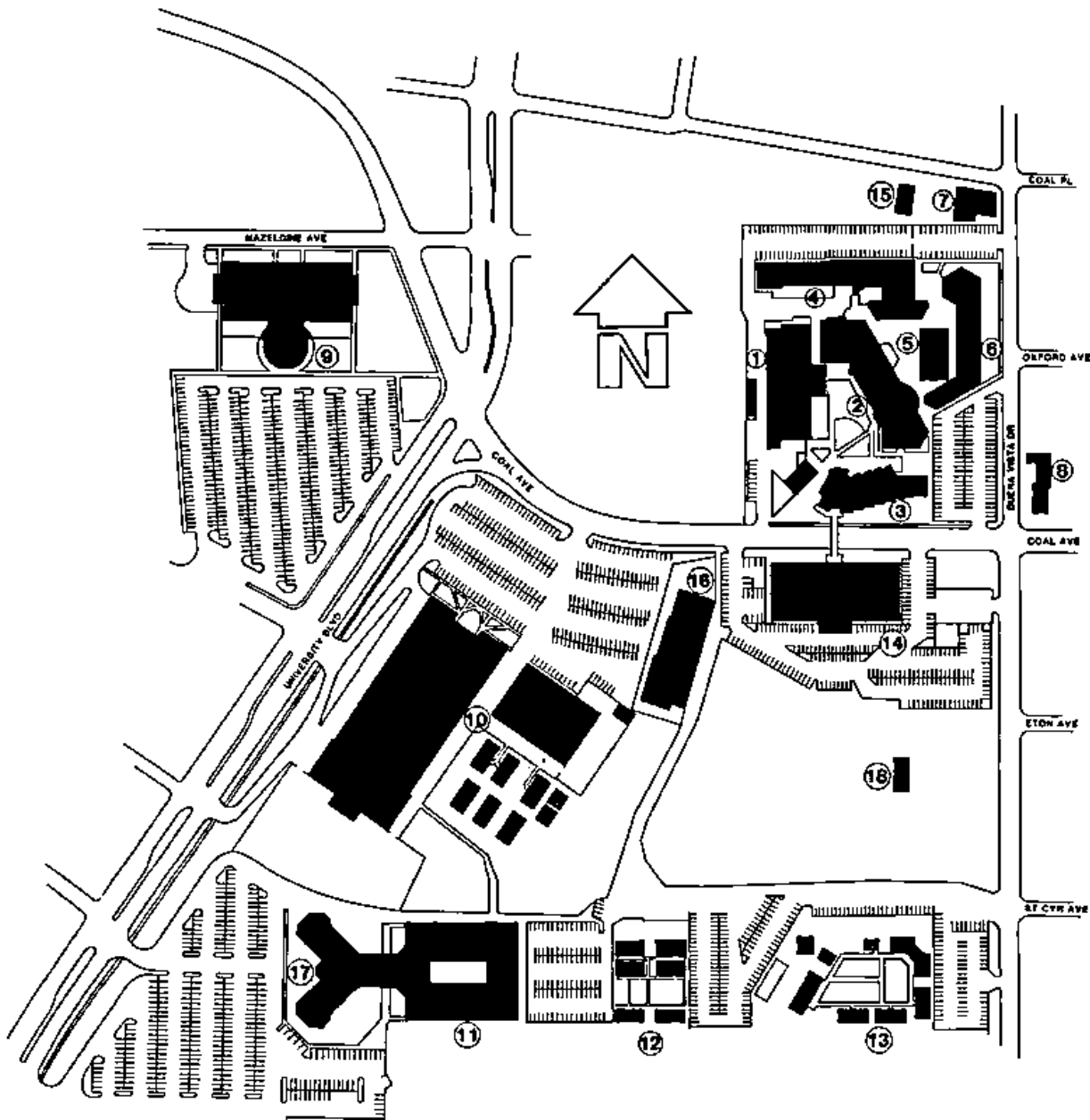
Montoya Campus

Switchboard/Locator	224-5500
Admissions	224-3160
Admissions TTY	224-3193
Adult Education	224-5575
Learning Lab	224-5582
GED	224-5575
Bookstore	224-5803
Business Occupations Learning Center	224-5596
Cashier	224-5590
Continuing Education Studies	224-5580
Financial Aid	224-5656
Instructional Programs/Counselors	
Developmental Studies ...	224-5681
Arts & Sciences	224-5782
Business Occupations	224-5599
Library	224-5721
Security	0 or 224-5751
Special Services	224-5946
Student Job Placement	224-5507
Testing	224-5761
Tutorial/Learning Center	224-5990

Rio Rancho/Intel Campus

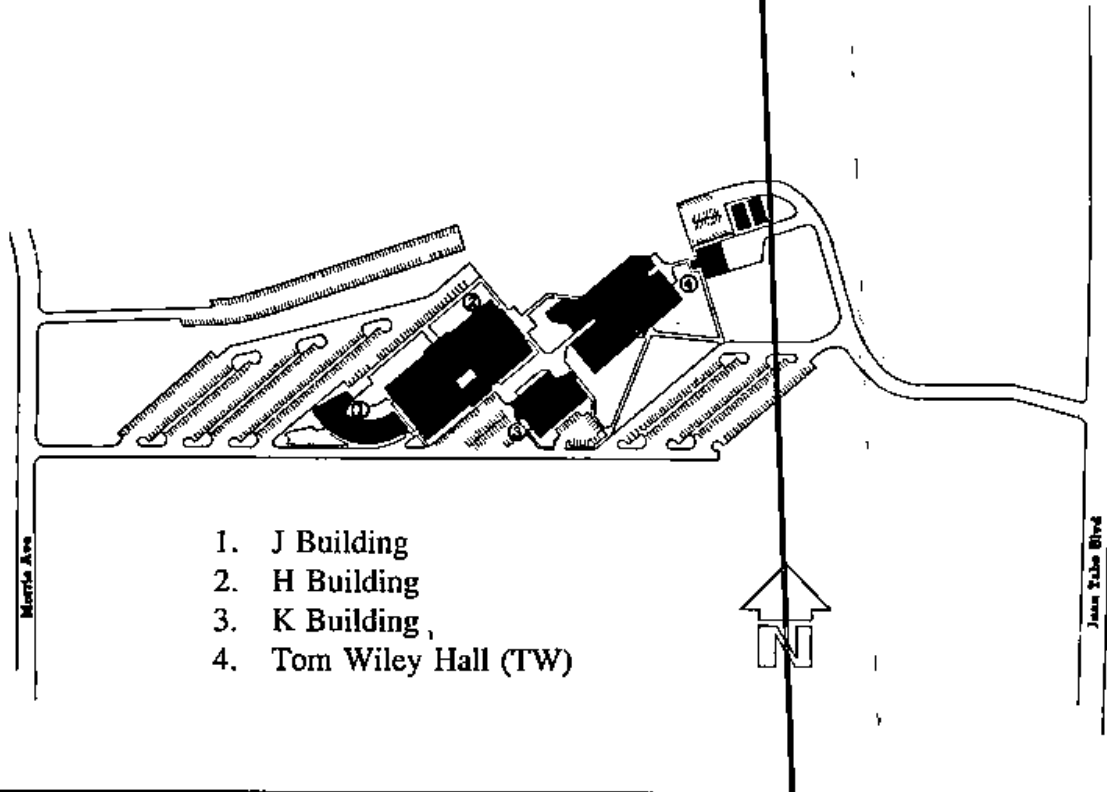
All offices	892-7113
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MAIN CAMPUS

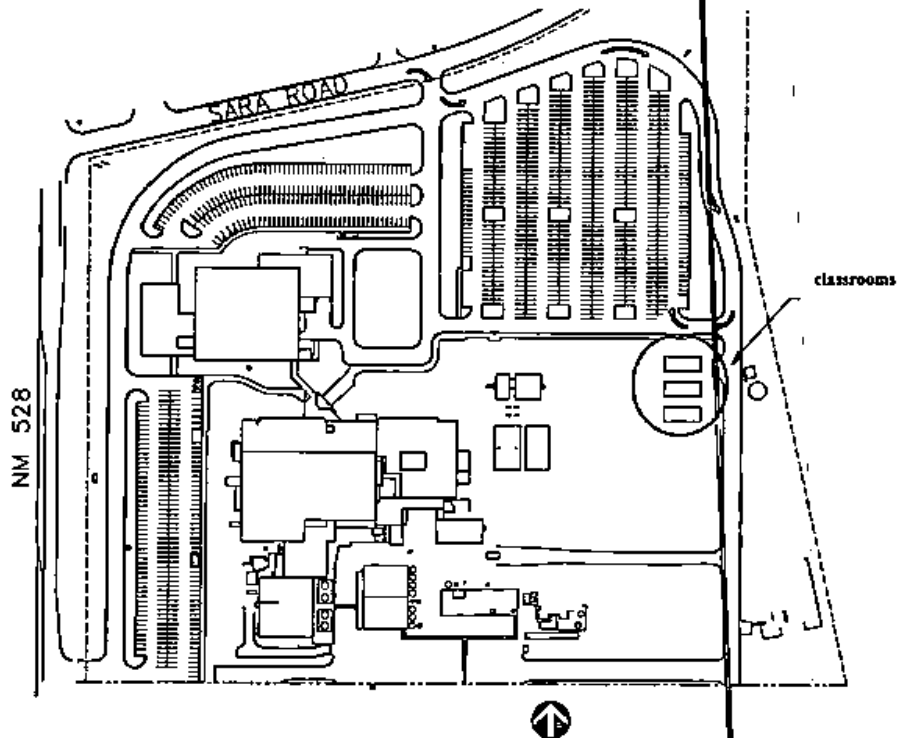


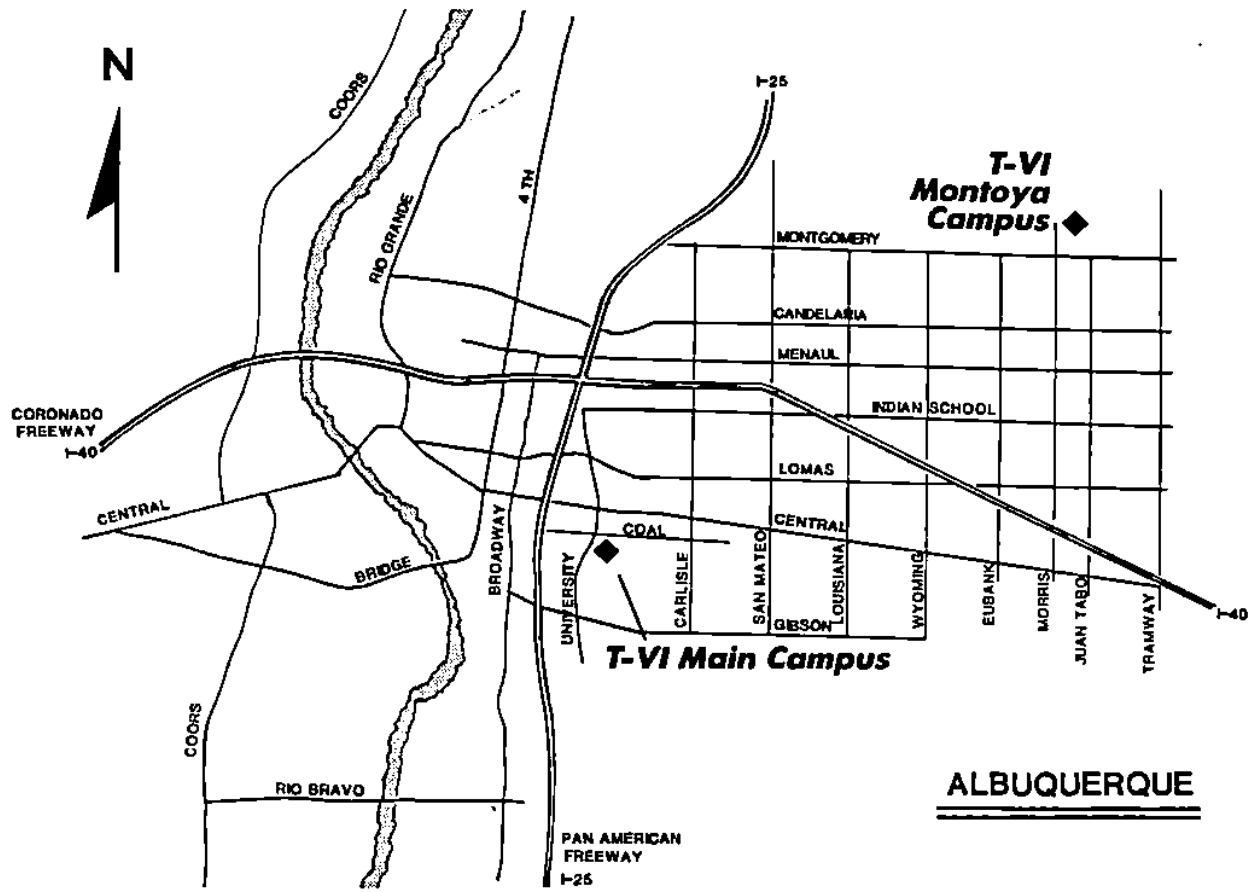
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|-----------------------------------|---|
| 1. West Building (W) | 10. Trades Buildings (T) |
| 2. Administration Building (A) | 11. Preparatory Building (P) |
| 3. South Building (S) | 12. South Temporary Buildings (ST) |
| 4. North Building (N) | 13. Buena Vista Buildings (BV) |
| 5. Main Building (M) | 14. Jeannette Stromberg Hall (JS) |
| 6. East Building (E) | 15. Personnel Office |
| 7. North Temporary Building (NT) | 16. Science Laboratory Building (L) |
| 8. Student Job Placement Services | 17. Max Salazar Hall (MS) |
| 9. Smith Brasher Hall (SB) | 18. Tres Manos Child Development Center |

MONTOYA CAMPUS



RIO RANCHO/INTEL CAMPUS





**T-VI
Montoya
Campus** ◆

T-VI Main Campus ◆

ALBUQUERQUE

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