

CATALOG

1992 - 1993



A Community College

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Albuquerque Technical-Vocational Institute

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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

■ Instructional Programs

Details about T-VI's seven departments, including requirements for earning degrees and certificates

■ Course Descriptions

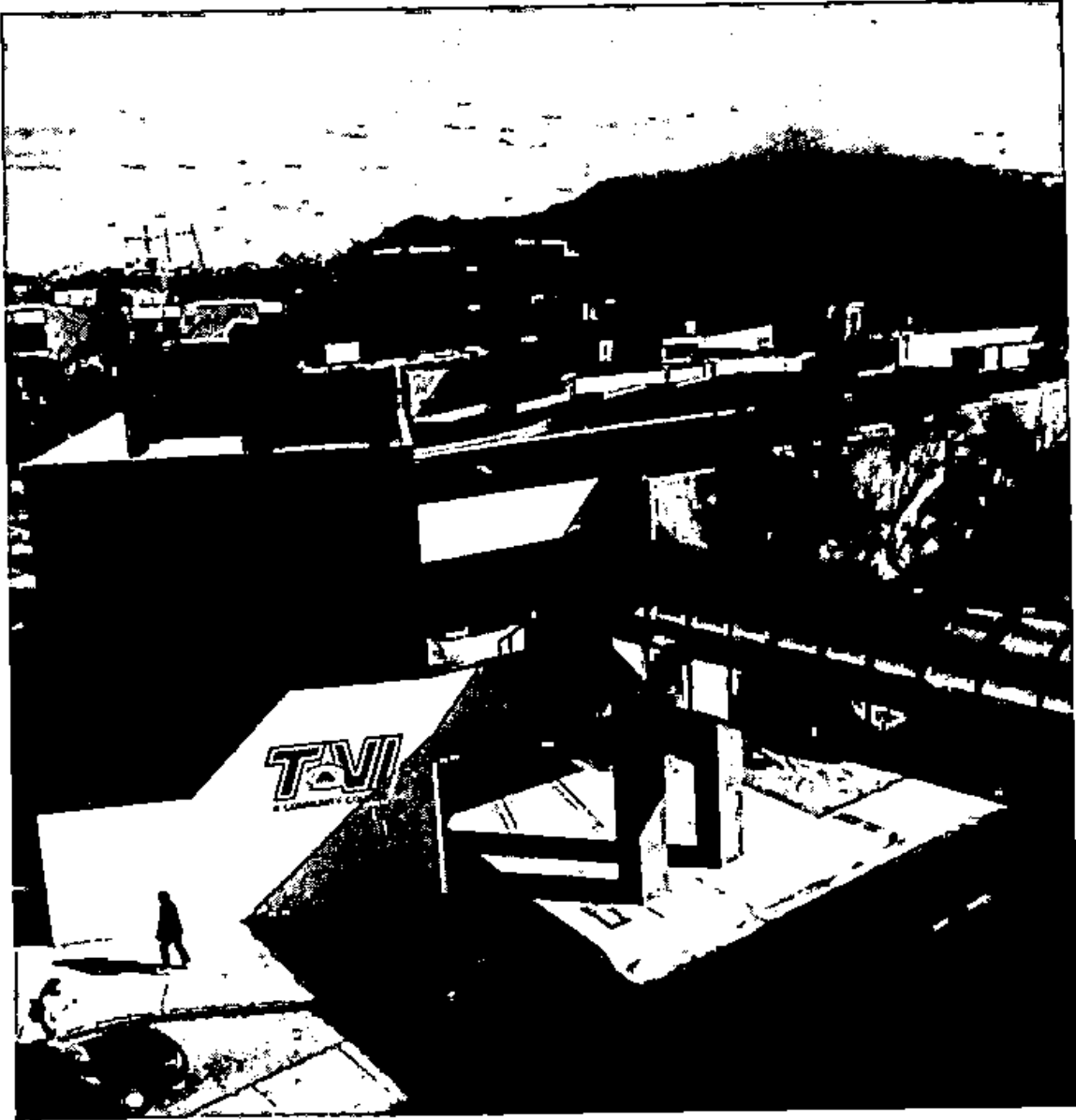
These appear with each program's description

This Catalog also includes lists of T-VI administrators and faculty, as well as maps of the Main and Montoya campuses, a campus telephone directory and an index. Other information about T-VI is published in:

- The class schedule, which is distributed prior to registration for each term in the admissions offices and instructional departments at both campuses
- The Student Financial Aid Guide
- The Student Handbook, available from the Student Services Office
- 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. Information in the Catalog is subject to change.

Not all programs and classes listed in the Catalog are offered at both 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.



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 1992 - 93 T-VI's programs include:

- **Certificates:** Full-time programs in 31 business, health, technologies and trades occupations
- **Associate degrees:** Available in 22 occupational fields and liberal arts
- **College credit:** Courses in 23 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
- **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.

T-VI's programs include certificates, associate degrees, college credit courses, developmental classes and adult education.



In 1965 T-VI held its first classes in surplus barracks and an abandoned elementary school. Today's enrollment exceeds 18,000. The Main Campus occupies 60 acres near downtown Albuquerque, and the 42-acre Joseph M. Montoya Campus is in the Northeast Heights. Classrooms, libraries and laboratories are modern and comfortable. Each student has access to state-of-the-art equipment, especially computers.

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. T-VI also cooperates with other two- and four-year schools on course articulation and student transfer.

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 programs, facilities and services are accessible to the handicapped.

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 degrees Associate in Applied Science, Associate in Arts and Associate in Science, 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, 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 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.

Equal Opportunity Policy

The Albuquerque Technical-Vocational Institute, in compliance with Title VI of the Civil Rights Act of 1964, Title IX of the Education Amendments of 1972 and Section 504 of the Rehabilitation Act of 1973, does not discriminate on the basis of gender, race, color, national origin, creed, religion, age, physical or learning disability or medical condition in any of its policies, practices or procedures. The provision includes, but is not limited to, admissions, testing, employment, 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, Personnel Office, Main Campus, 2018 Coal Place SE, 224-4600.

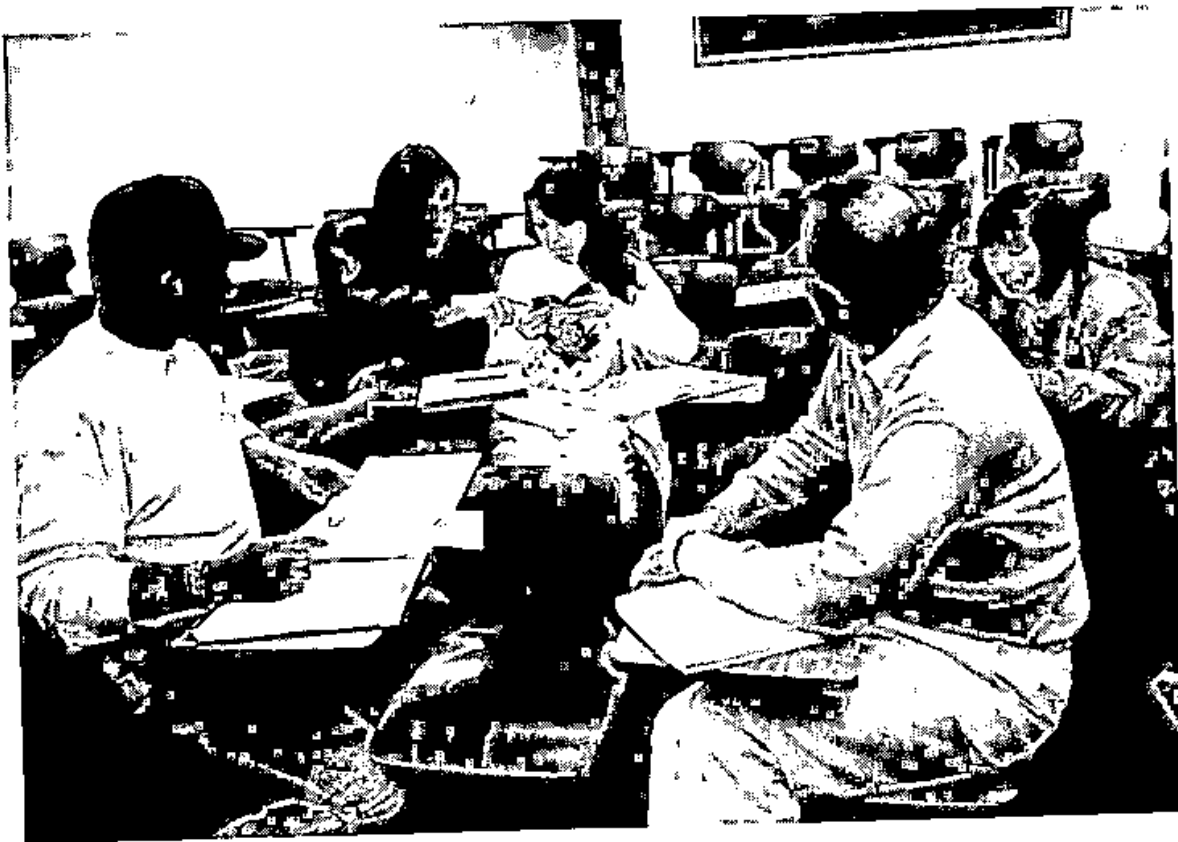
General Education Statement

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.



1992 - 1993 Academic Calendar

Fall Term, 1992

Classes begin	September 1
Labor Day holiday (no classes)	September 7
Last day to enroll	
Full term classes	September 8
Short session classes	third day of the session
Last day to change from:	
audit to CR/NC or a traditional grade or	
CR/NC to a traditional grade	
Full term classes	September 8
Short session classes	third day of the session
Applications for fall graduation due	September 15
Employee Professional Development Day (no classes)	October 23
Last day to change to audit	
Full term classes	October 30
Short session classes	Friday after mid-point of the class
Midterm	October 30
Last day to withdraw	
Full term classes	November 6
Short session classes	Friday after mid-point of the class
Thanksgiving holiday (no classes)	November 26 - 27
Last day (consult department for details)	December 18

Winter Term, 1993

Classes begin	January 5
Last day to enroll	
Full term classes	January 11
Short session classes	third day of the session
Last day to change from:	
Audit to CR/NC or a traditional grade or	
CR/NC to a traditional grade	
Full term classes	January 11
Short session classes	third day of the session
Martin Luther King Day (no classes)	January 18
Applications for winter graduation due	January 19
Presidents' Day (no classes)	February 15
Last day to change to audit	
Full term classes	February 26
Short session classes	Friday after mid-point of the class

Midterm February 26
 Last day to withdraw
 Full term classes March 12
 Short session classes Friday after mid-point of the class
 Graduation April 17
 Last day (consult department for details) April 21

Summer Term, 1993

Classes begin May 3
 Last day to enroll
 Full term classes May 7
 Short session classes third day of the session
 Last day to change from:
 Audit to CR/NC or a traditional grade or
 CR/NC to a traditional grade
 Full term classes May 7
 Short session classes third day of the session
 Applications for summer graduation due May 14
 First day, A&S 12-week session May 17
 Memorial Day holiday (no classes) May 31
 Last day to change to audit
 Full term classes June 25
 Short session classes Friday after mid-point of the class
 Midterm June 25
 Independence Day holiday (no classes) July 5 - 6
 Last day to withdraw
 Full term classes July 9
 Short session classes Friday after mid-point of the class
 Last day, A&S 12-week session August 6
 Last day (consult department for details) August 18



A Community College



Graduate Job Placement, 1991

	TOTAL GRADUATES	Could Not Locate	Not Seeking Employment	Continuing School	AVAILABLE FOR WORK	Employed in training-related job	Unemployed but seeking	Percent employed (training-related job; graduates available)	Working in New Mexico	Working out of state	Average hourly rate in training-related jobs	Average annual salary in training-related jobs based on 40-hour work week
BUSINESS OCCUPATIONS												
Accounting	14	-	2	2	12	8	4	67%	7	1	\$6.97	\$14,505
Accounting, AAS	55	3	9	6	43	37	6	86%	36	1	\$6.77	\$14,085
Bookkeeping	4	1	2	2	1	-	1	-	-	-	-	-
Business Administration	29	5	11	9	13	9	4	69%	9	-	\$6.24	\$12,986
Business Administration, AAS	36	6	8	3	22	17	4	77%	17	-	\$6.78	\$14,106
Legal Assistant Studies, AAS	48	1	14	6	33	31	2	94%	30	1	\$8.85	\$18,401
Sales and Cashiering	20	2	5	4	13	11	2	85%	11	-	\$4.48	\$9,315
Secretarial Studies	26	1	7	4	18	15	3	83%	15	-	\$6.46	\$13,440
Secretarial Studies, AAS	23	-	7	2	16	14	2	88%	13	1	\$7.86	\$16,349
HEALTH OCCUPATIONS												
Health Unit Clerk	42	4	12	4	26	22	4	85%	22	-	\$6.00	\$12,477
Licensed Practical Nurse Refresher	21	5	6	2	10	9	1	90%	9	-	\$8.97	\$18,669
Medical Lab Technician, AS	8	-	-	1	8	8	-	100%	8	-	\$9.50	\$19,763
Nursing, AS	110	5	2	1	103	102	1	99%	101	1	\$12.67	\$26,346
Nursing Assistant	84	21	12	10	51	43	8	84%	41	2	\$5.90	\$12,268
Nursing Home/Home Health Atten.	40	9	10	3	21	20	1	95%	20	-	\$5.42	\$11,283
Phlebotomist	31	1	10	9	20	19	1	95%	19	-	\$6.16	\$12,819
Practical Nurse	10	1	3	4	6	6	-	100%	6	-	\$8.34	\$17,354
Respiratory Therapy Technician	19	-	2	7	17	17	-	100%	17	-	\$9.55	\$19,863

TECHNOLOGIES												
Arch/Eng Drafting Technology	14	1	8	8	5	2	3	40%	1	-	\$6.75	\$14,040
Arch/Eng Drafting Tech., AAS	18	-	4	3	14	9	5	64%	8	1	\$8.26	\$17,191
Bus Comp Programming Tech	32	1	3	2	28	17	11	65%	15	2	\$8.64	\$17,969
Design Drafting Eng. Tech., AAS	6	1	1	1	4	3	1	75%	3	-	\$10.37	\$21,560
Electromechanical Drafting, AAS ¹	2	-	-	-	2	2	-	100%	2	-	\$13.00	\$27,040
Electronics Eng. Tech., AAS	15	-	2	2	13	12	1	92%	12	-	\$8.24	\$17,149
Electronics Technology	34	3	11	11	20	11	9	55%	10	1	\$7.76	\$16,142
Electronics Technology, AAS	13	1	2	3	10	9	1	90%	9	-	\$9.53	\$19,816
Instrumentation/Control Tech.	17	1	4	2	12	9	3	75%	9	-	\$8.81	\$18,327
Instrum./Control Tech., AAS	26	2	2	2	22	14	8	64%	14	-	\$9.58	\$19,920
Laser Electro-Optic Tech.	11	1	3	3	7	5	2	71%	4	1	\$9.13	\$19,000
Laser Electro-Optic Tech., AAS	6	-	1	1	5	5	-	100%	4	1	\$9.35	\$19,450
TRADES												
A/C, Heating, Refrigeration	29	3	5	2	21	20	1	95%	18	2	\$6.38	\$13,721
Automotive Body Repair	8	-	2	1	6	6	-	100%	6	-	\$5.29	\$11,003
Automotive Technology	24	1	4	2	19	16	3	84%	15	-	\$5.47	\$11,384
Baking	15	1	9	7	5	5	-	100%	5	-	\$4.97	\$10,338
Carpentry	21	-	7	4	14	12	2	86%	12	-	\$5.78	\$12,012
Commercial Printing	16	3	5	4	8	5	3	63%	5	-	\$5.50	\$11,440
Criminal Justice	9	1	5	5	3	3	-	100%	3	-	-	-
Criminal Justice, AAS	9	2	2	1	5	4	1	80%	4	-	\$13.50	\$28,080
Diesel Mechanics	16	1	1	-	14	12	2	86%	10	2	\$7.03	\$14,617
Electrical Trades	30	1	7	3	22	19	3	86%	19	-	\$6.18	\$12,864
Environmental Protection Tech	3	-	1	-	2	-	-	-	-	-	-	-
Fire Science	4	-	1	-	3	3	-	100%	3	-	-	-
Fire Science, AAS	5	-	1	1	4	3	1	75%	3	1	\$11.80	\$24,544
Machine Tool Technology	31	-	1	-	30	29	1	97%	28	-	\$6.11	\$12,714
Plumbing	17	1	8	3	8	8	-	100%	8	-	\$7.91	\$16,454
Quantity Food Preparation	34	1	9	6	24	23	1	96%	23	-	\$5.46	\$11,351
Sportcraft/Small Engine Mech	4	-	1	-	3	3	-	100%	2	1	\$6.26	\$13,013
Truck Driving ²	38	1	3	1	34	32	2	94%	14	18	-	-
Welding	12	1	4	1	7	7	-	100%	7	-	\$7.42	\$15,440
TOTAL	1,139	93	239		807	696		86%				

¹ Not offered as separate program; past graduates may return to complete degree.

² Compensation based on miles driven

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

Admission

Admission is the process of applying and being accepted to T-VI. Registration (see page 20) is the process of selecting courses, receiving a schedule of classes and completing enrollment at T-VI.

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: in January, May and September. Students may enter T-VI for any term but are urged to apply for admission at least two months before the registration date for that given 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, persons who interrupt their programs may not be able to resume their studies at the time they want, because the classes they need may not be offered every term.

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 equivalency certificate; or
- Have completed high school; or

T-VI has an open admission policy which provides all interested individuals the opportunity to enroll.

■ Be excused from attending a secondary school under New Mexico's compulsory attendance law; or

■ Qualify under Concurrent Enrollment.

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

ADMISSION CATEGORIES: A student's admission category is determined by the student's primary goal for taking courses at T-VI. The categories are:

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 the Institute in non-degree status may apply to change to certificate/degree status and to transfer credits earned in non-degree status by completing a Change of Major form.

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

Concurrent Enrollment: Qualified high school juniors and seniors can enroll in vocational and academic courses offered by T-VI. Admission for concurrent enrollment is in non-degree status and does not mean admission to a certificate and/or degree program at T-VI. Credits earned as a non-degree student may be applied toward a certificate and/or degree only after the student has been fully accepted into a program at T-VI. Information regarding the Concurrent Enrollment program and specific admission requirements is available at the Admissions Office at either 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:

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

1. Application for Admission

a. Complete a T-VI Application for Admission form, available from the Admissions Office in Jeannette Stromberg Hall on the Main Campus or Tom Wiley Hall at the Montoya Campus. (Students interested in a Health Occupations program must apply at the Main Campus.) The admissions offices are open Monday through Thursday, 8 a.m. to 6:30 p.m., and Friday 8 a.m. to 5 p.m. (Extended hours for peak registration periods are published in the schedule of classes.)

b. Return the application to the Admissions Office at Main or Montoya Campus. The application may be mailed 30 days before the term begins; after that, it must be hand delivered to the Admissions Office.

2. 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. Counselors are available in each of the instructional departments. Students are encouraged to consult with their department counselor for assistance.

3. Program and Course Placement

a. **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.

b. **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.

c. **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 will be required to provide proof through transcripts or test scores. Certain Health Occupations students are required to take the American College Test (ACT) prior to admission. The Institute has established the following cutoff scores for the ACT:

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

ACT and SAT scores may not be more than five years old. Placement advisement test scores may not be more than one year old.

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

Returning Students: 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 or students who have attended other colleges or universities while absent from T-VI will be required to complete a new admissions application.

Establishing Credit

Transfer of 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. Questions regarding the acceptance of transfer credit should be addressed to the student's department counselor or the Admissions Office.

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 is offered. The student should contact the department counseling office to initiate the transfer process.

Credit by Examination

Occupational Challenge Exams

Challenge examinations have been developed for several courses in Business Occupations, Health Occupations and Technologies, and for all courses in Trades & Service Occupations. There is a \$15 fee per exam. Information 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.

Challenge Exams

Exams are scheduled during the last week of each term in:

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 below.

- 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.
- Present a picture I.D. at the exam site.

The following restrictions apply:

- A student may attempt a challenge only once per course.
- A student may not use the challenge exam to improve a previously recorded grade, and may not take the exam if previously enrolled in the course beyond the second week of a term 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 GPA. Courses successfully challenged may count toward graduation but not the residency requirement.
- Challenge exam credit might not be accepted by other post-secondary institutions.

Advanced Placement

T-VI Course	AP Exam	Minimum Score	Credit Hours
ART 101	Art History	4	3
BIO 121L/122L	Biology	3	8
CHEM 121L/122	Chemistry	3	8
CSCI elective	Computer Science	4	4
ENG 101, 102	English Language & Composition	3	6
ENG 101, 102	English Literature & Composition	3	6
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,
- Original scores forwarded to the student,
- 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 121L/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,
- Original scores forwarded to the student.

The student's T-VI transcript will reflect a trade of TR (credit) for courses with acceptable CLEP or AP scores. TR grades are not computed in the student's GPA. Credits count toward graduation but not the residency requirement.



Registration

Students are required to register for each term in which they plan to enroll. 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 early mail-in registration. Late 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, 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;
- 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.

Prerequisite Courses: Before a student may enroll for credit or audit in a course which has prerequisites, the prerequisite courses must be completed satisfactorily. 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 from the Admissions Office at either campus, department deans' offices and department counseling offices. Permission of an instructor to enroll does not constitute a waiver of a course nor does it grant credit for another course.

Changes in Enrollment

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 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.

Auditing Courses: Changes from audit to either a traditional letter grade or CR/NC must be made by the fifth day of a full term or the third day of a short session. A change to audit must be made by midterm of a full term or the Friday after the midpoint of a short-session course.

Credit/No Credit: A change from CR/NC to a traditional letter grade must be made by the fifth day of a full term or the third day of a short session. A change from a traditional grade to CR/NC must be made by midterm of a full term or the Friday after the midpoint of a short-session course.

"Stepbacks": Students may "step back" into a Developmental Studies course (in the same discipline) through the third week of the term. A student who is having difficulty in a class and is considering this option should contact the department counselor.

Change of Major: Students may change their major (program) at any time during the term. All changes submitted prior to midterm will be effective for that term; changes submitted after midterm will be effective in the next term.

Dropping Courses or Withdrawing: Students wishing to drop a course or withdraw from T-VI must do so by completing an official form. Drop and Withdrawal forms are available from department counseling and admissions offices.

Courses dropped on or before the 15th day of the term (including Saturdays) do not appear on an official T-VI transcript. A grade of W will appear on the student's record for a class dropped after the 15th day. Full-term courses may not be dropped after Friday of the 10th week of the term; short-session courses cannot be dropped after 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 38). Students who are not officially dropped from a course and not in attendance at the time of final exams will receive a final grade in the 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 in 1992 - 93. 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	\$ 189	\$ 377	\$ 566
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 for N.M. Residents	\$1,995	\$3,990	\$5,985
Non-Resident Total	\$2,622	\$5,244	\$7,866

For Students With Rent/Mortgage Expenses

	1 Term	2 Terms	3 Terms
Tuition, Fees	\$ 189	\$ 377	\$ 566
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 for N.M. Residents	\$3,977	\$7,954	\$11,931
Non-Resident Total	\$4,604	\$9,208	\$13,812

These figures are estimates and are subject to change without notice. See pages 24 - 26 for specific information about 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 student's residency classification may be changed upon submission of a petition for New Mexico residency. Non-resident students who believe they have satisfied requirements for establishing New Mexico residency may file a petition in the Records Office at either campus. 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 RESIDENCY 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 residence 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. Full tuition and fees are required for courses added after the beginning of the term. Payment deadlines are printed in the schedule of classes each term. Failure to pay all charges in full will result in the deletion of unpaid courses from 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 for all types of courses.

Tuition: Tuition rates for 1992 - 93 (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	\$24 per credit hour	\$67 per credit hour
12 to 18 credit hours	\$288	\$804
<i>Occupational courses</i>		
1 to 11 credit hours and more than 18 credit hours	none	\$67 per credit hour
12 to 18 credit hours	none	\$804

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 and/or tools are issued early in the program and become 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, tool and lab fees for 1992 - 93 are:

Arts & Sciences

BIO	111L	\$20	BIO	247L	\$20
BIO	115L	\$20	BIO	248L	\$20
BIO	121L	\$20	BIO	260L	\$20
BIO	122L	\$20	CHEM	112L	\$20
BIO	124L	\$20	CHEM	121L	\$20
BIO	139L	\$20	CHEM	122L	\$20
BIO	200L	\$20	CHEM	130L	\$20
BIO	223L	\$20	PHYS	153L	\$20
BIO	224L	\$20	PHYS	154L	\$20
BIO	231L	\$20	PHYS	163L	\$20
BIO	239L	\$20			

Business Occupations

AA	101	\$15	BA	156	\$ 5
AA	102	\$20	BA	157	\$ 5
AA	103	\$20	BA	158	\$ 5
AA	104	\$20	BA	255	\$15
AA	111	\$ 5	BA	257	\$15
AA	133	\$10	CR	103L	\$ 5
AA	136	\$10	CR	104L	\$ 5
AA	201	\$10	CR	204L	\$ 5
AA	207	\$20	CR	205L	\$ 5
AA	230	\$ 5	CR	206L	\$40
AA	234	\$10	CR	250L	\$40
AA	250	\$15	CR	260	\$40
ACCT	254	\$15	LAS	231	\$15
ACCT	255	\$15			
BA	150	\$15	BOLC (all courses)		\$40
BA	151	\$ 5			
BA	152	\$ 5			
BA	153	\$ 5			
BA	154	\$ 5			
BA	155	\$ 5			

Health Occupations

<u>Course</u>	<u>Equipment</u>	<u>Supply</u>	<u>Lab</u>
NURS 124C	\$86		
NURS 225C	\$10		
NURS 224C	\$10		
Advanced Placement ADN	\$12		
RT 210	\$20		
RTT 110	\$90		
HUC 150C		\$10	
LPNR 155L		\$25	
RNR 255L		\$25	
HUC 121C	\$30		
MLT 110L	\$53		
MLT 112L			\$20
MLT 201L			\$20
MLT 202L			\$20
MLT 203L			\$20
NA 110L	\$33		
PRNS 255L		\$25	
PHLB 101L	\$50		
EMS 160L	\$25	\$15	
CDV 203	\$10		

Technologies

ARDR 101	\$15	CP 270L	\$10
ARDR 105A	\$15	CP 271L	\$10
ARDR 105B	\$15	CP 273L	\$10
ARDR 105L	\$15	CP 276	\$10
ARDR 106L	\$15	DDET 106L	\$15
ARDR 118L	\$15	DDET 114L	\$15
ARDR 207L	\$15	DDET 115L	\$15
ARDR 218L	\$15	EET 107L	\$15
ARDR 273	\$15	EET 113L	\$15
ARDR 295	\$15	ELEC 103A	\$15
CP 101A	\$10	ELEC 103L	\$15
CP 101L	\$10	ELEC 116L	\$10
CP 111A	\$10	ELEC 204L	\$10
CP 111L	\$10	ELEC 217	\$15
CP 174L	\$10	ELEC 276L	\$15
CP 175L	\$10	IC	\$15
CP 176L	\$10		\$15

Trades & Service Occupations

ACHR 101L, 102L or 103L	\$99 (tool fee)
ACHR 111L, 112L or 113L	\$77 (tool fee)
ACHR 201L, 202L, 203L or 204L	\$77 (tool fee)
AUBO 102L, 103L, 104L, 105L or 106L	\$110 (tool fee)
AUBO 112L, 113L, 114L, 115L, 116L or 117L	\$82 (tool fee)
AUBO 202L, 203L, 205L, 206L or 207L	\$55 (tool fee)
AUTC 101L, 102L, or 103L	\$110 (tool fee)
AUTC 111L, 112L or 114L	\$99 (tool fee)
AUTC 201L, 202L or 203L	\$99 (tool fee)
BKNG 103L, 104L, 105L, 106L or 107L	\$110 (tool fee)
BKNG 112L, 113L, 114L, 115L, 116L or 117L	\$ 33 (tool fee)
CARP 102L, 103L, 104L, 105L or 172L	\$110 (tool fee)
CARP 112L, 113L, 114L or 115L	\$77 (tool fee)
CMPR 103L, 104L, 105L, 106L or 107L	\$33 (tool fee)
DETC 103L, 104L or 105L	\$143 (tool fee)
DETC 113L, 114L or 115L	\$143 (tool fee)
DETC 201L, 202L or 203L	\$110 (tool fee)
ELTR 103L, 104L, 105L or 177L	\$110 (tool fee)
ELTR 114L, 115L or 116L	\$94 (tool fee)
ELTR 204L, 205L or 206L	\$55 (tool fee)
ELTR 213L, 214L or 215L	\$55 (tool fee)
MATT 103L, 104L, 105L or 106L	\$110 (tool fee)
MATT 114L, 115L or 116L	\$88 (tool fee)
MATT 204L, 205L or 206L	\$77 (tool fee)
PLMB 101L, 102L, 103L, 106L or 173L	\$110 (tool fee)
PLMB 111L, 112L, 113L or 114L	\$77 (tool fee)
QUFD 103L, 104L, 105L or 106L	\$110 (tool fee)
QUFD 112L, 113L, 114L, 115L, 116L or 117L	\$88 (tool fee)
SCSE 102L, 103L or 104L	\$110 (tool fee)
SCSE 112L, 113L, or 114L	\$105 (tool fee)
SCSE 202L, 203L, 204L or 205	\$99 (tool fee)
TRDR 101	\$110 (supply fee)
WELD 104L, 105L, 106L, or 107L	\$110 (tool fee)

Books: Students must purchase their own textbooks for Arts & Sciences courses, Business Occupations courses, some associate degree programs, Practical Nursing, Criminal Justice, Fire Science, Food Service Management and Environmental Protection Technology, as well as evening and elective courses for Trades & Service Occupations.

Books are loaned free to students in developmental and many occupational classes but must be paid for if lost or damaged. Students must pay a \$25 textbook deposit when they register for classes. The deposit is refunded if the student returns all textbooks in good condition and applies for the refund within one year. The cost of lost or damaged books is deducted from the deposit, and the student is required to redeposit the \$25 before registering for another term.

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 or who do not submit an application for the term in which graduation requirements are completed.

Refunds

Registration Fee: The registration fee is a processing charge and is refundable only if T-VI cancels all classes in which a student has registered.

Tuition: Tuition is refundable only if T-VI cancels a class or if the student withdraws before the 10th day of classes. Tuition refunds after the term begins are pro-rated as follows:

Withdrawal prior to the start of the term	100%
Withdrawal during the first five days of the term	90%
Withdrawal during the second five days of the term	80%

Fees: Supply and lab fees are not refundable after the term begins. Equipment and tool fees are not refundable after equipment and/or tools are issued.



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 Singlefile Form or an Application for Federal Student Aid (AFSA). 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 from 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 to help students complete financial aid applications at both offices.

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, because 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 either Financial Aid Office.

T-VI, the U.S. government and the state of New Mexico all contribute money to help needy students pursue a higher education.

General Eligibility Requirements

To receive financial aid students must meet all of the following eligibility requirements:

- Enroll at least half time (six credit hours or more) as a regular student in an eligible program (see the *T-VI Financial Aid Guide* or contact the Financial Aid Office for a list);
- 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; and
- If receiving a Pell Grant, certify that he or she will not engage in the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance.

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 a student is eligible to receive, a financial aid package is assembled to fit his or her needs.

Pell Grant: This program provides federal grants to students who have not received a bachelor's degree. Pell Grant awards range from \$200 to \$2,400 per year, depending on a student's enrollment status and Pell Grant Index number. Students may pick up their Pell Grant checks on the last class day of the first month of each term. Supplemental distributions are scheduled on the last class day of each month for students whose financial aid file was not complete by the regular distribution date.

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.

Stafford Loan (formerly GSL): Because loan eligibility is based on need, students must apply for a Pell Grant before filling out a Stafford Loan application. Students may borrow up to \$2,625 per year, but they will not receive the full amount of their Stafford Loan until one half of their loan term has expired. A list of participating lenders is available at the Financial Aid Office. The current interest rate is 8 percent. Students must begin to repay the loan when they leave school or when they drop below half-time status. The minimum monthly payment is \$50 per month.

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 students must have either a high school diploma or GED (General Educational Development) certificate; therefore, students admitted under ability to benefit are not eligible to receive an SLS. All first disbursements of SLS loans are made 30 days after the term begins. All second or third disbursements of SLS loans are generally made on the 16th 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 borrow up to \$2,500. Students enrolled in a one-term program may borrow up to \$1,500.

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. PLUS loans are generally disbursed directly to the student's parents each term.

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 16th 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: College 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 for 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 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 Menaul NE, 87112, 841-4560; 3311 Candelaria NE, 87107, 841-8800; 2929 Coors NW, Suite 102, 87120, 841-8752.

Job Training Partnership Act: 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, 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 16th 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, S = 3.0, PR = 2.0, U = 0, I = 0, Credit = 2.0, No Credit = 0.

W, AU, and TR are not counted. 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 90 attempted credit hours. Students enrolled in a program that requires 80 credit hours or more must complete their 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; Developmental Studies hours are excluded. In addition, students may not receive financial aid for more than 30 credit hours of attempted preparatory course work.

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.

Enrollment Status	Minimum Number of Credit Hours That Must Be Completed Per Term
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

These figures do not necessarily reflect what a student should complete to finish a program within 90 credit hours. 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 dropped class.

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 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 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 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 the student 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.

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

Refunds: If a student withdraws from school, the student may be due a refund depending on when he or she withdrew. 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: The Financial Aid Office distributes the assigned portion of a student's refund or repayment to loan programs first, then to the largest component of the applicable Title IV programs. The allocated portion will not exceed the amount that the student received from a program. In the case of SLS, PLUS or Stafford Loan programs, assigned portions will be returned to the student's lender.



Academic Regulations

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

Definition of 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

- **Sophomore:** A student who has completed 30 or more credits

- **Part-time:** A student carrying fewer than 12 credit hours

- **Full-time:** A student carrying 12 or more credit hours

Identification Cards: Each term a student is enrolled at T-VI, he/she is issued a student identification card by the Cashier's Office upon payment of tuition and fees. Replacement cards can be obtained at the student's department counseling office. 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 programs.)

Grades

Progress reports (grades) are given at midterm. These grades are not a part of the student's permanent record. Final grades are issued at the end of each term and are 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, 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 pages 16 - 19).

Grade Options

Audit: Students may enroll for a course or courses for audit (no credit). 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. Students may register in any occupational or Arts & Sciences course for audit if they have met the prerequisite(s) for the course. Students may not enroll in Developmental Studies courses for audit.

Credit/No Credit: Students may elect to take designated courses for credit/no credit (CR/NC) rather than for a traditional letter grade of A,B,C,D or F. A maximum of nine credit hours graded CR/NC will be allowed toward certificates or associate degrees. CR/NC is *not* an option for General Honors courses, some Business Occupations courses and all Technologies and Trades & Service Occupations courses.

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 opt for the CR/NC grade and who do not satisfactorily complete the 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: With the exception of students in the associate degree in pre-management program, students who took courses under the CR/NC option while in one major will not be penalized if they change majors and wish to use the courses in the new major. Courses with grades of CR will not be allowed in the pre-management associate degree program.

Warning: Certain consequences may result from exercising 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 when computing a grade point average. 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 completed as follows:

- I grades can be removed only during the first two weeks of the following term.

- Removal of an I is accomplished by completing the work in a manner acceptable to the instructor.

- 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 grade point average. If a course is taken once for a letter

grade and once for credit/no credit, the letter grade will be used in calculating the student's GPA. This change in policy does not affect 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 from 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 graded A,B,C,D or F.

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. 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 and on the student's official T-VI transcript.

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 full 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. Academic suspension also appears on the student's official T-VI transcript.

If a suspended student has preregistered for the next term, his/her class 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 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 though there may not be a 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 program they wish to pursue:

- An overall cumulative grade point average of 2.0 or better and completion of all program and course requirements.
- Completion of the last term of coursework 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.

No more than nine credit hours of CR will be counted toward certificates or degrees.

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 program must submit an application for each program 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 or who do not submit an application for the term in which graduation requirements are completed 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 which was in effect when they entered the program or any subsequent catalog, provided the selected catalog is not more than five years old when the degree or certificate requirements are completed and provided 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 must be registered for courses past the 15th day (including Saturdays) of each successive term (excluding the summer term). No record is kept of a student's enrollment if he/she withdraws prior to that date.

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, 513). 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 Campus.

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 their 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 guardian of students under 18.

Academic Honesty: Students who alter or attempt to alter any Institute records are subject to dismissal, refusal of readmission or loss of Institute services.

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 Campus 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, registrar or dean of student services. 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 Admissions Office on the Montoya Campus. 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 on the Montoya Campus. 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 on the Montoya Campus.

Student Services

Counseling and Advisement

Professional counselors in the admissions areas and individual departments at both campuses 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; and
- services to students with special needs

The Special Populations department of Student Services 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 developmental, certificate and associate degree courses, limited curriculum adjustments can be made to accommodate handicapping conditions. Follow-up services such as counseling, tutoring and job-seeking help are also provided.

Counselors provide comprehensive support services to enhance students' educational experience.

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

Testing Services

T-VI's Testing Centers, in Stromberg Hall on Main Campus and Wiley Hall at Montoya, offer a variety of tests, most free of charge. Among the examinations available are:

ACT: This exam is given at T-VI *only* for certain Health Occupations programs. ACT scores from any student are accepted for placement in certain courses. The ACT fee and a T-VI registration fee (for either the current or next term) must be on file prior to scheduling the exam. The fees are not refundable. All fees must be paid and scheduling arrangements made at least 24 hours in advance of the exam. Information about the ACT and free study guides are available in the Testing Centers.

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. No fee is required.

GED Exam: Anyone at least 17 years old who is not enrolled in high school may take the General Educational Development exam 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 283.

Math 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.

Re-testing Procedure: 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 ACT and GED, which are 60 days. There is no waiting period for career advisement or aptitude exams. Students are advised to brush up at the Tutorial/Learning Center, located adjacent to the library at both campuses, prior to re-testing.

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

Exams Honored: T-VI honors AP, SAT and CLEP scores but does not administer these exams. For further information contact the Testing Center. Also see pages 18 - 19.

Library, Audiovisual and Tutoring Services

These services are open to all students and in most cases to the public as well.

When school is in session, the libraries and AV are open from 7 a.m. to 9:30 p.m. weekdays except Friday, when they close at 5 p.m., and Saturdays from 8 a.m. to 5 p.m. When school is not in session, hours are 8 a.m. to 5 p.m. Monday through Friday.

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.

Audiovisual Services: Audiovisual Services maintains T-VI's 16mm 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 Audiovisual Service (AVS) is on the third floor of Jeannette Stromberg Hall. At Montoya, AV is in K Building.

Tutorial/Learning Centers: Located adjacent to the libraries on each campus, the centers' open-entry labs provide individualized assistance, videotaped lectures and other media, and self-paced learning materials. Each center maintains a registry of tutors available throughout the campus.

The centers are open to the public, offering self-paced computer literacy, academic skills improvement and test preparation.

Adult Education Learning Laboratory: Located at 901 Buena Vista SE, BV-20, this drop-in lab offers individualized instruction and independent study in reading, math, language arts, English as a second language, GED and Spanish GED. Although special assistance is available for students who speak English as a second language and for those preparing to take the GED exam, the lab is open to all T-VI students.

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

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 students and graduates. The job listings are posted in labs and on bulletin boards and also are available in the Student Job Placement offices. The Main Campus office is at 616 Buena Vista SE, and the Montoya liaison office is in Room H-128. Hours are 8 a.m. to 5 p.m. Monday through Friday.

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 programs.)

Campus Services

Food: The Main Campus has two food facilities: in Room 35 of the A Building and in Room 125 of Smith Brasher Hall.

The A-35 facility includes a bakery, which is open Tuesday, Wednesday and Thursday mornings when classes are in session; a culinary arts line serving luncheon entrees, open Tuesday, Wednesday and Thursday during the term from 11:15 a.m. to 12:15 p.m.; and a snack bar serving short-order meals and snacks on school days from 7 a.m. to 3:30 p.m. and from 5:30 to 8:30 p.m.

The Smith Brasher Hall facility includes a snack bar serving short-order meals and snacks on school days from 7 a.m. to 2 p.m. and a culinary arts dining facility, Student Spécialties, serving gourmet meals Tuesday through Thursday at 6 p.m. by reservation only.

The Montoya Campus has a snack bar in the H Building serving food in the mornings and evenings when school is in session.

Vending machines are available in the snack bars and at other locations on both campuses.

Books: 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 Bookstore, in the A Building, is open from 8 a.m. to 6:30 p.m. Monday through Thursday and 8 a.m. to 4:30 p.m. Friday. The Montoya Campus Bookstore, in Tom Wiley Hall, is open from 8 a.m. to 5 p.m. Monday through Friday. Rush hours during the first week of every term are 8 a.m. to 8 p.m. Monday through Thursday and 8 a.m. to 4:30 p.m. Friday at the Main Campus store and 8 a.m. to 7 p.m. Monday through Thursday and 8 a.m. to 5 p.m. Friday at the Montoya store.

Due to state tax law, the T-VI Bookstores are not open to the general public.

Health Care: The Health Center, located in Room 126 of the A Building on Main Campus, is open weekdays from 8 a.m. to 5 p.m. Basic primary care services are offered, including physical examinations, care for acute conditions and various laboratory tests. Services are free except for complete physical exams with lab tests (including physicals required for T-VI programs). 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.

Students may purchase health insurance from a private provider. Details are available in the Student Services Office.

Personal Property: T-VI is not responsible for property loss or damage or for personal injuries.

Lockers are available in many campus buildings. Any student may use an empty locker by providing a lock for it. The lock and locker contents must be removed by the last day of the term, when a student is no longer enrolled or when otherwise necessary. Locks remaining on lockers during a term break or for more than five days after a student has left school are cut off and the locker contents removed. Students then have 30 days to claim their possessions in the lost-and-found offices.

Lost-and-found offices are in the NT Building and in T-107 on Main Campus and in Tom Wiley Hall on the Montoya Campus.

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 for \$19 from the Cashier's Office at either Main or Montoya campus. Term bus passes are also available at a discounted price.

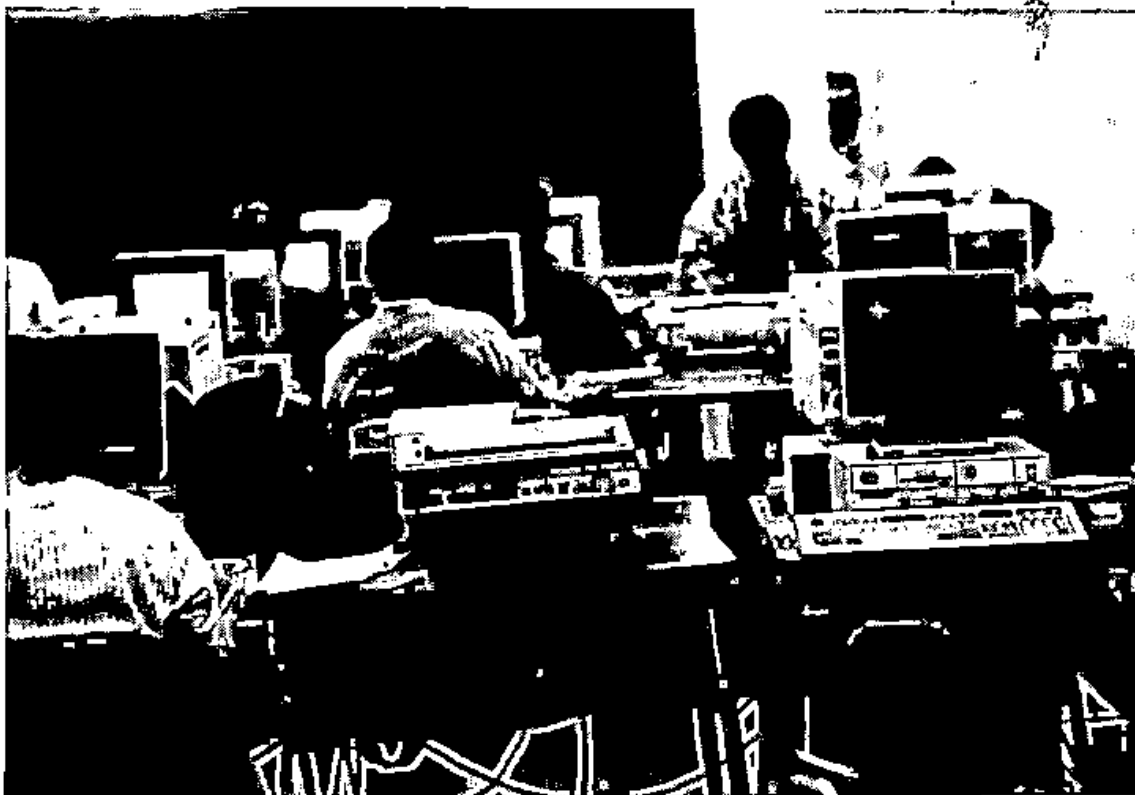
Students attending at least half time (six credit hours) with a 2.0 grade point average or higher may purchase a discounted bus pass for \$9.50 at the Cashier's Office.

Shuttle Bus: A free shuttle bus makes hourly trips between the Main and Montoya campuses while classes are in session. Schedules are available in Student Services.

Activities

Associations: T-VI has a chapter of Phi Theta Kappa, the national honor society for two-year colleges. T-VI also sponsors chapters of VICA (Vocational Industrial Clubs of America), Delta Epsilon Chi (DECA) and the Institute of Management Accountants.

Activities: Students may establish extracurricular clubs or activities if at least 15 students are interested, if a faculty or staff member serves as sponsor and if needed facilities can be located at a reasonable cost. Several clubs now exist, and membership is open to all interested students. For more information, contact the Dean of Student Services.



Campus Conduct

Substance Abuse

T-VI has committed its resources to creating an environment that fosters learning. Such an environment depends in part on the physical, emotional and social well-being of T-VI students and staff. 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.*

This policy covers all property and facilities owned, used, leased or controlled by T-VI and any other site where T-VI business is being conducted, including motor vehicles.

Controlled substances include, but are not limited to, marijuana, hashish, cocaine (including crack), amphetamines, heroin, PCP, hallucinogens, anabolic steroids, certain prescription drugs and certain controlled substance analogs. Possession, use, sale or trafficking of controlled substances and glues is prohibited and punishable as a crime.

Illegal uses of alcohol include, but are not limited to, serving, buying or drinking alcohol by a minor; assisting a minor or an intoxicated person to get alcohol; selling alcohol without a license and driving while under the influence. Possession of alcohol is prohibited on all T-VI properties and in T-VI vehicles.

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 employment, all T-VI instructors and staff shall abide by the terms of this policy. Violations of this policy shall result in disciplinary action, up to and including dismissal.

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.

T-VI's response to any violation of this policy may include, as a total or partial alternative to disciplinary action, a requirement that the employee or student participate satisfactorily in an approved substance-abuse treatment or rehabilitation program as a condition of continued employment or registration/enrollment.

In recognition of the dangers of substance abuse in the workplace, T-VI shall maintain alcohol and drug-free awareness programs to inform members of the campus community about issues and risks of substance abuse. Counseling and treatment referral resources are available through the T-VI Health Center.

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.

Substance Abuse/Disruptive Behavior Appeal: A student suspended or dismissed for disruptive behavior or found in violation of the Institute's substance abuse policy may appeal the case to the department dean or, in the case of non-degree students, to the dean of student services.

The student must appeal in writing within three school days of the suspension or dismissal. The dean shall appoint a review board of two instructors and one student to review the violations with the student involved. The hearing must be held within five working days after the student's request has been received by the dean. The student will be given the opportunity to present his/her version of the incident. The board will determine if the suspension or dismissal is upheld or if the student is to be reinstated. The board will inform the department dean of its findings and recommendations, and the dean will inform the student. The decision of the board is final.

If reinstated, the student will be placed on probation. In the case of substance abuse, the reinstated student also will be required to see a T-VI counselor for referral to professional help. The counselor will report periodically to the dean about the student's progress.

Other Regulations

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. The speed limit in all campus parking lots is eight miles per hour.

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.

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 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.



Developmental Studies

Preparatory Program
Main, Montoya
and University of New Mexico Campuses

The Developmental Studies Department offers day and evening courses at the T-VI Main and Montoya campuses as well as the University of New Mexico campus. The department also offers a specialized preparatory program, including courses, for students with disabilities.

Students may enroll in any combination of classes to meet their needs. The preparatory courses are designed to help students meet admission requirements for certificate and associate degree programs and for transfer to other degree-granting institutions.

Students also may take these classes to strengthen basic skills while they are enrolled in certificate and associate degree programs. Some courses are designed to help students acquire skills which are needed in the first term of occupational programs leading to a certificate.

College preparatory courses are ENG 100, RDG 100, MATH 100 and SCIE 100. These courses enable students to meet admission requirements for degree programs. Each follows a sequence pattern (for example, 099 courses may be prerequisites to 100 courses depending upon admission scores).

Courses taken in the Developmental Studies program are graded credit (CR), progress (PR) and no credit (NC). Courses may not be audited. The PR grade is not an option at UNM. 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

Students may enroll in any combination of classes to meet their needs.

on students' permanent records and may serve to fulfill prerequisites for required courses for a certificate.

Students who wish to enroll in Developmental Studies courses and receive financial aid as full-time students must enroll for at least 12 credit hours. The recommended course load is 13 credit hours. Students who are interested in financial aid should ask financial aid advisors whether their intended program in Developmental Studies qualifies them for financial assistance.

Recommended Preparatory Courses for Certificate Programs

	<i>Credit Hours</i>
Mathematics	4
Communications	3
Reading	3
Survey Class	3
Mini Course	1 - 2

Recommended College Preparatory Courses

Students who have not scored well on a placement exam and are seeking an associate degree or are planning to transfer to another college or university should enroll in appropriate preparatory courses. Similarly, students whose ACT scores do not meet their program requirements should enroll in the following preparatory courses:

	<i>Credit Hours</i>
ENG 100 Writing Standard English II	3
MATH 100 Elementary Algebra for College Students	4
RDG 100 College Preparatory Reading	3
SCIE 100 Scientific Reasoning	3

Basic Skills Courses

English Courses

ENG 091, Spelling
 ENG 094, Language Development
 ENG 098, Writing Standard English I *for Students with Limited English Proficiency*
 ENG 099, Writing Standard English I
 ENG 100, Writing Standard English II

Language Course

LANG 100, Spanish

Math Courses

- MATH 092, Introduction to the Scientific Calculator
(See Mini Courses/Short Sessions)
- MATH 094, Math Anxiety (See Mini Courses/Short Sessions)
- MATH 098, Basic College Arithmetic
- MATH 099, Basic College Mathematics
- MATH 100, Elementary Algebra for College Students

Reading Courses

- RDG 098, Reading Improvement *for Students with Limited English Proficiency*
- RDG 099, Reading Improvement
- RDG 100, College Preparatory Reading

Science Course

- SCIE 100, Scientific Reasoning

Course Descriptions

English

ENG 091—Spelling (3 cr)

(Corequisite: ENG 091L) This course helps students improve their spelling. Word structure and the rules of spelling are emphasized. This course meets three hours per week.

ENG 091L—Spelling (0 cr)

(Corequisite: ENG 091) This is a computer-assisted tutorial laboratory in which students will perform exercises coordinated with the spelling class. This lab meets one hour per week.

ENG 094—Language Development (6 cr)

This course improves basic communications skills: speaking, listening, reading and writing. Students learn how to follow oral and written instructions accurately and to write, spell and use English correctly. The course meets two hours per day.

ENG 098—Writing Standard English I *for Students with Limited English Proficiency* (3 cr).

(Corequisite: ENG 098L) This course is for students with limited English proficiency but with strong grammar and punctuation skills. Whereas ENG 099 emphasizes the grammar and writing mechanics of standard American English, ENG 098 teaches students correct English usage through the writing process. This course complements RDG 098 and fulfills the prerequisite for ENG 100. Students need a referral from a counselor or the English coordinator to enroll.

ENG 098L—Lab for Writing Standard English I for Students with Limited English Proficiency (0 cr)

(Corequisite: ENG 098) This course meets one hour per week to give students computer-assisted and one-on-one tutorial instruction as they write.

ENG 099—Writing Standard English I (3 cr)

(Prerequisite: ENG 094 or equivalent skills as demonstrated by exam; corequisite: ENG 099L) This course teaches the grammar, punctuation and usage of standard American English. Students will be expected to write short narrative and descriptive pieces. Satisfactory completion of ENG 099 meets prerequisite requirements for ENG 100.

ENG 099L—Lab for Writing Standard English I (0 cr)

(Corequisite: ENG 099) This course meets one hour per week to give computer-assisted and one-on-one tutorial instruction in correct grammar and punctuation usage.

ENG 100—Writing Standard English II (3 cr)

(Prerequisite: ENG 098, ENG 099 or equivalent skills as demonstrated by exam; corequisite: ENG 100L) This course reviews the conventions of standard American English. Students are also taught to write well-developed paragraphs within short essays. Satisfactory completion of ENG 100 meets prerequisite requirements for ENG 101.

ENG 100L—Lab for Writing Standard English II (0 cr)

(Corequisite: ENG 100) This course meets one hour per week to give students computer-assisted and tutorial instruction in paragraph development and essay organization.

Language

LANG 100—Spanish for Beginners (3 cr)

Conversational Spanish for non-Spanish-speaking students is taught in this class. Information about the Spanish culture and its customs and traditions is included. This course is not eligible for support by the Veterans Administration.

Mathematics

Preparatory students are placed in math courses that best meet their needs, interests and abilities. Students' scores on a math advisement test are used to assist in determining appropriate placement.

MATH 092—Introduction to the Scientific Calculator (See Mini Courses/Short Sessions)

MATH 094—Math Anxiety (See Mini Course/Short Sessions)

MATH 098—Basic College Arithmetic (4 cr)

(Corequisite: MATH 098L, lecture format only) This course provides small-group instruction in basic arithmetic skills: whole numbers, common fractions, decimal fractions and

percents. Students will be introduced to problem-solving techniques and to word problems in each skill area. The course is offered in both self-paced and lecture formats. An individualized instructor-assisted tutorial session meets once per week. Students need a referral from a counselor or the math coordinator to enroll. Those who satisfactorily complete MATH 098 may enroll in MATH 099.

MATH 098L—Lab for Basic College Arithmetic (0 cr)

(Corequisite: MATH 098, lecture format only) This is a computer-assisted tutorial laboratory in which students do exercises in basic mathematics, as well as on special topics needed for their selected occupational majors. This lab meets one hour per week.

MATH 099—Basic College Mathematics (4 cr)

(Corequisite: MATH 099L, lecture format only) This course is specifically offered for students entering programs of study in Business Occupations, Health Occupations, Technologies or Trades & Service Occupations. It will also be helpful to students wishing to continue studying math or preparing for elementary algebra. It begins with an overview of basic mathematics and includes special or advanced topics such as calculator usage, ratio and proportion, data representation, geometric concepts, measurement (U.S. and metric), real number system concepts, signed numbers and linear equations in one variable. The course is offered in both self-paced and lecture formats. An individualized instructor-assisted tutorial session meets once per week. Satisfactory completion of MATH 099 meets prerequisite requirements for MATH 100.

MATH 099L—Lab for Basic College Mathematics (0 cr)

(Corequisite: MATH 099, lecture format only) This is a computer-assisted tutorial laboratory in which students do exercises in basic mathematics, as well as on special topics needed for the student's selected occupational major. This lab meets one hour per week.

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

(Corequisite: MATH 100L, lecture format only) This course is for students who are not prepared to enter intermediate algebra (MATH 120). It begins with a brief review of basic math and progresses to operations involving numbers, polynomials, linear equations, factoring, formulas, graphing and word problems. The course is offered in both self-paced and lecture formats. An individualized instructor-assisted tutorial session meets once per week. Satisfactory completion of MATH 100 meets prerequisite requirements for MATH 120.

MATH 100L—Lab for Elementary Algebra for College Students (0 cr)

(Corequisite: MATH 100, lecture format only) This is a computer-assisted tutorial laboratory in which students do exercises covering a variety of beginning algebra topics. This lab meets one hour per week.

Reading

Courses in reading are offered for students who wish to improve their reading comprehension and vocabulary. RDG 100 is offered for students seeking admission to a degree program. Students' scores on a reading advisement test are used to determine appropriate placement.

RDG 098—Reading Improvement for Students with Limited English Proficiency (3 cr)
(*Corequisite: RDG 098L*) This course is for students with limited English proficiency. Whereas RDG 099 teaches reading by building specific skills, RDG 098 involves learning these skills through reading and discussion. This course complements ENG 098 and fulfills the prerequisite for RDG 100. Students need a referral from a counselor or the reading coordinator to enroll.

RDG 098L—Lab for Reading Improvement for Students with Limited English Proficiency (0 cr)
(*Corequisite: RDG 098*) This course meets one hour per week to give students computer-assisted and one-on-one tutorial instruction on the material they are reading.

RDG 099—Reading Improvement (3 cr)
(*Corequisite: RDG 099L*) This course focuses on reading as a thinking process. It helps students recognize that what they bring to the reading task is as important as the print which they expect to decode and comprehend.

RDG 099L—Lab for Reading Improvement (0 cr)
(*Corequisite: RDG 099*) This is a computer-assisted tutorial laboratory which helps students improve reading, vocabulary and comprehension skills. This lab meets one hour per week.

RDG 100—College Preparatory Reading (3 cr)
(*Corequisite: RDG 100L*) This course provides instruction in reading skills necessary for success in college-level courses. The course emphasizes reading comprehension, study skills and vocabulary development. Students entering this course should possess at least high school-level reading abilities. Selected topics in the social sciences and humanities are used as vehicles to develop reading proficiency.

RDG 100L—Lab for College Preparatory Reading (0 cr)
(*Corequisite: RDG 100*) This is a computer-assisted tutorial laboratory with exercises in reading comprehension, vocabulary and study skills to prepare students for success in college-level courses. This lab meets one hour per week.

Science

SCIE 100—Scientific Reasoning (3 cr)
(*Corequisite: SCIE 100L*) This course will help students become more independent learners by developing and applying effective study and problem-solving skills. A variety of projects in science that require the integration of many skills will be used to sharpen students' abilities. This class will aid students in any future science or technology courses. It is offered for any student entering a degree program.

SCIE 100L—Lab for Scientific Reasoning (0 cr)
(*Corequisite: SCIE 100*) This is a computer-assisted tutorial laboratory in which students are given laboratory exercises to support SCIE 100, with an emphasis on the use of the computer as a research aid in generating reports and analyzing data. This lab meets one hour per week.

Occupational Support Courses

Communication Skills Courses

- CMBO 100, Communications for Business Occupations
- CMHO 100, Communications for Health
- CMTC 100, Communications for Technologies
- CMTR 100, Communications for Trades

Survey Courses

- ACCT 100, Introduction to Accounting
- SS 100, Introduction to Typing
- HLTH 100, Introduction to Health
- DP 100, Introduction to Data Processing
- ELEC 100, Introduction to Electronics
- DRFT 100, Introduction to Drafting

Mini Courses/Short Sessions

- MATH 092, Introduction to the Scientific Calculator
- MATH 094, Math Anxiety
- SSKL 095, Study Skills
- SSKL 097, Thinking Effectively
- SSKL 098, T-VI Orientation

Course Descriptions

Communications

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 and problem-solving skills.

CMHO 100—Communications for Health Occupations (3 cr)

Students planning to enter any of the Health Occupations courses will find this course useful. It 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.

CMTC 100—Communications for Technologies (3 cr)

This course teaches methods students can use to analyze various topics and solve problems. It emphasizes study skills such as critical reading, technical writing and analytic reasoning to assist the students in future Technologies courses.

CMTR 100—Communications for Trades (3 cr)

This course prepares students to enter any of the Trades & Service Occupations majors. Students work on individual and group projects to learn about the Trades fields and develop marketable skills. Note-taking, outlining, writing, time management, speaking and computer skills are also emphasized.

Survey Courses

Courses listed below provide a survey of majors in Business Occupations, Health Occupations or Technologies as indicated by the course title. Students learn more about 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 will be covered as time permits. This class will prepare students for upper-level accounting courses. Satisfactory completion of this course indicates students are prepared to enter ACCT 101L.

SS 100—Introduction to Typing (3 cr)

This course is for students who either need or wish to learn how to type or to use a keyboard effectively. Students in Business Occupations who have difficulties 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 in relation to these body systems.

DP 100—Introduction to Data Processing (3 cr)

This course provides preparation for the first term in data processing (business computer programming) technology. Course objectives include programming in BASIC on micro-computers, programming in COBOL on mainframe computers, flowcharting, data processing concepts and computer career information. Satisfactory completion of this course indicates that the students are 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)

(Corequisite: DRFT 100L) This course involves intensive study of introductory concepts of drafting, including line weights, orthographic projection, pictorials and basic drafting skills as applied to major areas. Freehand 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 and design drafting courses.

DRFT 100L—Lab for Introduction to Drafting (0 cr)

(Corequisite: DRFT 100) Students will apply basic drafting skills to sketching, geometric constructions, orthographic projections, pictorials and practical drafting problems. This lab meets one hour per week.

Mini Courses/Short Sessions

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

This 7½-week course, offered twice each term, meets five hours per week to introduce students to scientific and technical operations. 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, physics, electronics and mechanics. Strong basic math skills are required. This course may not be eligible for support by the Veterans Administration.

MATH 094—Math Anxiety (1 cr)

This course offers students a chance to understand and modify math anxiety through the use of group discussion, journal entries, standardized surveys and math study skills. This course is specifically designed for math anxiety, not test anxiety.

SSKL 095—Study Skills (1 cr)

In this course, students identify and apply a variety of study skills which work best for them by completing an inventory and implementing time management strategies. They also learn how to take effective notes, use memory techniques, approach test preparation and test taking, and set realistic goals.

SSKL 097—Thinking Effectively (1 cr)

This course focuses on improving general thinking ability. Components and strategies of effective thinking are explored and then applied to real-life situations. The course is useful for students who wish to improve their thinking ability or are pursuing a major that requires skills in troubleshooting or problem-solving.

SSKL 098—T-VI Orientation (1 cr)

This course is especially useful to the incoming T-VI student because it provides an orientation to the school and its services. Topics covered in this course include information on

financial aid, career counseling, library and catalog use, instructional departments and many other topics as determined by needs and interests of students who enroll in the course. Tours and speakers are utilized to make this course practical and helpful.

Special Services

Specialized Preparatory Program Main and Montoya Campuses

The Special Services program is designed to meet the needs of students with disabilities. Services are provided to prepare students with disabilities for participation in the world of work and higher education.

Career counseling, individual program planning, vocational assessment, ancillary services, coordination with community support agencies and individualized instruction are provided. For students enrolled in T-VI developmental, certificate and associate degree courses, curriculum accommodations are made for students with disabilities. Follow-up services such as counseling, tutoring and job placement assistance are provided. (Also see pages 43-44.)

Students with disabilities entering T-VI through Developmental Studies take regular preparatory courses and are eligible for placement in specially designed support courses.

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

If appropriate, Special Instructional Services classes provide small-group instruction, teacher aides and curriculum modifications to meet the needs of the individual learner.

Special Instructional Services Program

		<i>Credit</i>
		<i>Hours</i>
SPSV 089	Targeted Instruction	3
SPSV 090	Employability Skills	3
SPSV 092	Introductory Mathematics	5
SPSV 093	Introductory Language Skills	5

Course Descriptions

SPSV 089—Targeted Instruction (3 cr)

(Corequisite: SPSV 089L) This course gives individualized instruction to students who need concentrated help to complete the preparatory program. Students receive daily individualized tutoring in a classroom setting. This course meets three hours per week.

SPSV 089L—Lab for Targeted Instruction (0 cr)

(Corequisite: SPSV 089) This is a computer-assisted tutorial laboratory in which students do exercises in targeted areas such as math, English and reading. This lab meets one hour per week.

SPSV 090—Employability Skills (3 cr)

(Corequisite: SPSV 090L) This course is designed to assist the student in identifying appropriate employment options and to make the student job-conscious, self-assured and well prepared for employment. Units include self assessment, career exploration, resumé writing, application completion, interviewing techniques, business vocabularies, letter writing, human relations, community resources and job market information. This course meets three hours per week.

SPSV 090L—Lab for Employability Skills (0 cr)

(Corequisite: SPSV 090) This is a computer-assisted tutorial laboratory in which students do exercises covering a variety of skills needed for employment. This lab meets one hour per week.

SPSV 092—Introductory Mathematics (5 cr)

(Corequisite: SPSV 092L) This course provides small-group instruction in basic mathematics—whole numbers, common fractions, decimal fractions, percents and ratio proportions—to students with disabilities. The student is placed in a self-paced, individualized, programmed math unit with an instructor. Students who make sufficient progress are moved into regular preparatory courses. The course meets six hours per week.

SPSV 092L—Lab for Introductory Mathematics (0 cr)

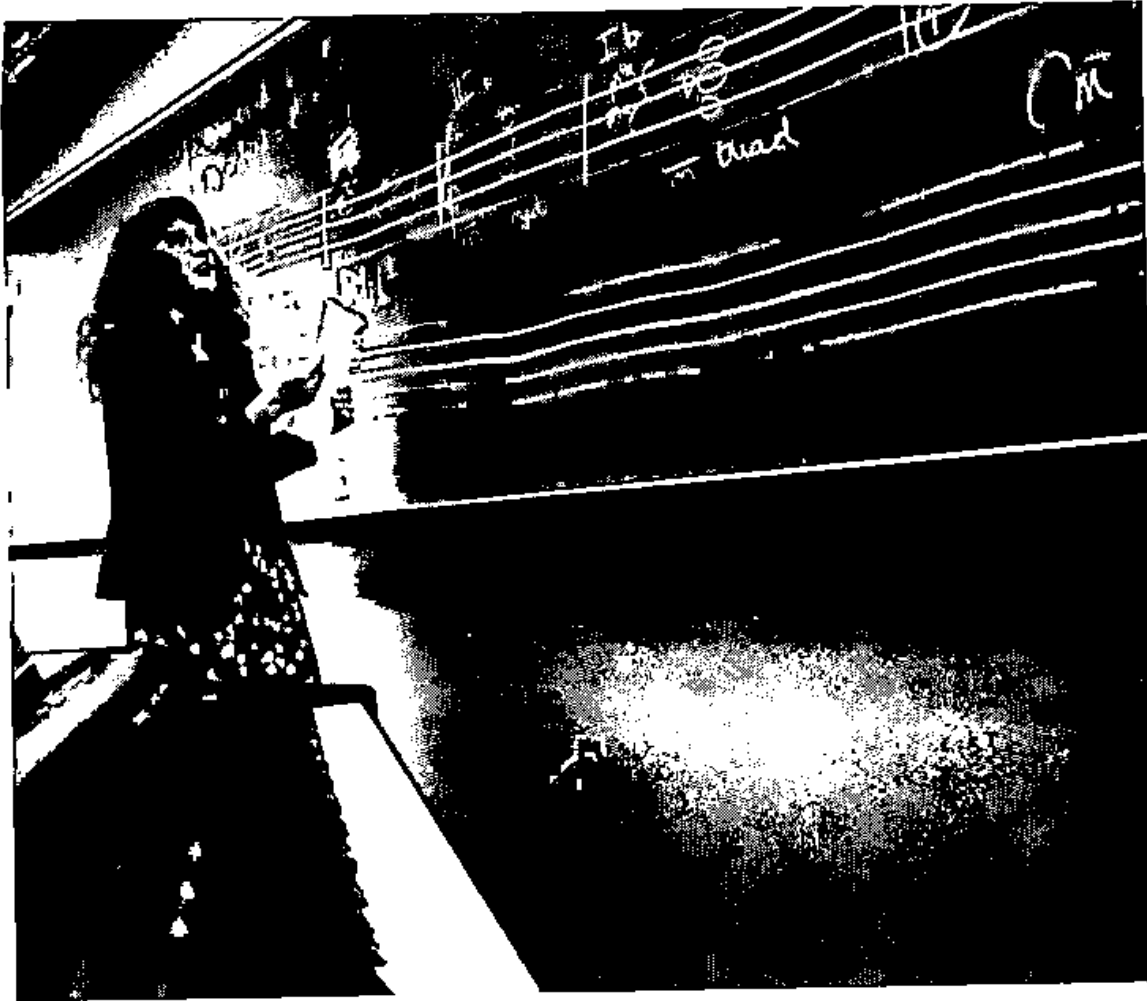
(Corequisite: SPSV 092) This is a computer-assisted tutorial laboratory in which students do exercises coordinated with the self-paced math class. This lab meets two hours per week.

SPSV 093—Introductory Language Skills (5 cr)

(Corequisite: SPSV 093L) The course provides small-group instruction to students with disabilities in basic communication skills: spelling, reading, writing, speaking and listening. It is designed to help students follow oral and written instructions accurately and to write and use English correctly. Students who make sufficient progress are transferred into preparatory courses. This class is not for ESL students. The course meets six hours per week.

SPSV 093L—Lab for Introductory Language Skills (0 cr)

(Corequisite: SPSV 093) This is a computer-assisted tutorial laboratory in which students do exercises which reinforce skills taught in the introductory language skills class. This lab meets two hours per week.



Arts & Sciences

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

All Arts & Sciences courses have a tuition charge. Science courses also have lab fees. (See page 24 - 25.) Some courses carry prerequisites or corequisites.

General Honors Courses

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

Participation in these courses is by application only; however, any student interested in the challenge these courses offer is encouraged to apply. Academic potential (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 Department counselor.

All courses are transferable to other degree-granting institutions.

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 lists of prerequisites.

Fulfillment of the degree requirements listed below and institutional requirements listed on page 40 of the 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, contact the Arts & Sciences Office.

Liberal Arts Degree Program

	<i>Credit Hours</i>
<i>Communications</i>	
English writing courses (must include ENG 102)	6
COMM 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 or 3 courses (must include one lab course)	7 - 8

Humanities	
General Honors	
History	
Humanities	
Literature (English, foreign or comparative)	
Philosophy	
Religious Studies	
No more than 6 credits from any one discipline	9
Mathematics	
One course numbered above MATH 120	2 - 3
Fine Arts and Foreign Languages	
(Fine Arts may include only one course in studio or applied arts)	
Any two courses	6
Electives	
(one credit of physical education allowed)	
Any Arts & Sciences courses	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)

(Pre- or corequisite: BIO 111) An optional laboratory for investigation of the principles discussed in class, this course includes laboratory analysis of water, soil and air pollutants as well as field trips to sites of special interest.

BIO 115L—Biophysical Science (4 cr)

This is an introduction to the natural sciences of biology, chemistry and physics and emphasizes their application to the human organism. Laboratory complements lecture and focuses on laboratory procedures and techniques. Three hours of lecture and one three-hour lab are taken concurrently. It is advisable that students have a working knowledge of math at the MATH 100 level.

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

This course introduces the basic principles of biology to students wishing to pursue a major 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. Three hours of lecture and one three-hour lab are taken concurrently. It is advisable that the student have a working knowledge of math at the level of MATH 100.

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

(Prerequisite: BIO 121L) This is a continuation of the concepts developed in BIO 121L. The course stresses organism level processes which include taxonomy, comparative anatomy and physiology of plants and animals with an emphasis on evolutionary trends, embryology, behavior and ecology. Importance is placed on the development of scientific reasoning with an evolutionary perspective. Three hours of lecture and one three-hour lab are taken concurrently.

BIO 123—Biology for Health Sciences (3 cr)

Principles of cell biology, cell chemistry, genetics and organismic biology are studied with an emphasis on human systems. It is advisable that students have a working knowledge of math at the MATH 100 level.

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

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

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

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 the body as an integrated whole.

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

(Pre- or corequisite: BIO 136) Laboratory exercises complement concepts presented in lecture. Exercises include microscopy, chemistry, dissections and use of models.

BIO 200L—General Ecology (4 cr)

(Prerequisite: BIO 122L or BIO 123/124L or permission of instructor) Students are introduced to the interrelationships of organisms to their environment through the study of populations, communities, ecosystems and the biosphere. Three hours of lecture and one three-hour lab are taken concurrently. *Summer, fall terms only.*

BIO 221—Introductory Genetics (3 cr)

(Prerequisite: BIO 123/124L or 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 224L—Southwestern Natural History (4 cr)

Three hours of lecture and three hours of lab or field trips (one or more overnight) present the natural history and identification of southwestern flora and fauna. *Summer and fall terms only.*

BIO 231L—Applied Environmental Microbiology (4 cr)

(Prerequisite: BIO 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)

(Prerequisite: BIO 115L or a combination of BIO 123/124L or BIO 121L and CHEM 111/112L or CHEM 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 or a combination of BIO 123/124L or BIO 121L and CHEM 111/112L or Chem 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 or a combination of BIO 123/124L or BIO 121L and CHEM 111/112L or CHEM 121L; corequisite: BIO 239) In two 90-minute sessions per week, 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 or a combination of BIO 123/124L or BIO 121L and CHEM 111/112L or CHEM 121L; pre- or corequisite: BIO 237) This course provides anatomical and physiological laboratory exercises coordinated with 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 or a combination of either BIO 123/124L or BIO 121L and CHEM 111/112L or CHEM 121L; pre- or corequisite: BIO 238) This course provides

anatomical and physiological laboratory exercises coordinated with the topics covered in BIO 238. Specimen dissection and cadaver study are included.

BIO 260L—Botany (4 cr)

(Prerequisite: BIO 122L) This course introduces students to the different subdivisions of the plant kingdom: algae, bryophyta, pterophyta, gymnosperms and angiosperms. Plant morphology, anatomy, sexual and asexual reproduction are covered under each section. One three-hour lab complements three hours of lecture each week.

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 16 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—including 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 121L—General Chemistry I (4 cr)

(Prerequisite: MATH 121 or MATH 150 with a minimum grade of C) 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. Three hours of lecture per week are complemented by a three-hour lab meeting.

CHEM 122L—General Chemistry II (4 cr)

(Prerequisite: CHEM 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. Three hours of lecture per week are complemented by a three-hour lab meeting.

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 the areas of water, wastewater, soil, air and food testing.

CHEM 212—Organic Chemistry and Biochemistry (4 cr)

(Prerequisite: CHEM 111/112L or CHEM 121L) A one-semester introduction to organic chemistry and biochemistry designed for students in the health and 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 non-science 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 or MATH 150 or MATH 180) Through lectures and demonstrations, this course is a non-calculus treatment of mechanics, sound and heat. This course satisfies pre-medical, pre-dental, pre-optometry and certain Technologies requirements.

PHYS 152—Physics II (3 cr)

(Prerequisite: PHYS 151) 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) Experimental technique and demonstration of the principles and phenomena of physics are the bases of experiments in mechanics, heat and sound.

PHYS 154L—Physics II Lab (1 cr)

(Pre- or corequisite: PHYS 152) This laboratory course features experiments in electricity, magnetism and optics.

PHYS 157—Problems in Physics I (1 cr)

(Corequisite: PHYS 151; available on an audit basis only) Recitation and problem solving in relation to PHYS 151 are handled.

PHYS 158—Problems in Physics II (1 cr)

(Corequisite: PHYS 152; available on an audit basis only) Recitation and problem solving in relation to PHYS 152 are handled.

PHYS 160—General Physics I (4 cr)

(Pre- or corequisite: MATH 162) A calculus-based study of mechanics and sound waves is offered for science and engineering students. Topics and demonstrations include Newton's law of motion, force, moments, friction, work, energy, power, momentum and longitudinal wave properties.

PHYS 161—General Physics II (4 cr)

(Prerequisite: PHYS 160; pre- or corequisite: MATH 163) Calculus-based treatment of heat, electricity and magnetism is supplemented by demonstrations.

PHYS 163L—General Physics Lab (1 cr)

(Pre- or corequisite: PHYS 160) Topics introduced in the lecture corequisite are explored in the laboratory.

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

(Corequisite: PHYS 160; available on an audit basis only) Recitation and problem solving in matters relating to PHYS 160 are handled.

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

(Corequisite: PHYS 161; available on an audit basis only) Recitation and problem solving in matters relating to PHYS 161 are handled.

PHYS 262—General Physics III (4 cr)

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

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

(Corequisite: PHYS 262; available on an audit basis only) Recitation and problem-solving are related to topics in PHYS 262.

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 the 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 in small groups. 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—Writing with Readings in Exposition (3 cr)

(Prerequisite: One of the following—ACT [see page 16 for scores], ASSET, passing ENG 100 or passing English placement exam) This course stresses expository writing and reading. It concentrates on organizing and supporting ideas in essay writing.

ENG 102—Analytic Writing (3 cr)

(Prerequisite: ENG 101 with a minimum grade of C or a minimum English ACT score of 25 if taken before November 1989 or 29 if taken after November 1989) Students learn to write analytic and argumentative essays based on expository and literary readings.

ENG 119—Technical Communications (3 cr)

(Prerequisite: ENG 101 with a minimum grade of C 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 covered 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.

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.

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

Lectures 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. Material is supplemented by slides.

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 the instructor) This course continues developing the skills introduced in FREN 101.

FREN 103—Beginning French Conversation I (1 cr)

(Pre- or corequisite: FREN 101) This course offers practice for students concurrently enrolled in, or who have completed, FREN 101. It is recommended for students taking a foreign language for the first time.

FREN 104—Beginning French Conversation II (1 cr)

(Pre- or corequisite: FREN 102) This course offers conversation practice for students concurrently enrolled in, or who have completed, FREN 102. It is recommended for students who need extra work in speaking and understanding French.

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 skills acquired in first-year French while broadening the students' knowledge of the language and culture of France.

FREN 202—Intermediate French II (3 cr)

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

FREN 203—Intermediate French Conversation (3 cr)

(Pre- or corequisite: FREN 201 or 202) This course encourages the use, development and strengthening of conversation skills by using readings from simple literary or cultural texts and news articles as well as various audio-visual materials.

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 non-technical and requires attendance at live musical performances.

Computer Science

CSCI 101—Computer Literacy (4 cr)

This introductory course provides lecture and laboratory instruction in the use of computers. Lecture topics emphasize the working of computers; lab projects use software applications, such as WordPerfect 5.1, Lotus 1-2-3, dBase III Plus and MS-DOS.

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

(Prerequisite: MATH 121 with a minimum grade of B or MATH 139 or 150 with a minimum grade of C) This course 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; integration of spreadsheet graphs and database data into word-processing documents, networks and music; and graphing programs.

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.

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 developing listening and grammatical skills. Emphasis is placed on speaking.

SPAN 103—Elementary Spanish I Conversation (3 cr)

This course provides practice in speaking 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 201 or 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 201 or SPAN 202.

SPAN 296—Topics in Spanish (1 - 3 cr)

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

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 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 non-fiction 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 tradition 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)

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)

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)

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)

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)

This course will lead 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)

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 Frontier (3 cr)

This course covers the explorations and settlement of the American continent, the fur trade and mining camps and the pioneers. Questions about the brutal exploitation of native peoples, the destruction of the landscape and the enduring impact of frontier violence on America in the 1990s are raised.

HIST 281—Colonial Latin American History (3 cr)

This course surveys the history of Latin America from pre-Columbian civilizations through the final independence movements of the 1820s.

HIST 282—Modern Latin American History (3 cr)

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 I (3 cr)

Students are given a comparative introduction to the development of world civilizations from their beginnings through the Middle Ages.

HUM 112—Comparative Civilizations II (3 cr)

Students are given a comparative introduction to the development of world civilization from the Renaissance through contemporary times.

HUM 247—Topics in Humanities (1 - 3 cr)

Various topics of an interdisciplinary nature 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 in which students explore 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)

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. Familiarity with elementary algebra is recommended.

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

(Prerequisite: MATH 111 with a minimum grade of C) 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 page 16 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 page 16 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 page 16 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.

MATH 121—College Algebra (3 cr)

(Prerequisite: MATH 120 with a minimum grade of C 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, rational, exponential and logarithmic functions are investigated.

MATH 123—Trigonometry (2 cr)

(Prerequisite: MATH 121 or MATH 150 with a minimum grade of C or permission of the 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 with a minimum grade of C 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 with a minimum grade of C) 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 120 with a minimum grade of C 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.

MATH 150—Advanced Algebra (3 cr)

(Prerequisite: MATH 120 with a minimum grade of B or MATH 121 with a minimum grade of C 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 and their graphs. An introduction to sequences and series is included.

MATH 162—Calculus I (4 cr)

(Prerequisite: MATH 121 with a minimum grade of B or MATH 150 with a minimum grade of C or algebra placement exam and MATH 123 with a minimum grade of C 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 with a minimum grade of C) 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 study of infinite series, including Taylor series.

MATH 180—Elements of Calculus I (3 cr)

(Prerequisite: MATH 121 or MATH 150 with a minimum grade of C 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 with a minimum grade of C) 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 with a minimum grade of C) 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—Fundamentals of Probability and Statistics Lab (1 cr)

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

MATH 264—Calculus III (4 cr)

(Prerequisite: MATH 163 with a minimum grade of C) 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 Science

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 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)

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

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, transplanted 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 environment: 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 a 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 in geography 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, the electorate and American 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)

By considering European, developing and communist regimes and systems, students gain insights into the political history, socioeconomic structure and contemporary political institutions and behaviors of governments and "the body politic."

PSCI 240—International Politics (3 cr)

Students analyze various significant factors in international politics. Topics include 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 in political science 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, motivation, perception, development and social psychology.

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

(Pre- or corequisite: one semester of general psychology) 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. The class meets for three hours each week.

PSY 200—Statistical Principles (3 cr)

(Prerequisite: one semester of general psychology) 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: one semester of general psychology) 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: one semester of general psychology) 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: one semester of general psychology) 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: one semester of general psychology or BIO 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: one semester of general psychology) 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: one semester of general psychology) This course presents theories and research on various mental processes: memory encoding, storage and retrieval, along with attention, comprehension, categorization, reasoning, problem solving, language and motor skills. *Winter term only.*

PSY 271—Social Psychology (3 cr)

(Prerequisite: one semester of general psychology) This course presents topics on social interaction—communication, perception of oneself and others, attitudes and leadership. *Winter term only.*

PSY 296—Topics in Psychology (1 - 3 cr)

Various topics concentrating 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 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) 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 one semester of general psychology) 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 economics. 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 works of an influential sociologist are offered.

General Electives

NUTR 125—Nutrition (3 cr)

An introduction to nutrition as it affects normal body functions, this course's topics include consumer concerns, food selections, food safety, fitness and the impact of nutrition on the life cycle. A self-analysis of diet and activity is a course requirement. Knowledge of multiplication, division, percentages and fractions is strongly recommended.

NUTR 293—Topics in Nutrition (1 - 3 cr)

Various topics are offered.





Business Occupations

T-VI's Business Occupations Department offers the following certificate/degree programs: Accounting; Business Administration with specialties in merchandising, small business management, real estate, tourism and hospitality, and general business; Court Reporting; and Administrative Assistant.

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 and Appraisal Commission 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 both campuses. Advanced students may earn credit for on-the-job training through Cooperative Education and Internship courses.

Credit by examination is available for selected courses. Challenge examinations are administered in the BOLC at each campus for a \$15 fee. 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. A book deposit is not required.

Advanced students may earn credit for on-the-job training through Cooperative Education and Internship courses.

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 typewriters, 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, 7:30 a.m. to 5 p.m. on Friday and 9 a.m. to 1 p.m. on Saturday. 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
Proofreading
Shorthand
Alphabetic Shorthand I
Gregg Shorthand I
Gregg Shorthand II*
Shorthand Review (Century 21, Forkner,
ABC, and Gregg)*
Shorthand Speed-Building*
Spelling

Typing
Typing I
Typing II*
Typing Skill-Building*
Keyboarding (computer or typewriter)

*See course description or BOLC for pre-requisites

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, percentage, business formulas, percent problems, 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 and Lotus 1-2-3. Computer literacy and a typing speed of 25 wpm are prerequisites for WordPerfect and Lotus.

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.

Proofreading

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

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

(Prerequisite: 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 speedbuilding. 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 I

Typing I is an excellent audiovisual course for beginners or for those who need a review of basic techniques and business applications. The content emphasizes business letters, reports and tables.

Typing II

(Prerequisite: Typing I or placement test) This continuation of Typing I emphasizes speed, accuracy and production.

Typewriting Skill-Building

(Prerequisite: 30 gross words per minute typing skill) This course improves typing accuracy and speed using championship methodology.

Keyboarding

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

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 (see program advisor). A certificate is awarded to students who complete the occupational component.

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 15 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 any Business Occupations courses on a credit/no credit basis.

Supply fees are charged for some courses (see page 25).

Accounting Program

Certificate and Degree Requirements

			<i>Credit Hours</i>
ACCT and	101A	Accounting Principles I.....	2
ACCT or	101B	Accounting Principles I.....	2
ACCT	101	Accounting Principles I.....	4
ACCT and	102A	Accounting Principles II	2
ACCT	102B	Accounting Principles II	2

or			
ACCT	102	Accounting Principles II	4
ACCT	111	Accounting Math	3
ACCT	201	Intermediate Accounting I.....	3
ACCT	202	Intermediate Accounting II	3
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
or		General Psychology Elective.....	3 - 4
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 Support Course (required for certificate only)	3 - 4
		One Accounting Support Course.....	3
		Total.....	55 - 58

Additional Degree Requirements

ENG	101	Writing with Readings in Exposition	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.....	70 - 73

Support Courses

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

Course Descriptions

ACCT 101—Accounting Principles I (4 cr)

(Prerequisites: MATH 099; RDG 099 or equivalent; pre-or corequisite: ACCT 111) This is an introductory course in the theory and practice of accounting. The course meets for six hours per week: three hours theory and three hours lab.

ACCT 101A— Accounting Principles I (2 cr)

(Prerequisites: MATH 099, RDG 099 or equivalent; ACCT 111 may also be a corequisite) Principles of the double-entry accounting system including recording transactions, adjusting accounting, preparing statements, closing accounts of proprietorship, partnerships and corporations, merchandise and cash accounts, and accounting systems are covered. Business forms and terms, accuracy, neatness, orderliness and responsibility are included. ACCT 101A and ACCT 101B are equivalent to ACCT 101.

ACCT 101B—Accounting Principles I (2 cr)

(Prerequisites: ACCT 101A, ACCT 111) This is a continuation of ACCT 101A. Units cover accounts receivable, tangible and intangible assets, current and long-term liabilities and payroll accounting. ACCT 101A and ACCT 101B are equivalent to ACCT 101.

ACCT 102—Accounting Principles II (4 cr)

(Prerequisite: ACCT 101) Planning and accounting for corporations, installment notes, bonds; preparing and analyzing financial statements; controlling business operations by managerial and cost accounting; budgeting and tax considerations are covered in this course. This course meets for six hours per week: three hours theory and three hours lab.

ACCT 102A—Accounting Principles II (2 cr)

(Prerequisites: ACCT 101 or 101B, ACCT 111) This course covers various aspects of corporate accounting, notes and bonds, departmental accounting and accounting for manufacturing. ACCT 102A and ACCT 102B are equivalent to ACCT 102.

ACCT 102B—Accounting Principles II (2 cr)

(Prerequisites: ACCT 102A, ACCT 111) This course is a continuation of ACCT 102A. It covers cost accounting, job orders, master budgets, profit analysis, standard costs, managerial decisions and tax considerations. ACCT 102A and ACCT 102B are equivalent to ACCT 102.

ACCT 111—Accounting Math (3 cr)

(Prerequisite: MATH 099 or equivalent) This course covers basic arithmetic operations, familiarizes the student with a wide range of accounting procedures for which mathematics is required and develops touch method skills using electronic calculators.

ACCT 201—Intermediate Accounting I (3 cr)

(Prerequisite: ACCT 102) 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 (3 cr)

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

ACCT 240—Tax Accounting I (3 cr)

(Prerequisite: ACCT 101) 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 corporations, partnerships, estate, gift and trust taxation and tax planning.

ACCT 254—Electronic Spreadsheets (3 cr)

(Prerequisites: ACCT 102, 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 computer paper and indirect costs.

ACCT 255—Computerized Accounting (3 cr)

(Prerequisites: ACCT 102, 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 computer paper and indirect costs.

ACCT 260—Cost Accounting (3 cr)

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

ACCT 270—Governmental Accounting (3 cr)

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

ACCT 271—Auditing (3 cr)

(Prerequisite: ACCT 102) This course 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) 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) 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 Secretarial Studies program has been updated and renamed Administrative Assistant to reflect the changed duties and qualifications of office workers. 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.

Students may select an advanced lab in either information processing or legal typing. Additionally, 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 any 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.

Administrative Assistant associate degree candidates may want to take the Certified Professional Secretary (CPS) review courses as support courses. CPS is the nationally recognized rating for secretarial proficiency.

Individuals who have already attained a CPS rating may receive credit hours toward the Administrative Assistant associate degree. 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). Some Administrative Assistant courses may be taken in the evening.

Supply fees are charged for some courses (see page 25).

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	201	Information Processing Lab	4
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 (7 ^{1/2} weeks)	2
or			
COMM	221	Interpersonal Communications	3
BA	133	Principles of Management	3
BA	150	Introduction to Computer Processing	3
BA	157	Computer Accounting for Small Business (5 weeks)	1
Total			51

*Memo Dated 7/20/92
Should lead BAISD on CSC 101 4a
Administrative Assistant Associate Degree*

			51
COMM	221	Interpersonal Communications	3
ENG	101	Writing with Readings in Exposition	3
Biological and Physical Science Elective			or
Math 120 Intermediate Algebra or higher			3
Social Science Elective			3
Arts & Sciences Elective			3
Total			63 - 65

Support Courses

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	Legal Typing Lab	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
SS	281	CPS Review: Behavioral Science.....	1
SS	282	CPS Review: Business Law	1
SS	283	CPS Review: Economics and Management.....	1
SS	284	CPS Review: Accounting.....	1
SS	285	CPS Review: Office Administration and Communications	1
SS	286	CPS Review: Office Technology	1

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 should be attained in this course. This course meets five hours per week when scheduled as a 15-week course and 10 hours per week when scheduled as a 7½-week course. There is a \$15 supply fee for typewriter ribbons.

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 should be attained in this course. This course meets five hours per week when scheduled as a 15-week course and 10 hours per week when scheduled as a 7½-week 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 should be attained in this course. Emphasis is on continued development of production skills. This course meets three hours per week when scheduled as a 15-week course and six hours per week when scheduled as a 7½-week course. There is a \$20 supply fee for typewriter ribbons and correcting tapes.

AA 104—Advanced Typing II (2 cr)

(Prerequisite: AA 103) A minimum typing speed of 50 net words per minute should be attained in this course. Emphasis is on continued development of production skills. This course meets three hours per week when scheduled as a 15-week course and six hours per week when scheduled as a 7½-week course. There is a \$20 supply fee for typewriter ribbons and correcting tape.

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 and English 099) This course is an introduction to oral and written communications with emphasis on vocabulary building, spelling, grammar, punctuation, oral expression and listening skills.

AA 122—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: 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 \$10 supply fee for paper and printer supplies.

AA 134—Shorthand I (Gregg) (5 cr)

This introductory course covers the theory and writing of Gregg shorthand. Transcription skills are introduced. This course meets five hours per week.

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

Reading and writing of ABC Stenographic shorthand is 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 minimum typing skill of 25 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 typewriter ribbons and correcting tapes.

AA 201—Information Processing (4 cr)

(Prerequisites: AA 104 and AA 133) Advanced instruction is provided in the use of microcomputers. Applications include advanced word processing, electronic spreadsheets and database management. There is a \$10 supply fee for paper and printer supplies. This course meets six hours per week.

AA 207—Legal Typing (4 cr)

(Offered fall term; prerequisites: AA 104 and AA 133) Instruction is provided on the preparation of mailable legal correspondence and forms from audio tape, typed copy and preprinted forms. 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 typewriter ribbons, correcting tapes and printer supplies. This course meets six hours per week.

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 typewriter ribbons and correcting tapes.

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 typewriter ribbons, correcting tapes and computer printer supplies. This course meets five hours per week.

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 writing 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.

Certified Professional Secretary Review

SS 281—CPS Review—Behavioral Science (1 cr)

Fall term This course reviews behavioral science in business in preparation for the Certified Professional Secretary exam. This course meets three hours a week for five weeks.

SS 282—CPS Review—Business Law (1 cr)

Fall term This course reviews business law in preparation for the CPS exam. This course meets three hours a week for five weeks.

SS 283—CPS Review—Economics and Management (1 cr)

Fall term This course reviews economics and management in preparation for the CPS exam. This course meets three hours a week for five weeks.

SS 284—CPS Review—Accounting (1 cr)

Winter term This course reviews accounting in preparation for the CPS exam. This course meets three hours a week for five weeks.

SS 285—CPS Review—Office Administration and Communications (1 cr)

Winter term This course reviews office administration and communications in preparation for the CPS exam. This course meets three hours a week for five weeks.

SS 286—CPS Review—Office Technology (1 cr)

Winter term This course reviews office technology in the modern office in preparation for the CPS exam. This course meets three hours a week for five weeks.

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 121), Tourism and Hospitality or General Business.

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 15 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 (see 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. 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 25).

Business Administration Program
Certificate and Degree Requirements

			<i>Credit Hours</i>
ACCT	101A	Accounting Principles I	2
and			
ACCT	101B	Accounting Principles I	2
or			
ACCT	101	Accounting Principles I	4
ACCT	102A	Accounting Principles II	2
and			
ACCT	102B	Accounting Principles II	2
or			
ACCT	102	Accounting Principles II	4
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 (7 ^{1/2} weeks)	2
or			
General Psychology Elective		.....	3 - 4
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
Support Course		.....	3 - 4
Total.....			43 - 47

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	Writing and Readings in Exposition	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 Support Course			3 - 4
Total			67 - 72

Small Business Management

ENTR	101L	Entrepreneurship	4
BA	*226	Principles of Finance	3
Approved Support Course			3
Total			68 - 72

Real Estate (also see page 121)

BA	270	Real Estate Law	3
BA	271	Real Estate Practice	3
Approved Real Estate Support Course			3
Total			69 - 71

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 Support Course			3 - 4
Total			67 - 72

General Business

BA	293	Cooperative Education	4
Two Approved Support Courses			6
Total			68 - 72

Support Courses

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	Fundamentals of DrawPerfect Text and Graph Charts	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	Presentation 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	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
BA	299	Topics-Retail Merchandising	3
ENTR	101L	Entrepreneurship	4
FSMG	101	Operations Management	3
FSMG	102	Human Resource Management	3
FSMG	103	Marketing/Cost Control Management	3
FSMG	170L	Computers in Food Service	3
FSMG	198	Cooperative Education	4

Course Descriptions

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

(Offered for 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) Students recognize the structure of business, its activities and problems. An understanding of the nature of the business world also is stressed.

BA 121—Business Communications I (3 cr)

(Prerequisite: RDG 099 or English 099) 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 a 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 is 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)

(Prerequisite: RDG 099) 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 a 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)

Instruction in DOS 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)

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)

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)

Students learn to incorporate WordPerfect graphics and text to produce newsletters, instructional materials and other documents where figures, diagrams, logos and pictures are needed. A \$5 supply fee is charged for computer paper and printing costs.

BA 155—Fundamentals of DrawPerfect Text and Graph Charts (1 cr)

Students learn to create basic text charts and graph charts. Included is importing data to create these charts and exporting charts into documents. A \$5 supply fee is charged for computer paper and printing costs.

BA 156—WordPerfect Office Software (1 cr)

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)

(Pre- or corequisites: AA 112, ACCT 101, ACCT 101A 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. This course meets for five weeks. A \$5 supply fee is charged for computer paper and printing costs.

BA 158—Local Area Network (LAN) Systems Manager (1 cr)

(Prerequisite: BA 150, BA 151 or permission of advisor) 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, new users, login scripts, menus and load applications onto the network. This course meets for five weeks. A \$5 supply fee is charged for computer paper and printing costs.

BA 211—Business Law (3 cr)

(Prerequisite: RDG 099 and English 099) 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) 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)

(Prerequisite: ACCT 101, 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—from a management point of view. Students complete a computer simulation project.

BA 226—Principles of Finance (3 cr)

(Prerequisite: ACCT 102) 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) Students learn to apply investment analysis, management techniques and objectives and values and risks.

BA 251—Retail Merchandising Management (3 cr)

(Generally offered fall term; prerequisite or corequisite: ACCT 102, 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. Computer lab assignments applying the theory are included.

BA 255—Desktop Publishing (3 cr)

(Prerequisite: BA 150 or CSCI 101 or CSCI 150 or CR 133 or permission of advisor) Students will be given hands-on experience in desktop publishing. Students will use the microcomputer 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 resumés and apply interviewing skills, practice telephone use in the job search, learn test-taking techniques and encourage positive attitudes and self-confidence.

BA 257—Presentation Graphics (3 cr)

(Prerequisite: BA 150 or CSCI 101 or CSCI 150 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)

(Generally offered summer term; prerequisite: ACCT 101 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 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 needed to sit 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 needed to sit 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 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 (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. This course meets four hours a week for 12 weeks.

BA 279—Uniform Standards of Professional Appraisal Practice (1 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 is used. This course meets three hours a week for seven weeks.

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 AIREA teaching module. This course meets four hours a week for 12 weeks.

BA 284—Salesmanship (3 cr)

(Prerequisite: RDG 099) Students learn to demonstrate selling skills along with how to promote oneself, goods and services.

BA 286—Advertising (3 cr)

(Generally offered winter term; 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. This course meets two hours each week.

BA 291—Internship (4 cr)

(Prerequisite: ACCT 102 and advisor's permission) 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)

(Prerequisite: ACCT 102 and advisor's permission) 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.

BA 299—Topics—Retail Merchandising (3 cr)

(Prerequisites: BA 222 and permission of advisor) Students study retail merchandising on a self-paced basis under direction of an instructor. Students complete a research paper or project.

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.

The certificate and degree programs each take about 75 weeks to complete. 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 *any* 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 25).

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	103	Advanced Typing I	2
² 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	204L	Machine Shorthand III	6
CR	205L	Machine Shorthand IV	6
CR	206L	Machine Shorthand V	6
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.....	77 - 82

Court Reporting Associate Degree

Certificate Requirements	77 - 82
COMM 221 Interpersonal Communications	3
ENG 101 Writing with Readings in Exposition	3
MATH 120 or higher or Biological and Physical Science Elective	3
Social Science Elective	3
Total	89 - 94

¹Degree students may substitute COMM 221 for BA 131.

²Optional for degree students

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. This course meets 10 hours each week. A \$5 supply fee is charged for typewriter ribbon.

CR 104L—Machine Shorthand II (80 - 100) (7 cr)

(Prerequisites: CR 103L and BA 121) The remainder of the machine shorthand theory is presented in this course. Vocabulary building is emphasized. Literary, jury charge and testimony materials are introduced. Speed reaches 100 wpm. This course meets 10 hours each week. 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. This course meets three hours each week.

CR 132—Medical Terminology and Anatomy (5 cr)

(Prerequisite: RDG 099) 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. This course meets for five hours of theory each week.

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.

CR 204L—Machine Shorthand III (6 cr)

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

*Memo dated 7/20/93
(Prerequisite CR 104L)*

using testimony, literary and jury charge materials. Speed reaches 140 wpm. This course meets 15 lab hours each week. A \$5 supply fee is charged for typewriter ribbon.

CR 205L—Machine Shorthand IV (6 cr)

(Prerequisites: CR 204L 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. This course meets for 15 lab hours each week. A \$5 supply fee is charged for typewriter ribbon.

CR 206L—Machine Shorthand V (6 cr)

(Prerequisite: CR 205L) 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 \$40 supply fee is charged for the computer-aided transcription hardware and software. This course meets for 15 lab hours each week.

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)

(Prerequisite: CR 204L and AA 133) This course provides hands-on training in using the computer to produce transcripts. The student builds a personal dictionary. This course meets five hours each week. 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 205L, 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. This course meets three hours each week. A \$40 supply fee is charged for the use of the computer-aided transcription hardware and software.

CR 291—Internship (2 cr)

(Prerequisites: CR 205L and CR 250L) 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 to transcribe a 40-page salable transcript.

CR 293—Cooperative Education (4 cr)

(Prerequisite: CR 204L) 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.

*Credit
Hours*

ENTR 101L Entrepreneurship Lab 4

ENTR 101L—Entrepreneurship Lab (4 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. This lab meets six hours each week: three hours theory and three hours lab.

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.

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 include placement 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 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 any courses on a credit/no credit basis.

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
Support Course (see list below)			3

Required Arts & Sciences Courses

COMM	221	Interpersonal Communications <i>of Comm 225 in 240</i>	3
CSCI	101	Computer Literacy	4
ENG	101	Writing with Readings in Exposition	3
ENG	119	Technical Communications <i>Delete</i>	3
or <i>Delete Eng 102 Analytic writing</i>			
ENG	240	Traditional Grammar <i>Delete</i>	3
MATH	119	Methods of Problem Solving or higher math course	3
PHIL	156	Logic and Critical Thinking	3
PSY	105	Introduction to Psychology	3
Total			62

Support Courses

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

Add 225 Comm. Small Group Comm

240 organization Comm Studies

Eng 102 Analytic writing

Changes Made due to Memo 8/12/93

All Classes Can Be Taken For Credit

LAS	232	Personal Injury: Legal and Medical Aspects	3
LAS	234	Administrative Law	3
LAS	236	Discrimination/Labor/Employer-Employee Relations	3
LAS	299	Topics Course	3
LAS	231	Computers in Law Practice	3
LAS	233	Law Office Management.....	3

Course Descriptions

LAS 101—Introduction to Legal Assistant Studies (3 cr)
(Prerequisites: English 100 and Reading 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)
(Prerequisite: English 100 and Reading 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: 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) Client interviewing, investigation, commencement of actions, service of process, discovery, mediation arbitration, settlement, trial and post-trial procedures are discussed in this course. Rules of civil procedure for the various courts are reviewed. Students are to prepare litigation documents.

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 102, LAS 111, LAS 124) 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) 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) 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) 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) 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) 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: CSCI 101, LAS 201, LAS 203, LAS 204) 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) 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) 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) 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) 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, 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, 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 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.

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 a signed articulation agreement between T-VI and UNM which assures the transfer process. The agreement states that course substitutions or waivers will not be accepted and 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. Business Occupations 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 requirements courses.

Students should request program advisor's approval before registering each term. Advisors are located in the Business Occupations Department at each campus.

Associate in Arts in Pre-Management

	<i>Credit Hours</i>
General Education Requirements	25
Humanities: COMM 130; Modern Languages; Philosophy and Humanities; ART 101, 151, 201 or 260; MUS 139 or 140	9
Social Sciences: Anthropology; History; Political Science	12
Laboratory Science: Biology; Chemistry; Physics (courses in these areas must have labs)	4
Specific Requirements	41 - 43
These courses are prerequisites 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
Behavioral Sciences: PSY 105 and 200 or higher level psychology or sociology course	6
MATH 245/245L	4
BA 150 or CSCI 101	3 - 4
ACCT 101 and 102	8
ACCT 111	3
Total	66 - 68

* Required class
 BA 113 Intro to Business 3

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 104). Course descriptions are on pages 109 - 110.

Short-term core courses used for continuing education credit are offered through T-VI Continuing Education Studies, 224-5580.

Credit courses which meet Real Estate Commission requirements are:

	T-VI Credit Hours	Cont Ed Contact Hours	Pre-Licensing Contact Hours
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 electromechanical and 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. This course meets 15 hours per week: five hours theory and 10 hours lab.

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

T-VI's Health Occupations Department offers associate degrees in Childhood 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: A \$25 textbook deposit is required in the Health Unit Clerk and Nursing Assistant certificate programs. All other Health Occupations programs require the student to purchase textbooks.

Enrollment: All Health Occupations programs except Nursing Assistant require a high school diploma or General Educational 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.

Because there are more applicants than training facilities for the Practical Nurse program, applications are not

Learning laboratories are equipped with hospital furnishings and supplies, respiratory therapy machines and life-like models.

currently being accepted. Interested persons should contact the Health Occupations Department for more 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.

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:

- Cardiac Monitor Technician
- Emergency Medical Technician
- Licensed Practical Nurse Refresher
- Nursing Home/Home Health Attendant
- Perioperative Registered Nurse Specialist
- Registered Nurse Refresher

Cardiac Monitor Technician

Special Course
10 Weeks, Main Campus

This four-credit course is for anyone interested in learning about heart (cardiac) monitoring. Students will learn about heart anatomy and physiology, heart arrhythmias, pacemakers, cardiac drugs and conduction problems. The content is presented in theory classes and through clinical experiences at local hospitals. Students will receive a certificate of completion.

The enrollment requirement is a high school diploma or GED. There is a \$10 supply fee and students are required to purchase a textbook.

*Credit
Hours*

HUC 150C Cardiac Monitor Technician Theory and Clinical Practice 4

HUC 150C—Cardiac Monitor Technician (4 cr)

(Prerequisite: high school diploma or GED) Heart anatomy and physiology, interpretation of ECG strips, types of cardiac drugs and various cardiac arrhythmias are covered in the class. Clinical experiences at local hospitals provide opportunities to apply classroom theory.

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 the 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.

*Credit
Hours*

#EMS 160L Basic EMT Skills 6

#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. Laboratory experiences allow students to practice medical techniques learned in class. Classes meet Mondays and Wednesdays or Tuesdays and Thursdays for four hours each.

Licensed Practical Nurse Refresher

Special Course

Six Weeks, Main Campus

Winter Term

This 180-hour, 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 should contact the Health Occupations Department for more information. Twenty-seven people are enrolled in each course 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.

LPNR 155L	Refresher Theory/Lab	6
LPNR 165C	Refresher Clinical Experience	2
	Total.....	8

LPNR 155L—Refresher Theory/Lab (6 cr)

(Prerequisite: Enrollment in the program; corequisite: LPNR 165C) Medical and surgical trends, new procedures and techniques, and pharmacology are covered in the theory portion of the program. Classes are Monday through Wednesday.

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 Thursdays and Fridays 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.

The 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 the cost of the required textbook.

This program may not qualify students for Veterans Administration benefits or other financial aid.

	<i>Credit Hours</i>
NAHA 102L Nursing Home/Home Health Attendant Theory/Lab	5

NAHA 102L—Nursing Home/Home Health Attendant Theory/Lab (5 cr)

Basic nursing skills to work in a nursing home, rehabilitation center or private home, giving personal and restorative care are reviewed. Classes are held Monday and Thursday afternoons.

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 a personal 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 are required to purchase their own textbooks.

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. Class meets 25 hours a week with varying theory and clinical hours for 15 weeks.

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, maternity 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 will be offered once a year in the fall term. Students are enrolled on a first come, first served basis and enrollment is limited to 27 persons. Interested persons should 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: Enrollment in the program; corequisite: RNR 265C) Trends in medical-surgical, geriatric, maternal-child and psychiatric nursing, pharmacology, and fluid and electrolytes are covered in the course. Classes are Monday through Wednesday.

RNR 265C—Refresher Clinical Experience (2 cr)

(Corequisite: RNR 255L) Students have supervised medical and surgical clinical experiences including patient care. Clinical experiences are eight-hour days on Thursdays and Fridays except the first week of classes.

Childhood Development

Associate in Arts Degree

Main Campus

The Childhood 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 may observe and interact with children in day care facilities, elementary and secondary classrooms and health care settings. The curriculum is developed to provide beginning level education courses as well as specialty courses in child development. The program is well rounded, requiring coursework that promotes reading, writing, speech, math, English and science.

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 (UNM) 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.

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 early childhood programs. Note: Federal law requires a background check and a fingerprint check on all persons employed in child care centers.

The enrollment requirement is a high school diploma or GED.

Associate in Arts Degree in Childhood 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	3
*CDV	201	Middle Childhood Growth and Development	3
*CDV	202	Adolescent Growth and Development	3

Required Arts & Sciences Courses

PHIL	241E	Philosophy of Education	3
NUT	125	Nutrition	3
PSY	105	General Psychology	3
ENG	101	Writing with Readings in Exposition	3
ENG	102	Analytic Writing	3
COMM	221, COMM 270 or COMM 130	.....	3
ART	101 or ART 151	.....	3
HIST	101, HIST 102, HIST 161, HIST 162 or HIST 260	.....	3
MATH	120, MATH 145 or MATH 121	.....	3
	Chemistry, Biology or Physics Course	.....	8

Electives: Eight Credits Required

CDV	203	Standard First Aid.....	3
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	2 X 1
*CDV	209	Early Childhood Learning Environments	3
*CDV	210	Guidance and Early Childhood Development.....	3
CDV	211	Microcomputer Awareness for Educators.....	1
	Total		62

*Course has a prerequisite or a corequisite (see description).

Memo dated 10/5/92 states CDV 208 is only 1 credit class
 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)

(Corequisite: CDV 102) This course requires students to observe infant behavior. The course is taken concurrently with Infant Growth and Development.

memo 8/7/92
 phil 250 may be substituted phil 214E

CDV 103L—Pre-school Growth and Development (3 cr)

(Prerequisite: CDV 102 and CDV 102L) Students examine the physical and social-emotional development of the pre-school child. The course includes three hours per week of laboratory experience in a child care setting.

CDV 104—Theories of Child Development and Family Relations (3 cr)

(Prerequisite: PSY 105) 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)

(Prerequisite: CDV 104 or CDV 205) 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)

(Prerequisite: CDV 104 or CDV 205) Students examine the development and communication patterns of adolescents within the family setting.

CDV 203—First Aid/CPR (3 cr)

This course provides the knowledge and skills necessary to provide basic first aid and cardiopulmonary resuscitation (CPR). There is a \$10 fee for this course to cover the cost of certification and supplies.

CDV 204—Introduction to Classroom Learning (3 cr)

(Prerequisite: PSY 105) An introduction to educational psychology and learning with an emphasis on practical application is presented.

CDV 205—Human Development and Learning (6 cr)

(Prerequisite: PSY 105) This course presents a theoretical introduction to educational psychology and learning including principles of growth and development and implications for the school curriculum.

CDV 206—Education of the Exceptional Person (3 cr)

(Prerequisite: CDV 104 or CDV 205) 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)

(Prerequisite: CDV 104 or CDV 205) This course will provide students with the 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 (1 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)

(Prerequisites: CDV 102 and CDV 102L) 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)

(Prerequisites: CDV 102 and CDV 102L) 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.

Health Unit Clerk

Certificate Program

Main Campus

Winter, Summer Terms

The Health Unit Clerk program prepares persons to work in hospitals, elder care centers, outpatient 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.

Prior to enrollment in HUC 101L, students must have proof of a high school diploma or GED, read at the seventh-grade level and pass 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 outpatient 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</i>
			<i>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. The course meets five hours a day, five days a week for nine weeks.

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. The course meets five hours a day, five days a week for six weeks.

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 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 under the supervision of a pathologist and medical technologist.

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 certification exams to obtain Certified Medical Laboratory Technician credentials.

In order to be considered for enrollment in MLT 110L, Introduction to Medical Technology, students must:

- Complete a T-VI admission application including statement of completion of high school graduation or GED.

- Declare MLT as a major.

- Score satisfactorily on the ACT test or an examination designated by the Health Occupations Department including the areas of English, math and science.

(See page 16 for ACT cut-off scores and time limits). Completion of 100 level or above courses in all three areas or just those with unsatisfactory scores will waive the ACT requirement.

- Score at least 85 percent on the MLT basic math test within the last year. Students may retest once. Students with two unsuccessful attempts on the test must successfully complete MATH 099 in the Developmental Studies Department.

- Complete the following prerequisite courses:

- MATH 121 (with a grade of C or better); may be waived if CHEM 121L is completed successfully or placement test indicates math proficiency.

—CHEM 111/112L or a college chemistry course with lab (completed with a C or better).

Official high school or college transcripts must be submitted to the T-VI Records Office if needed to waive ACT, prerequisites or required courses.

■ Schedule an interview with the program director through the Health Occupations office *after completion of the enrollment requirements*. Interviews are scheduled during the summer and fall terms only. Students may schedule an interview during the fall term if they are enrolled in the prerequisite courses and have completed all the other enrollment requirements. If there is space in the program, they will be selected pending successful completion of the prerequisite coursework.

■ Submit completed health forms with evidence of current immunizations and a physical exam prior to MLT 151C.

■ Submit evidence of current cardiopulmonary resuscitation (CPR) certification prior to MLT 151C and MLT 250C.

The program begins in the winter term of each year and has a capacity of 20 students. Selection of students is based on the order in which students complete the requirements for enrollment including the interview. When 20 students have been selected, additional students who meet the enrollment requirements are placed on an alternate list and are notified if there is an opening in MLT 110L before the program begins in January. This alternate list is not a waiting list. Students on the alternate list who are not selected need to schedule another interview during the next summer term in order to be eligible for the program the following year.

Medical Laboratory Technician students will obtain both academic instruction and practical experience. 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. The clinical practicum experience at affiliated hospitals and laboratories provides actual experience in performing laboratory tests under the direction of a clinical instructor. Students must arrange for their own transportation to the hospitals or labs.

There is an equipment charge of \$53 for two lab coats, parking fee, name tag and preventive lab tests in case of needlestick exposure. Each MLT laboratory course also has a \$20 fee.

Arts & Sciences courses listed in the curriculum may be taken prior to entering the program. If a student is selected for the program, 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 and Sciences courses as possible prior to entering the program.

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
³ MLT	201L	Clinical Chemistry	7
³ MLT	202L	Clinical Microbiology	5
³ MLT	203L	Clinical Hematology/Coagulation	6

³ MLT	204L	Clinical Immunohematology	3
MLT	250C	Clinical Experience	12
<i>205C Memo 10/5/92 Course # Orange</i> Required Arts and Sciences Courses ¹			
BIO	123	Biology for Health Sciences	3
BIO	124L	Biology for Health Sciences Lab	1
ENG	101	Writing with Readings in Exposition	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
⁴ Humanities/Social Science Elective			3
² Communications Elective			3
Total.....			69 - 72

¹Biology 121L may be substituted for Biology 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.

²Communications elective not required for graduation but necessary for transfer to bachelor's degree Medical Technology program at UNM.

³Courses taught by the 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.

⁴PHIL 245M--Biomedical Ethics strongly recommended.

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,
humanities/social science elective

Fall Term: MLT 112L, MLT 201L, BIO 239/239L

Winter Term: MLT 202L, MLT 203L, MLT 204L

Summer Term: MLT 250C

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.

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 Department 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 of science degree.

Route Two: Documented work experience in laboratory medicine on specimens from humans. Each subject area of the clinical experiences may be challenged through a skills competency test taken at the beginning of the 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 at T-VI in order to be awarded the associate of 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 of science degree and receive verification of that degree for the purposes of 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. The class meets six hours per week.

MLT 151C—Clinical Experience Urinalysis/Phlebotomy (4 cr)

(Prerequisite: MLT 110L; 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 practical experience at affiliated hospitals. The class meets 12 hours per week.

MLT 112L—Clinical Immunology (2 cr)

(Prerequisite: MLT 151C; 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. The class meets four hours per week.

MLT 201L—Clinical Chemistry (7 cr)

(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. The class meets 11 hours per week.

MLT 202L—Clinical Microbiology (5 cr)

(Prerequisite: MLT 201L; 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. The class meets nine hours per week.

MLT 203L—Clinical Hematology/Coagulation (6 cr)

(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 testing methods involved in cell counting, evaluation of coagulation factors and other routine procedures performed in the hematology laboratory. There also is laboratory experience in the performance of basic procedures used in a clinical hematology laboratory. The class meets 10 hours per week.

MLT 204L—Clinical Immunohematology (3 cr)

(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. Laboratory experiences are included for practicing the basic procedures performed in a clinical immunohematology lab. The class meets five hours per week.

MLT 250C—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 MLT 201L, MLT 202L, MLT 203L, MLT 204L AND MLT 112L. The class meets 36 hours per week.

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, outpatient 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 as nursing assistants.

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, outpatient 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 \$33 equipment fee covers the cost of the required uniform top, name tag, stethoscope, health test, 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. Also covered are geriatrics, home management, community resources, purchase and preparation of foods. The class meets five hours a week for five weeks, then 15 hours a week for four weeks.

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) Four of the last six weeks of the program include supervised practice of nursing skills in hospitals, elder care centers or out-patient clinics throughout the city. The last two weeks are spent in a supervised preceptorship where students learn new skills on an individual basis in a job-like setting. The class meets 21 hours a week for six weeks.

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 function of the body systems and some of the health problems which can occur in those systems are covered. The class meets five hours a week for nine weeks.

NA 141—Mathematics (1 cr)

(Corequisite: NA 101) Basic math is reviewed with practice working selected problems. The class meets five hours a week for five weeks.

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. The class meets approximately three hours a week for 15 weeks.

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). This program is not a prerequisite for the associate degree in nursing program.

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 admission process and program requirements. Individuals interested in nursing are strongly encouraged to attend one of these sessions. Applications are not currently being accepted for the Practical Nurse program but may re-open during the 1992-1993 academic year. Contact the Health Occupations Department for the

dates and times of the orientation sessions and to find out when applications will be reopened. In addition, it is strongly recommended that applicants review enrollment and program requirements with the Health Occupations counselor or nursing program director.

To be eligible to enroll in Practical Nursing courses a student must:

- Provide proof of high school graduation or GED.
- Earn satisfactory American College Test (ACT) scores. Scores for ACT taken after November 1, 1989:

English: 19

Reading: 18

Math: 16

Scientific Reasoning: 19

Another test may be used; students may contact the department for more information.

- Score 85 percent on the Nursing basic math test. Applicants with two unsuccessful attempts on the test must satisfactorily complete a Health Occupations-approved math course and successfully retest. Math scores are valid for **one year only**. Current applicants must re-test to keep their math scores valid and to maintain their status on the list of qualified applicants.

- Have a cumulative T-VI GPA of 2.0 or higher.

Students are responsible for meeting the enrollment criteria and notifying the department counselor when completion occurs. They are enrolled in the first clinical course on the basis of their application dates after all enrollment criteria are fulfilled and verified. 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.

When applications are reopened applicants must meet the enrollment criteria in order to submit their application. In addition, interested applicants are encouraged to complete the required Arts and Sciences courses.

After enrollment in 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. These courses must be taken prior to, or as scheduled in, the curriculum plan. Students are encouraged to take Arts & Sciences courses prior to entering the program. 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 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

			<i>Credit Hours</i>
NURS	115	Dosage Calculations	1
¹ NURS	124C	Fundamentals of Nursing	7
² NURS	125C	Medical-Surgical Nursing	8
³ PN	131	Pharmacology	3
PN	146C	Maternal-Child/Medical-Surgical Nursing	16

Required Arts & Sciences Courses

⁴ BIO	136	Human Anatomy and Physiology	3
⁴ BIO	139L	Human Anatomy and Physiology Lab	1
ENG	101	Writing with Readings in Exposition	3
NUTR	125	Nutrition	3
⁵ PSY	105	General Psychology	3
COMM	221	Interpersonal Communication	3
Total.....			51

¹NURS 110/121C may be substituted

²NURS 111/122C may be substituted

³NURS 231 may be substituted

⁴BIO 237/247L (if taken before September 1989) or BIO 237/247L and
BIO 238/248L (if taken after August 1989) may be substituted.

⁵PSY 102 or Psy 220 may be substituted

NOTE: Students planning to go on for the associate degree in nursing are encouraged to take BIO 237/247L and BIO 238/248L.

In order to satisfy prerequisite and co-requisite requirements, the following order of courses is recommended.

Term I: NURS 124C, NUTRITION 125, BIO 136/139L, ENG 101

Term II: NURS 125C, PN 131, COMM 221, PSY 105

Term III: PN 146C

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 supports the school through financial contributions and 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. These courses include: BIO 136/139L, Human Anatomy and Physiology for Non-Majors; PSY 105, General Psychology; ENG 101, Writing with Readings in Exposition; COMM 221, Interpersonal Communication; and NUTR 125, Nutrition.

The nursing courses must be transferred, taken or challenged through the Health Occupations Department. Courses that may be challenged are NURS 115, NURS 124C and NURS 125C. In addition, PN 131 and PN 146C must be taken. 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).

■ Performance of basic nursing skills during employment in an in-patient setting within the last three years.

Applicants for challenge must submit an application to the Practical Nurse Program and meet the program enrollment criteria. In addition, the applicant must meet the Arts & Sciences course requirements scheduled in the curriculum prior to the desired point of entry. The challenge process includes theory and practical exams.

Deadlines for challenge exams for the nursing courses are in January, May and September. For specific information, contact the Health Occupations Department.

Successful challenge students are enrolled in the nursing courses on a space-available basis. Challenge students who meet the program objectives are considered full graduates and are eligible to take the licensing examination administered by the New Mexico State Board of Nursing.

Nursing

Associate in Science Degree

Main Campus

Summer, Fall, Winter Terms

The 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. The Practical Nurse program is not a prerequisite for this program.

Orientation sessions for the nursing programs are scheduled regularly. These sessions review levels of nursing, the admission process and program requirements. Individuals interested in nursing are strongly encouraged to attend one of these sessions. Applications are being accepted early in the term prior to the desired term of enrollment. Contact the Health Occupations Department for the dates and times of the orientation sessions and to find out the week each term applications will be opened. In addition, it is recommended strongly that applicants have a personal interview with the Health Occupations counselor or the nursing program director.

The associate degree in nursing program is accredited by the National League for Nursing and approved by the New Mexico State Board of Nursing (NMSBN). 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:

■ Submit transcripts of previous education including high school, vocational school or college. College transcripts must be official.

■ Earn satisfactory American College Test (ACT) scores. 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.

■ 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 (this approach is recommended strongly for those students who plan to further their education in nursing) or

—Completion of BIO 115/115L, Biophysical Science (this approach is recommended only for those students who do not plan to further their nursing education beyond the associate degree and have a math background) 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 basic math test. Applicants with two unsuccessful attempts on the test must satisfactorily complete a Health Occupations approved basic math course and successfully retest. Math scores are valid for one year only.

■ Have a cumulative T-VI GPA of 2.0 or higher.

Students are responsible for meeting the enrollment criteria. Once all enrollment criteria are fulfilled students may apply to enroll in the first term of nursing. 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 admission 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.

Arts & Sciences courses must be taken prior to, or as scheduled in, the curriculum plan. 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>
NURS	115	Dosage Calculations	1
¹ NURS	124C	Fundamentals of Nursing	7
² NURS	125C	Medical-Surgical Nursing	8
³ NURS	224C	Maternity Nursing	5
⁴ NURS	225C	Psychiatric Nursing	5
NURS	231	Pharmacology in Nursing	3
NURS	246C	Pediatric/Advanced Medical-Surgical Nursing	10
NURS	242	Nursing Trends and Issues	1

Required Arts & Sciences Courses

BIO	237	Anatomy and Physiology I	3
BIO	247L	Anatomy and Physiology I Lab	1
ENG	101	Writing with Readings in Exposition	3
⁵ 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
⁶ Elective		.....	3
Total.....			70

¹May substitute NURS 110/121C

²May substitute NURS 111/122C

³May substitute NURS 210/221C

⁴May substitute NURS 211/222C

⁵May substitute PSY 101 or 102

⁶May be outside of Arts & Sciences with departmental approval.

In order to satisfy prerequisite and co-requisite requirements, the following order of courses is recommended:

Term I: NURS115, NURS 124C, BIO 237/247L, ENG 101, PSY 105

Term II: NURS 125C, BIO 238/248L, NUTR 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.

Orientation sessions for the nursing programs are scheduled regularly. These sessions review levels of nursing, the admission process and program requirements. Individuals interested in nursing are strongly encouraged to attend one of these sessions; they should contact the Health Occupations Department for dates and times. In addition, it is recommended strongly that applicants have a personal interview with the Health Occupations counselor or the nursing program director.

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.

Applicants for challenge must submit an application to the associate degree program and meet the program enrollment criteria. In addition, the applicant must meet the Arts & Sciences course requirements scheduled in the curriculum prior to the desired point of entry. The challenge process includes theory and practical exams. Challenge exams are available for NURS 115, NURS 124C and NURS 125C. There is a \$15 to \$40 fee for each challenge exam.

Deadlines for challenge exams for the nursing courses are in January, May and September. For specific information, contact the Health Occupations Department. Applicants who successfully challenge must complete NURS 201 before entering the program.

Successful challenge students are enrolled in the nursing courses on a space-available basis. Challenge students who meet the program objectives are considered full graduates and are eligible to take the licensing examination administered by the New Mexico State Board of Nursing.

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. In addition, students must take NURS 201 prior to entry. Transfer students are required to enroll a minimum of one term and complete 15 credit hours at T-VI.

LPN Mobility: The associate degree program is designed to enroll qualified licensed practical nurses into the third term who meet the following requirements:

- Earn satisfactory ACT scores for the ADN program.
- Have a cumulative T-VI GPA of 2.0
- Provide proof of meeting the program's chemistry/biology course requirements.
- Submit transcripts of previous education including high school, vocational school or college work. College and vocational transcripts must be official.
- 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
 - PSY 105, General Psychology
 - PSY 220, Developmental Psychology.
 - NUTR 125, Nutrition.
 - NURS 201, Nursing Concepts
 - ENG 101, Writing with Readings in Exposition
- Pass the Nursing Mobility Profile I examination if an approved post-secondary practical nurse program has not been completed. The exam may also be required if the applicant has not been active in nursing during the last three years.

Students are responsible for meeting the enrollment criteria and notifying the department when completed. After verification that enrollment criteria have been met, students may enroll in the nursing courses upon permission of the nursing director. Should the number of advanced placement students eligible to enroll exceed the class size quota, priority will be given to those students who have completed all of the required Arts & Sciences courses. After enrollment in the courses, students must submit:

- Proof of current LPN license.
- 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.

Applicants for advanced standing may complete additional courses required for the associate degree in nursing before beginning the second year nursing courses. This enables them to complete the program on a part-time basis.

Students pay a \$12 equipment fee 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)

(Prerequisites: Nursing basic math test and approval of nursing director) Methods of dosage calculations for oral and parenteral medications including intravenous therapy and pediatric dosages. The course is offered for CR/NC.

NURS 124C—Fundamentals of Nursing (7 cr)

(ADN Students—Prerequisite/corequisite: Nursing director approval, BIO 237/247L, PSY 105, ENG 101. PN Students—Prerequisite: Nursing director approval. Prerequisite/corequisite: BIO 136/139L, NUTR 125, ENG 101) The conceptual framework of the curriculum and nursing process is introduced. Concepts of the individual, society, health and nursing are developed using Orem's self-care deficit model. Nursing skills are developed to meet the universal and developmental needs of individuals across cultures, with topics including communication, teaching-learning, health care delivery systems, legal/ethical role of nurses, introduction to pharmacology and medication administration. In laboratory/clinical experiences students carry out nursing activities to promote universal and developmental self-care in adult and elderly clients. 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; corequisites: BIO 238/248L, NUTR 125, PSY 220. PN Students—Prerequisites: NURS 115, NURS 124C, BIO 136/139L; NUTR 125, ENG 101; corequisites: COMM 221, PSY 105, PN 131) A theoretical study of the nursing process for adult clients. Nursing process is used to meet self-care deficits of clients unable to meet their own needs due to common illnesses or injuries. The role of the nurse in promoting health deviation self-care in adult clients is presented. Students apply theoretical content with adult clients in medical-surgical acute-care facilities. 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; 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. The process of role change from LPN to RN is included. This course is required for LPNs and transfer applicants who seek advanced placement in the practical nurse or associate degree program.

NURS 224C—Maternity Nursing (5 cr)

(Prerequisites: Calculation Exam II^a, BIO 238/248L, NURS 125C, ENG 101, NUTR 125, PSY 220; corequisites: NURS 225C) Study of the child-bearing family with universal, developmental and health deviations self-care requisites is presented. Students are able to integrate the nursing process, client education, nursing care systems and assessment skills. Theoretical concepts are applied in perinatal settings. Lecture: three hours; clinical: six hours.

NURS 225C—Psychiatric Nursing (5 cr)

(Prerequisites: Calculation Exam II^a, 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 clients. The course also presents concepts of various psychotherapeutic approaches used in psychiatric settings. Theoretical concepts are applied in various clinical sites. Lecture: three hours; clinical: six hours.

NURS 231—Pharmacology in Nursing (3 cr)

(Prerequisites: BIO 238/248L, NURS 125C) This course presents the concepts necessary for judgement in the use of chemical agents and the theoretical base required to administer medications. Information presented includes the role of the nurse in assisting the client with self-administration of medications, history of pharmacology, drugs and their therapeutic use, adverse reactions, precautions, contraindications, food and drug interactions, psychosocial aspects of drug use and drug abuse.

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 theoretical study of the nursing process using nursing systems as defined by Orem to care for children and adults. The nursing process is used to meet health deviations of children and adults unable to meet their self-care needs due to developmental factors or more complex health conditions. The role of the technical nurse in working with families is presented. A clinical practicum provides application of theoretical concepts in the care of children and families in acute-care facilities and in adult clients with more complex health conditions. 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 theoretical study of the nursing process to care for maternal-child clients and adults. The nursing process is used to meet the self-care deficits of children and adults unable to meet their self-care needs due to developmental factors or more complex health conditions. The legal/ethical role of the practical nurse is presented. Clinical experiences in maternity, pediatric and medical-surgical areas provide for application of theoretical concepts. Lecture: nine hours; clinical: 21 hours.

* Calculation exams must be passed with a score of 85% or better.

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 a verbal ability to communicate with clients, basic math skills for calculating dosages and 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, CPR manuals, 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 in the program; corequisite: PHLB 121C) Students learn the procedures for collecting blood and other specimens from patients. Interpersonal relationships with patients, peers and staff are stressed. An introduction to the anatomy and physiology of the major body systems, computer processes and laboratory clerical duties

also is included. The class meets five hours a day weeks 1 - 3 and week 10. Weeks 4 - 9 class meets Mondays for five hours.

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. The class meets five hours per day Tuesday through Friday weeks 4 - 9.

Respiratory Care Programs

Respiratory care is an allied health profession which deals with diagnostic testing, therapeutic treatment and critical care life 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 of 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.

Applicants must meet the following requirements:

- Declare RTT as their major in writing through the Admissions Office or Health Occupations counselor's office.
- Achieve a T-VI cumulative GPA of 2.0 or higher.
- Provide proof of high school graduation or 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 RTT courses. Students should consult the Health Occupations Department counselor or admissions counselors for information.

Students are responsible for meeting the selection qualifications. Once selection qualifications have been met, students must make sure that required documents are on file in the Health Occupations Department counselor's office and the T-VI Records Office.

Twenty-four qualified students will be selected to start RTT coursework each fall term. Twelve qualified alternates will be selected to fill vacancies that occur prior to the start of classes. These alternates may be eligible to start RTT coursework the succeeding fall. Required Arts & Sciences courses should be completed during this waiting period. When a student enters the program, credit will be given for these courses with final grades of C or better.

If the number of qualified students exceeds the number of positions available, preference will be given to those students who have completed required Arts & Sciences courses. If necessary, applicants will be ranked by date of completion of requirements.

An information session will be scheduled with the program director for qualified students selected to begin RTT coursework.

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, parking fees and preventive lab tests in case of needlestick exposure. Additional student costs include purchase of bandage scissors, graduation pin and the pre-entrance physical exam.

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 below).

Respiratory Therapy Technician Program

			<i>Credit Hours</i>
RTT	110	Respiratory Therapy Principles and Practice I	3
RTT	115L	Respiratory Therapy Lab I	1
RTT	121C	Clinical Experiences I	4
¹ RTT	131	Physics of Respiratory Therapy	3
RTT	111	Respiratory Therapy Principles and Practices II	3
RTT	116L	Respiratory Therapy Lab II	1
RTT	122C	Clinical Experiences II	5
RTT	112	Respiratory Therapy Principles and Practices III	3
RTT	117L	Respiratory Therapy Lab III	1
RTT	123C	Clinical Experiences III	5
RTT	132	Cardiopulmonary Physiology	4

Required Arts & Sciences Courses

² BIO	123	Biology for Health Sciences	3
BIO	124L	Biology for Health Sciences Lab	1
³ BIO	136	Human Anatomy & Physiology	3
BIO	139L	Human Anatomy & Physiology Lab	1
CSCI	101	Computer Literacy	3-4
Total			45 44-45

¹A college physics course may be substituted for RTT 131

²BIO 121L may be substituted for BIO 123/124L

³BIO 237/247L and BIO 238/248L may be substituted for BIO 136/139L

CSCI 101 may be elected for 4 credit

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 123/124L

Winter term: RTT 111, RTT 116L, RTT 122C and BIO 136/139L, 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.

Transfer: The first is through 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: The second, for people with documented respiratory therapy work experience, is through challenge exams. Persons wanting to challenge Term I courses should contact the Health Occupations Department. A written exam is used to challenge theory courses. A competency test using respiratory therapy equipment under simulated conditions in the learning laboratory is used to challenge lab and clinical coursework. There is a \$15 fee for each challenge exam.

Challenge candidates with previous respiratory therapy work experience under medical supervision must document at least 200 hours to challenge Term I courses and another 200 hours to challenge Term II courses. Those taking challenge exams must score at least 71 percent on each component to receive Term I credit. Challenge exams may be taken only once. Persons given challenge credit for Term I will be admitted in January for Term II on a space-available basis.

Challenge candidates successfully completing all Term I requirements may apply to challenge Term II courses.

Portions of Term III may be challenged depending on prior clinical work experiences which must total at least 600 hours under medical supervision. Challenge and transfer students accepted must submit transcripts of prior education and proof of high school graduation or GED. They must also meet all prerequisites for admission into the program and have acceptable ACT scores if applicable. They must meet all prerequisites for admission to the program, including arts and science courses if applicable. They must pay required T-VI fees, purchase school uniforms and other needed equipment, and have a physical examination before admission.

Course Descriptions

RTT 110—Respiratory Therapy Principles and Practices I (3 cr)

(Prerequisite: permission of program director; corequisites: BIO 123/124L, RTT 115L, RTT 121C, RTT 131) This course covers respiratory therapy as a health sciences profession: personal qualifications, ethics, expectations and work functions, medical terminology and charting. It also covers practices and procedures of basic respiratory care including cardiopulmonary clinical assessment, medical gas administration, oxygen therapy, principles of microbiology, infection control and equipment maintenance. Incentive breathing exercises and chest physiotherapy are included. The class meets three hours a week for 15 weeks.

RTT 111—Respiratory Therapy Principles and Practices II (3 cr)

(Prerequisites: BIO 123/124L, RTT 110, RTT 115L, RTT 121C, RTT 131; corequisites: CSCI 101, BIO 136/139L, RTT 116L, RTT 122C) Additional theory of respiratory therapy procedures is presented with emphasis on positive pressure breathing treatments and airway management. Basic principles of pharmacology are taught along with the procedure of administering medicated aerosol therapy. The concepts and skills required to perform basic pulmonary function testing, arterial puncture and blood gas analysis are included. The class meets three hours a week for 15 weeks.

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. The class meets three hours a week for 15 weeks.

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. The class meets three hours a week for 15 weeks.

RTT 116L—Respiratory Therapy lab II (1 cr)

(Corequisites: RTT 111, RTT 122C) Students practice additional respiratory care procedures learned in RTT 111. Students use equipment in simulated patient situations. The class meets three hours a week for 15 weeks.

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. The class meets three hours a week for 15 weeks.

***RTT 121C—Clinical Experiences I (4 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. The class meets 16 hours a week for 15 weeks.

***RTT 122C—Clinical Experiences II (5 cr)**

(Corequisites: RTT 111, RTT 116L) Supervised clinical experiences continue in area hospitals and health care facilities. Students also visit patients in the home setting, supervised by qualified personnel working with medical equipment supply companies in Albuquerque. The class meets 16 hours a week for 15 weeks.

***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. The class meets 16 hours a week for 15 weeks.

RTT 131—Physics of Respiratory Therapy (3 cr)

(Corequisites: RTT 110, RTT 115L, RTT 121C) The basic concepts of physics as they relate to physiology of the lungs, gas laws, gas flow and mechanics of the breathing process are covered and applied to the operation of respiratory therapy equipment. Basic math calcula-

tions are also covered relating to physics and respiratory physiology computations. The class meets three hours a week for 15 weeks.

RTT 132—Cardiopulmonary Physiology (4 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. The class meets four hours a week for 15 weeks.

**(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 with Certificate in Respiratory Care
Main Campus
Courses Begin Each Summer Term

The Respiratory Therapist 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 program includes extensive instruction by faculty from the University of New Mexico Medical Center and School of Medicine. An associate in science degree is awarded with a certificate 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.

Candidates must meet each of the following requirements:

- Declare RT as their major in writing through the Admissions Office or Health Occupations counselor's office.

- Achieve a T-VI cumulative GPA of 2.0 or higher.

- Provide proof of high school graduation or GED diploma.

- 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.

- 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 for information.

Students are responsible for meeting the selection qualifications. Once qualifications have been met, students must make sure that required documents are on file in the Health Occupations Department counselor's office and the T-VI Records office.

Sixteen students will be selected to start RT coursework each summer term. Four alternates will be selected to fill vacancies that occur prior to the start of classes. These alternates may be eligible to start RT courses the succeeding summer term. Required Arts & Sciences courses should be completed during this waiting period. If the number of qualified students exceeds the number of positions available, preference will be given to those who have completed Arts & Sciences courses.

An information session will be scheduled with the program director for students selected to begin RT coursework.

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 have a current CPR certification, lab coats, a stethoscope, bandage scissors and a pre-entrance physical exam prior to the first clinical course.

Arts & Sciences courses which are part of the Respiratory Therapist curriculum may be taken prior to entering the program. When a student enters the program, credit will be given for courses with final grades of C or better.

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

*Credit
Hours*

Technician Level

RTT	110	Respiratory Therapy Principles and Practice I.....	3
RTT	115L	Respiratory Therapy Lab I.....	1
RTT	121C	Clinical Experiences I.....	4
¹ RTT	131	Physics of Respiratory Therapy.....	3
RTT	111	Respiratory Therapy Principles and Practices II.....	3
RTT	116L	Respiratory Therapy Lab II.....	1
RTT	122C	Clinical Experiences II.....	5

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	123	Biology for Health Sciences.....	3
BIO	124L	Biology for Health Sciences Lab.....	1
³ BIO	136	Human Anatomy & Physiology.....	3
BIO	139L	Human Anatomy & Physiology Lab.....	1
CSCI	101	Computer Literacy.....	4
MATH	120	Intermediate Algebra.....	3
ENG	101	Writing with Readings in Exposition.....	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
⁴ Elective:	PSY 105 or SOC 101	.....	3
Total.....			75-76

CSCI maybe either 3 or 4 credits

¹A college physics course may be substituted for RTT 131

²BIO 121L may be substituted for BIO 123/124L

³BIO 237/247L and BIO 238/248L may be substituted for BIO 136/139L

⁴PSY 101 or 102 may be substituted for PSY 105

*See Memo
Dated 8-7-93*

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 123/124L

Winter Term: RTT 111, RTT 116L, RTT 122C and BIO 136/139L, 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 standing can be granted to Respiratory Therapist applicants: transfer and challenge.

Transfer: The first is through transfer credit for equivalent coursework completed at a regionally accredited technical-vocational school, college or university. Technician students currently enrolled in CAHEA/JRCRTE accredited programs who have completed two terms of coursework or technician program graduates may take therapist level courses. A maximum of 16 students will be accepted each summer. If the number of qualified applicants exceeds positions available, preference will be given to those applicants with arts and science courses already completed. Technician student/graduate applicants must have documented completion of arts and science courses and technician professional courses in theory, lab and clinical. This may include the coursework taken as part of the Technician Program and may also include the arts and science courses as part of the associate in science degree.

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.

Challenge: The second method is for respiratory therapy technicians who are certified by the National Board for Respiratory Care but are not graduates of approved technician programs. Qualified applicants to the associate in science degree program must provide documentation of arts and science requirements. These applicants must also complete advanced standing covering technical courses of a respiratory therapy technician program through challenge examination. Challenge exams will be both written and practical. The written exam is used to challenge theory courses, and a competency exam under simulated conditions in the Respiratory Therapy learning laboratory is used to challenge lab and clinical courses. Persons wanting to challenge under this arrangement may apply at the T-VI Health Occupations Department Office. There is a \$15 fee for each challenge exam.

Technician graduates with documented work experience in respiratory therapy may apply to challenge portions of the therapist curriculum. Persons wanting to challenge under this arrangement may apply at the T-VI Health Occupations Department Office.

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.

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, MATH 120, and ENG 101) The course presents an integrated study of cardiopulmonary assessment and cardiopulmonary diagnosis for the advanced practitioner. Correlation of cardiopulmonary anatomy, physiology and pathophysiology with evaluation of cardiac and pulmonary function is presented. The class meets three hours a week for 15 weeks.

*RT 211—Advanced Respiratory Therapy II (3 cr)

(Prerequisites: RT 210, RT 215L, RT 221C; corequisites: RT 216L, RT 211C, CHEM 111/112L, and 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. The class meets for three hours a week for 15 weeks.

*RT 212—Advanced Respiratory Therapy III (3 cr)

(Prerequisites: RT 211, RT 216L, RT 222C; corequisites: BIO 239/239L, elective, 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. Students are also prepared for roles and responsibilities in leadership positions. The class meets for three hours a week for 15 weeks.

RT 215L—Advanced Respiratory Therapy Lab I (1 cr)

(Corequisites: RT 210, RT 221C) Students are taught clinical assessment techniques, cardiopulmonary anatomy and physiology, 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. The class meets three hours a week for 15 weeks.

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. The class meets three hours a week for 15 weeks.

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. Opportunities are offered for special projects in areas of education, supervision and management, and clinical research. Additional activities are provided for research physiology experiences. Activities include

simulated patient situations and the use of computer simulation programs. The class meets three hours a week for 15 weeks.

RT 221C—Advanced Clinical Experiences I (4 cr)

(Corequisites: RT 210, RT 215L) Students are supervised in the clinical applications of respiratory care 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. Activities take place in affiliated hospitals and other local health care agencies. The class meets 12 hours a week for 15 weeks.

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. Activities will take place in affiliated hospitals and other local health care agencies. The class meets 12 hours a week for 15 weeks.

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 cardiopulmonary physiology testing. Investigation of special clinical areas chosen by each student will be available. Activities will take place in affiliated hospitals and other local health care agencies. The class meets 12 hours a week for 15 weeks.

*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

Programs in the Technologies Department are among the longest at the Institute. The time necessary to complete one of the Technologies programs will vary from 16 to 24 months depending on student work load. Technologies programs also have the highest math skill entry requirements. All first-level math courses have a prerequisite of MATH 100 or equivalent.

Students in four programs—Electronics Technology, Instrumentation and Control Technology, Laser Electro-Optic Technology and Architectural/Engineering Drafting Technology—may choose to complete either an associate in applied science degree or a certificate. 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.** Courses with a course number of 200 or above may not be offered every term.

Electronics Engineering Technology courses and the Laser Electro-Optic Technology courses numbered above 200 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.

In each of the programs, there are some credit courses offered during the evening hours. Information is available in the current schedule of classes.

A student may take a challenge examination for most courses with course numbers below 200. The cost is \$15 per examination.

Because the Technologies programs are in high demand, interested persons should apply as early as possible.

There are a number of optional courses and/or elective courses available to Technologies students. At least 12 students must sign up for an optional or elective course before it will be scheduled, and each student must meet the required prerequisites. Optional courses will be canceled before school starts each term if enough students have not registered.

Students enrolling in the Design Drafting Engineering Technology program, the Electronic Engineering Technology program and in evening courses must purchase their textbooks. In addition, most first-term courses require students to buy their own textbooks.

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

Drafting can be an excellent employment skill for persons who like to draw, have construction experience or have a strong interest in building design or the construction process. The potential for advancement into jobs with increasing responsibility and wider scope can be good.

T-VI's Architectural/Engineering Drafting Technology program 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.

Students use computer assisted drafting (CAD) software on microprocessors to do various types of drafting projects that are closely related to the laboratory courses.

The first-term math course has a prerequisite of MATH 100 or equivalent. If a student takes MATH 100, it is recommended that the student 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. 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. Courses with a course number of 200 or above may not be offered every term. Optional courses will be canceled before school starts each term if enough students have not registered for the course. Entry into a course without the prerequisite may be allowed with the permission of the academic advisor.

Architectural/Engineering Drafting Technology Program

Courses Required for Certificate

			<i>Credit Hours</i>
BA	111	Communications (7½ weeks)	2 to 3
or			
ENG	101	Writing with Readings in Exposition	
BA	131	Human Relations (7½ weeks)	2 to 3
or			
PSY	105	Introduction to Psychology	
ARDR	102	Architectural Mathematics	5
ARDR	103	Residential Materials and Methods	5
#ARDR	105A	Residential Drafting	3
and			
ARDR	105B	Residential Drafting	2
or			
ARDR	105L	Residential Drafting	5
ARDR	106L	Introduction to CAD	3
ARDR	112	Architectural Trigonometry	5
ARDR	116	Non-Residential Materials and Methods	5
ARDR	117L	Architectural Drafting	5
ARDR	118L	Architectural CAD	3
ARDR	202	Structural Mathematics	5
ARDR	205L	Structural Drafting	5
ARDR	207L	Structural CAD	3
ARDR	208	Energy Systems	5
ARDR	212L	M/E Systems Drafting	5
ARDR	215	M/E Systems Analysis	7
ARDR	216L	Structural Detailing	3
ARDR	217	Project Management	3
ARDR	218L	M/E Systems CAD	3
Total			79 - 81

#Students may take either the A and B courses or the L course. Both the A and B courses must be passed with a C or better for credit to be given for the entire course.

Courses required for Associate in Applied Science Degree

			<i>Credit Hours</i>
ARDR	102	Architectural Mathematics	5
ARDR	103	Residential Materials and Methods	5
#ARDR	105A	Residential Drafting	3
and			
ARDR	105B	Residential Drafting	2
or			
ARDR	105L	Residential Drafting	5

ARDR	106L	Introduction to CAD	3
ARDR	112	Architectural Trigonometry	5
ARDR	116	Non-Residential Materials and Methods	5
ARDR	117L	Architectural Drafting	5
ARDR	118L	Architectural CAD	3
ARDR	202	Structural Mathematics	5
ARDR	205L	Structural Drafting	5
ARDR	207L	Structural CAD	3
ARDR	208	Energy Systems	5
ARDR	212L	M/E Systems Drafting	5
ARDR	215	M/E Systems Analysis	7
ARDR	216L	Structural Detailing	3
ARDR	217	Project Management	3
ARDR	218L	M/E Systems CAD	3
ART	260	Architecture History: Ancient through Modern	3
COMM	221	Interpersonal Communications	3
	or		
ENG	101	Writing with Readings in Exposition	3
MATH	120	Intermediate Algebra	3
PHIL	156	Logic and Critical Thinking	3
	or		
PSY	105	Introduction to Psychology	3
PHYS	102	Introduction to Physics	3
	Total	.....	90

#Students may take either the A and B courses or the L course. Both the A and B courses must be passed with a C or better for credit to be given for the entire course.

Support or Elective Courses

ARDR	171	Architectural Design	3
ARDR	172	Architectural Rendering	2
ARDR	173	Technical Sketching	2
ARDR	174	Housing	2
ARDR	175	General Contractor Preparation	2
ARDR	176	Orientation to the Construction Industry	2
ARDR	180	Fundamentals of Computer Assisted Drafting	3
ARDR	181	Intermediate Computer Assisted Drafting	3
ARDR	182	Advanced Computer Assisted Drafting	3
ARDR	271	Construction Management	4
ARDR	272	Computer Estimating	3
ARDR	273	CAD Modeling	3
ARDR	295	CAD for Professional Drafters	5
ARDR	296	Special Problems	3
ARDR	297	Cooperative Education	3
ARDR	299	Internship	3

Course Descriptions

ARDR 102—Architectural Mathematics (5 cr)

(Prerequisite: MATH 099 or equivalent) Basic concepts of algebra and geometry are covered with an emphasis on architectural and engineering applications and calculator use.

ARDR 103—Residential Materials and Methods (5 cr)

(Corequisite: ARDR 102) Properties of building materials are related to building layout and construction methods. Blueprint reading, building and zoning codes, material estimates, energy conservation and alternative building technologies are covered. The student learns the City of Albuquerque's requirements for obtaining a building permit.

ARDR 105A—Residential Drafting (3 cr)

(Pre- or corequisite: ARDR 102 and ARDR 103) Students are introduced to general drafting theory and techniques needed to produce construction drawings and related documents for residential structures. The course has two hours of lecture and three hours of laboratory per week.

Supply fee: \$15

Note: Students must provide their own drafting kit.

ARDR 105B—Residential Drafting (2 cr)

(Prerequisite: ARDR 105A; corequisite: ARDR 106L) Graphic skills related to residential construction drawings are emphasized. The use of manufacturers' technical data and standard reference works are covered. The course has five hours of laboratory per week.

Supply fee: \$15

Note: Students must provide their own drafting kit.

ARDR 105L—Residential Drafting (5 cr)

(Pre- or corequisite: ARDR 102 and ARDR 103; corequisite ARDR 106L) Students are introduced to general drafting theory and techniques needed to produce working drawings and related contract documents for residential structures. The development of graphic skills is emphasized. The student learns to use manufacturers' technical data and standard reference works in developing drawings. The course has three hours of lecture and six hours of laboratory per week.

Supply fee: \$15

Note: Students must provide their own drafting kit.

ARDR 106L—Introduction to CAD (3 cr)

(Corequisite: ARDR 105A and ARDR 105B or ARDR 105L) The microcomputer and the MS-DOS operating system are introduced. Students explore the basic concepts of computer assisted drafting. The course has two hours of lecture and three hours of laboratory per week.

Supply fee: \$15

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 sequence of critical decisions that take a non-residential project from conceptual design to construction documents is 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. The course has three hours of lecture and six hours of laboratory per week.

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. The course has two hours of lecture and three hours of laboratory per week.

Supply fee: \$15

ARDR 171—Architectural Design (3 cr)

(It is suggested that ARDR 105A and ARDR 105B or ARDR 105L be taken prior to this course) 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. The course has two hours of lecture and three hours of laboratory per week.

ARDR 172—Architectural Rendering (2 cr)

Techniques of rendering and illustration are explored. Students work with planar, axonometric and perspective drawings in a variety of media such as graphite, ink and some color methods. The course has one hour of lecture and three hours of laboratory per week.

ARDR 173—Technical Sketching (2 cr)

Students make various drawings to develop visual 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. The course has one hour of lecture and three hours of laboratory per week.

ARDR 174—Housing (2 cr)

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 (3 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. The course has two hours of lecture and three hours of laboratory per week.

ARDR 176—Orientation to the Construction Industry (2 cr)

The student will develop an overview of the industry and a variety of jobs available within it. Topics will include the construction environment and related disciplines of architects, engineers, landscape architects, interior designers, contractors, suppliers, insurers and other consultants. The student will investigate such things as the design process, building systems and component parts.

ARDR 180—Fundamentals of Computer Assisted Drafting (3 cr)

(Prerequisite: CP 176) This course introduces the student to the fundamentals of computer assisted drafting using AutoCAD. The course meets for two hours of lecture and three hours of laboratory per week.

Supply fee: \$15

ARDR 181 Intermediate Computer Assisted Drafting (3 cr)

(Prerequisite: ARDR 180) Topics covered include customized menu making, attribute editing and extracting, and the drawing of isometrics. The course has two hours of lecture and three hours of lab per week.

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. This course has two hours of lecture and three hours of lab per week.

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 precast 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. The course has three hours of lecture and six hours of laboratory per week.

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. The course has two hours of lecture and three hours of laboratory per week.

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.

ARDR 212L—M/E Systems Drafting (5 cr)

(Prerequisite: ARDR 205L; corequisites: ARDR 215, ARDR 218L) The student learns conventional drafting methods of mechanical and electrical systems. This includes 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. The course has three hours of lecture and six hours of laboratory per week.

ARDR 215—M/E Systems Analysis (7 cr)

(Prerequisites: ARDR 205L, ARDR 208) General theory and layout information and code requirements for non-residential systems are studied. Topics include lighting, plumbing and air conditioning. Microprocessor software applications may be used. The course meets for five hours of lecture and five hours of laboratory per week.

ARDR 216L—Structural Detailing (3 cr)

(Corequisite: ARDR 212L) Students concentrate on the study of graphic methods of representing materials assembly. Emphasis is placed on completeness and clarity through the use of drafting standards and conventions and industry manuals. Students sketch and draft representative details from subject areas in CSI divisions 3 through 14. The course has two hours of lecture and three hours of laboratory per week.

ARDR 217—Project Management (3 cr)

(Corequisite: ARDR 215) 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. The course meets for two hours of lecture and three hours of laboratory per week.

ARDR 218L—M/E Systems CAD (3 cr)

(Prerequisite: ARDR 207L; corequisites: ARDR 212L, ARDR 215) The student develops engineering drawings of mechanical and/or electrical systems on the computer. Isometric drawings and installation details are included. The course has two hours of lecture and three hours of laboratory per week.

Supply fee: \$15

ARDR 271—Construction Management (4 cr)

(Prerequisite: ARDR 105A and ARDR 105B or ARDR 105L; corequisite: ARDR 116)

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 them. Students analyze how well and widely these systems are used in industrial, utility and commercial segments of construction. Microcomputer software is used where applicable. The course has four hours of lecture and one hour of laboratory per week.

ARDR 272—Computer Estimating (3 cr)

(Prerequisite: ARDR 105A and ARDR 105B or ARDR 105L; corequisite: ARDR 116)

Determination of probable costs of construction projects is emphasized. Topics include making quantity take-offs, determining local unit costs and job scheduling. Microcomputer software is used extensively. The course has two hours of lecture and three hours of laboratory per week.

ARDR 273—3D CAD Modeling (3 cr)

(Prerequisite: ARDR 106L or permission of the academic advisor) This course is an introduction to three dimensional CAD modeling, using various MS-DOS software packages. The student will generate three dimensional CAD models to enhance graphic representation and visualization. Applications include concept/visual perception, architectural design and architectural rendering. This course has two hours of lecture and three hours of laboratory per week.

Supply fee: \$15

ARDR 295—CAD for Professional Drafters (5 cr)

(Prerequisite: CP 176 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 student will cover CAD concepts and skills from a beginner's level to an advanced level. The course has three hours of lecture and six hours of laboratory per week.

Supply fee: \$15

ARDR 296—Special Problems (3 cr)

(Prerequisites: ARDR 205L and ARDR 207L 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 from 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 the student holds will be a paid position.

ARDR 299—Internship (3 cr)

(Prerequisite: permission from 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 the student holds will not be a paid position.

Business Computer Programming Technology

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 in a career in the computer field.

Computers currently used at T-VI are the IBM 4361 mainframe and IBM/XT/PS2 microcomputers and compatibles.

The 100-level courses will give students a sound background in fundamental skills used on a wide variety of computers and computer-related equipment. The 200-level courses 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. Five other computer languages, used on either a mainframe or microcomputer, are offered as technical electives or optional courses.

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.

Students must pay a supply fee at the beginning of each term for some courses.

It is strongly recommended that all beginning students meet with the department counselor to plan an individual course of study. Courses with a course number of 200 or above may not be offered every term. Optional courses will be canceled before school starts each term, if enough students have not registered for the course.

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

			<i>Credit Hours</i>
BA	111	Communications (7½ weeks)	2 or 3
or			
ENG	101	Writing with Readings in Exposition	
BA	131	Human Relations (7½ weeks)	2 or 3
or			
PSY	105	Introduction to Psychology	
#CP	101A	ANSI COBOL	4
and			
CP	101B	ANSI COBOL	3
or			
CP	101L	ANSI COBOL	7
CP	102	Introduction to Business Computer Programming	4
CP	103	Mathematics for Computer Programmers	4
CP	104	Data Processing Accounting I	4

CP	111A	Advanced ANSI COBOL	4
and			
CP	111B	Advanced ANSI COBOL	3
or			
CP	111L	Advanced ANSI COBOL	7
CP	112L	JCL/Utilities/File Structures	7
CP	114	Data Processing Accounting II	3
CP	201L	Interactive Programming Techniques	3
CP	202L	Assembler Language Programming	7
CP	203	Business Systems Analysis and Design	4
CP	211L	Programming Projects	3
CP	212L	Computer System Software	4
CP	213	Database Programming and Concepts	4
CP	214L	Report Program Generator II	3
		Technical Electives	6
		Total.....	74 - 76

#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.

Technical Electives: Two Required for Certificate

CP	176L	Introduction to Microcomputers	3
CP	271L	BASIC Language Programming	3
CP	272L	C Language Programming	3
CP	278	Advanced C Language Programming	3

Optional Courses

CP	174L	BASIC Language Programming	3
CP	175L	C Language Programming	3
CP	270L	Pascal Programming	3
CP	273L	Fortran Programming	3
CP	274L	Introduction to the UNIX Operating System	2
CP	276	ADA Language Programming.....	3
CP	296	Special Problems	3
CP	297	Cooperative Education	3
CP	299	Internship	3

Course Descriptions

CP 101A—ANSI COBOL (4 cr)

(Prerequisite or corequisite: CP 102 or permission of academic advisor) Elementary structured programming projects directly related to business and accounting applications are designed, coded, debugged and executed. This course has three hours of lecture and three hours of laboratory per week.

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. This course has one hour of lecture and five hours of laboratory per week.

CP 101L—ANSI COBOL (7 cr)

(Corequisite: CP 102) 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. This course has five hours of lecture and five hours of laboratory per week.

Supply fee: \$10

CP 102—Introduction to Business Computer Programming (4 cr)

Students learn computer vocabulary, logic and control, and structured programming techniques including hierarchy charts and topdown planning. This course has four hours of lecture and one hour of laboratory per week.

CP 103—Mathematics for Computer Programmers (4 cr)

(Prerequisite: MATH 100 or equivalent) Algebra fundamentals are covered in this course along with selected computer programming, business and management math applications. This course meets for four hours of lecture and one hour of laboratory per week.

CP 104—Data Processing Accounting I (4 cr)

(Prerequisite: MATH 100 or equivalent) Students learn accounting theory, practice and terms, and their relation to business computer programming. This course meets for four hours of lecture per week and one hour of laboratory per week.

CP 111A—Advanced ANSI COBOL (4 cr)

(Prerequisite: CP 101A and CP 101B or CP 101L) This course continues the development of structured programming skills developed in CP 101A and CP 101B with emphasis on indexed file processing. This course has three hours of lecture and three hours of laboratory per week.

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. This course has one hour of lecture and five hours of laboratory per week.

CP 111L—Advanced ANSI COBOL (7 cr)

(Prerequisite: CP 101A and CP 101B or 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. This course has five hours of lecture and five hours of laboratory per week.

Supply fee: \$10

CP 112L—JCL/Utilities/File Structures (7 cr)

(Prerequisites: CP 101L, CP 102) Students are required to 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. This course has five hours of lecture and five hours of laboratory per week.

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. This course has two hours of lecture and three hours of laboratory per week.

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. This course has two hours of lecture and three hours of laboratory per week.

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 programming language using microcomputers. This course has two hours of lecture and three hours of laboratory per week.

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. This course has two hours of lecture and three hours of laboratory per week.

Supply fee: \$10

CP 201L—Interactive Programming Techniques (3 cr)

(Prerequisites: CP 111L, CP 112L) Students will 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. This course has two hours of lecture and three hours of laboratory per week.

CP 202L—Assembler Language Programming (7 cr)

(Prerequisites: CP 111L, CP 112L) Students learn programming techniques necessary to write Assembler language programs. This course has five hours of lecture and five hours of laboratory per week.

CP 203—Business Systems Analysis and Design (4 cr)

(Prerequisite: CP 111L) This course teaches structured techniques of systems analysis and design. The systems life cycle is presented and several methods of analyzing existing systems are covered. Microcomputers are used to write documentation and run project management software. This course meets for four hours of lecture per week and one hour of laboratory per week.

CP 211L—Programming Projects (3 cr)

(Prerequisites: CP 201L, CP 202L) This course places special emphasis on individualized or group data processing projects. This course has two hours of lecture and three hours of laboratory per week.

CP 212L—Computer System Software (4 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. This course has four hours of lecture and one hour of laboratory per week.

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. This course has four hours of lecture and one hour of laboratory per week.

Supply fee: \$10

CP 214L—Report Program Generator II (3 cr)

(Prerequisite: CP 111L) Students are introduced to the RPG II programming language used in business organizations. The student will become familiar with the basic coding parameters. Programs will be coded to perform a variety of business functions including inventory control and cost analysis, accounts receivable, payroll applications, loan amortization and methods of depreciation. This course has two hours of lecture and three hours of laboratory per week.

CP 270L—Pascal Programming (3 cr)

(Prerequisite: CP 111L or permission from academic advisor) This course, using microcomputers and/or a mainframe computer, covers the Pascal language, stressing data types, functions, procedures and parameter passing. This course has two hours of lecture and three hour of laboratory per week.

Supply fee: \$10

CP 271L—BASIC Language Programming (3 cr)

(Prerequisite: CP 111L or permission of academic advisor) Students learn the BASIC language to further their knowledge of interactive programming, routines using menu selection, and search and retrieval routines. Microcomputers are used. This course has two hours of lecture and three hours of laboratory per week.

Supply fee: \$10

CP 272L—C Language Programming (3 cr)

(Prerequisite: CP 111L or permission of academic advisor) This course is an introduction to C programming language using microcomputers. Students in this course are assumed to know principles of structured computer program planning and programming. This course has two hours of lecture and three hours of laboratory per week.

Supply fee: \$10

CP 273L—FORTRAN Programming (3 cr)

(Prerequisite: CP 111L or permission from academic advisor) This is an introductory course in FORTRAN computer programming. The course has two hours of lecture and three hours of laboratory per week.

Supply fee: \$10

CP 274L—Introduction to the Unix Operating System (2 cr)

(Prerequisite: CP 112L or permission from the academic advisor) An introductory course using the Unix operating system. The course will cover basic commands, mail, inter-terminal communication, the file system, redirected I/O, pipes and shell programming. This course meets for one hour of lecture and three hours of laboratory per week.

CP 276—ADA Language Programming (3 cr)

(Prerequisite: CP 211L or permission of the academic advisor or work experience as a computer programmer) This is an introductory course in ADA language programming. This course has two hours of lecture and three hours of laboratory per week.

Supply fee: \$10

CP 278—Advanced C Language Programming (3 cr)

(Prerequisite: CP 272L) A continuation of CP 272L, this class assumes considerable programming experience. Students in this class will write programs working with data structures such as stacks, linked lists, binary search trees and self-balancing trees. This course has two hours of lecture and three hours of laboratory per week.

Supply fee: \$10

CP 296—Special Problems (3 cr)

(Prerequisite: Enrolled only in Business Computer Programming courses numbered 200 or higher and/or permission of the 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 from the academic advisor) In cooperation with local industry, the student works for one term on a cooperative basis in an appropriate training program.

CP 299—Internship (3 cr)

(Prerequisite: Permission from 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 will not be a paid position.

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 contains three options: electronic drafting and design, tool design and a generalist option. 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 and applied 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 microcomputers. Students are encouraged to join the college chapter of the Society of Manufacturing Engineers (SME) and attend local SME education 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. Courses with a course number of 200 or above may not be offered every term. Optional courses will be canceled before school starts each term, if enough students have not registered for the course. 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	105L	Basic Machine Tool	2
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 Drafting	3
DDET	212	Applied Engineering Mechanics	3
DDET	214L	Materials Science	4
DDET	215L	Technical Computer Applications	3
		Total.....	37

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	Advanced CADD	3
		Total.....	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
		Total.....	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 for Associate in Applied Science Degree

ENG	101	Writing with Readings in Exposition	3
ENG	119	Technical Communications	3
		Humanities Elective	3
		Social Science Elective	3
MATH	162	Calculus I	3 or 4
	or		
MATH	180	Elementary Calculus	
MATH	123	Trigonometry	2
PHYS	151/	General Physics/	
	153	Lab	4
PHYS	152	Physics II	3
	or		
CHEM	121L	General Chemistry I	4
		Total.....	25 - 26

Total Credits for Degree 70 - 75

Support Courses

DDET	104L	Introduction to Technical Drafting	4
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
	Technical Elective.....	3

Course Descriptions

DDET 102L—Manufacturing Methods (3 cr)

(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 methodology. Properties of materials as affected by various manufacturing processes will be introduced. Several research papers and oral presentations are required. This course has three hours of lecture and one hour of laboratory per week.

DDET 104L—Introduction to Technical Drafting (4 cr)

(Prerequisite: MATH 120 or ACT math score of 26 or a score of 18 on the T-VI algebra placement test) This course is an introduction to fundamental drafting techniques including proper care and use of drafting equipment, lettering, sketching, linework, scaling and geometric construction. This course has three hours of lecture and three hours of laboratory per week.

DDET 105L—Basic Machine Tools (2 cr)

This course familiarizes students with the functional world of manufacturing and industry. Subject matter covers 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. This course has one hour of lecture and three hours of laboratory per week.

DDET 106L—Basic CADD (3 cr)

(Pre- or corequisite: DDET 104L or permission of academic advisor) 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 hardcopy output. This course has two hours of lecture and three hours of laboratory per week.
Supply fee: \$15

DDET 111L—Mechanical Detailing (3 cr)

(Prerequisite: DDET 104L or permission of academic advisor) 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. This course has two hours of lecture and three hours of laboratory per week.

DDET 114L—Structured Computer Programming (3 cr)

A course in beginning computer programming using engineering applications will be taught. This course has two hours of lecture and three hours of laboratory per week.
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. This course has two hours of lecture and three hours of laboratory per week.

Supply fee: \$15

DDET 116L—Basic Electronic Drafting (3 cr)

(Prerequisite: DDET 104L or permission of academic advisor) This course presents electronic drafting fundamentals including symbolic representation of electronic components and devices, block and connection diagramming, cable drawings and circuit schematics. This course has two hours of lecture and three hours of laboratory per week.

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 will also be covered. This course has two hours of lecture and three hours of laboratory per week.

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. This course has two hours of lecture and three hours of laboratory per week.

DDET 205L—Machine Design Layout (4 cr)

(Prerequisites: DDET 105L, DDET 111L; corequisite: DDET 201L or MATH 123) Students apply machine design principles including fixed and removable fastening techniques, dimensioning and tolerancing for assembly; relational functions of bearings, gears, cams, belts, pulleys and shafts; and parts list development. Force vectors and stress and strain will be introduced. Layout formats are made for each design. Part searches and material specifications are made for each design. This course has three hours of lecture and three hours of laboratory per week.

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 will be covered. Time evaluation and accuracy will be included in design work. Time and motion considerations and datum planes will be taught. This course has three hours of lecture and three hours of laboratory per week.

DDET 207L—Production Tooling Design (4 cr)

(Prerequisite: DDET 206L) Students will design tools for metal forming operations via power presses and brakes. This course will concentrate on the design of male and female hard dies, steel rule dies and urethane tooling for metal blanking, and forming and assembly operations. This course has three hours of lecture and three hours of laboratory per week.

DDET 208L—Advanced CADD (3 cr)

(Prerequisite: 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. This course has two hours of lecture and three hours of laboratory per week.

DDET 211L—Electromechanical Drafting (3 cr)

(Prerequisite: DDET 205L) This course involves the design and drafting of electromechanical systems using combined concepts learned and practiced in previous machine and/or electronics drafting courses. This course has one hour of lecture and five hours of laboratory per week.

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. This course has three hours of lecture and three hours of laboratory per week.

DDET 215L—Technical Computer Applications (3 cr)

(Prerequisite: DDET 115L) Students use the computer to solve engineering and related problems. This course has two hours lecture and three hours laboratory per week.

DDET 216L—Dimensional Metrology (4 cr)

(Prerequisite: DDET 111L or MATH 112) This laboratory and lecture course introduces students to the science of precision measure. Using a well equipped laboratory, students will make direct and indirect measurements to 50 millionths of an inch. Measurements will concentrate on linear and angular units. Students will be introduced to equipment used in electrical, decibel and PPM measurements. Laboratory work includes SPC and CMM practicums. This course has three hours of lecture and three hours of laboratory per week.

DDET 291—Special Projects in CADD (3 cr)

This course involves 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 from 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 will be a paid position.

DDET 299—Internship (3 cr)

(Prerequisite: permission from 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 will not be a paid position.

Electromechanical Drafting Technology

Associate in Applied Science Degree

Main Campus

This degree is offered to students who have graduated from the Electromechanical Drafting certificate program. This degree will not be available after summer 1993.

To earn the degree, students must complete 19 or 20 credit hours of Arts & Sciences courses and the two technical courses listed below. Students may be required to take additional technical courses. Further information on this program is available from the Technologies Department. Note: Persons wanting to begin studies in this field should refer to the Design Drafting Engineering Technology Program.

Electromechanical Drafting Technology Program

Technical Courses

			<i>Credit Hours</i>
DDET	291	Advanced CADD	3
DDET	296	Special Projects	3

Arts & Science Courses

ENG	101	Writing with Readings in Exposition	3
ENG	119	Technical Communications	3
MATH	121	College Algebra	3
	or		
MATH	150	Advanced Algebra	
MATH	162	Calculus I	4
	or		
MATH	180	Elementary Calculus	3
PHYS	151/	General Physics/	
	153L	Lab	4
	or		
PHYS	160	General Physics	
		Elective	3
		Total	25 - 26

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 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. Courses with a course number of 200 or above may not be offered every term. Optional courses will be canceled before school starts each term, if enough students have not registered for the course.

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
Total.....	42

Required Arts & Sciences Courses for Associate in Applied Science Degree

CHEM	111/	Introduction to Chemistry/	
	112L	Lab	4
or			
CHEM	121L	General Chemistry	3
ENG	101	Writing with Readings in Exposition	3
ENG	119	Technical Communications	3
		Humanities Elective	3
		Social Science Elective	3
MATH	123	Trigonometry	2
MATH	162	Calculus I.....	3 or 4
or			
MATH	180	Elements of Calculus I	
PHYS	151/	Physics/	
	153L	Lab	4 or 5
or			
PHYS	160/	General Physics/	
	163L	Lab	
		Total.....	25 - 27
Total Credits for Degree			67 - 69

Technical Electives

EET	217	Pulsed Power I	3
EET	296	Special Problems	3
EET	297	Cooperative Education	3
EET	299	Internship	3
IC	216L	Industrial Systems	3

Course Descriptions

EET 107L—Graphics and Analytical Methods (3 cr)

(Corequisite: MATH 150 or MATH 121) Mechanical and electronic drafting practices and methods, including schematic preparation, printed circuit layout, chassis definition and wiring, will be studied. Considerable laboratory time will be devoted to the development of skills and techniques required to prepare drawings. In addition, students will gain experience in word processing, spreadsheet preparation, graphics, data base preparation and CAD. This course has two hours of lecture and three hours of laboratory per week.

Supply fee: \$15

EET 109L—Circuit Analysis I (5 cr)

(Corequisites: ENG 101, EET 107L, MATH 150 or MATH 121) Passive DC circuits will be 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 will be presented along with concepts of energy, power and efficiency. Computers will be used for spreadsheet preparation, graphics and word processing. This course has three hours of lecture and five hours of laboratory per week.

EET 113L—Structured Computer Programming (3 cr)

A course in beginning computer programming using engineering applications will be taught. This course meets for two hours of lecture and three hours of laboratory per week.
Supply fee: \$15

EET 117L—Digital Electronics I (3 cr)

(Prerequisite: EET 109L) Combinational logic using integrated circuits will be analyzed and designed using Boolean algebra, Karnaugh maps and logic diagrams. Number systems, binary codes and code conversions will be studied along with flip flops, multivibrators and circuit applications. Laboratory work will emphasize wiring and troubleshooting skill development while confirming circuit design objectives. This course has three hours of lecture and one hour of laboratory per week.

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 will be studied along with network theorems, phasor analysis, AC measurements, power factor analysis/correction, sweep generation usage and Fourier series. Computers will be used for spreadsheet preparation, graphics, word processing and CAD. This course has three hours of lecture and five hours of laboratory per week.

EET 207L—Digital Electronics II (3 cr)

(Prerequisite: EET 117L) Logic circuit decoders, encoders, multiplexers, counters and registers will be studied along with ADCs, DACs, RAM, ROM and applications. Microprocessor structure, timing/control, ALU operation, interface circuits and machine language programming will be introduced. This course has three hours of lecture and one hour of laboratory per week.

EET 208L—Microprocessors (4 cr)

(Prerequisite: EET 113L; corequisite: EET 207L) Microprocessors and microcomputers will be studied in depth with emphasis on machine and assembly language programming. Interrupts and DOS entry points will be introduced. This course has three hours of lecture and three hours of laboratory per week.

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 will be studied. Transistor modeling and circuit analysis/design will be stressed along with computer usage for circuit analysis, spreadsheet preparation, graphics and word processing. This course has three hours of lecture and five hours of laboratory per week.

EET 217—Pulsed Power I (3 cr)

(Prerequisite: EET 119L or ELEC 114L) The generation, transmission and measurement of high-voltage, pulsed power systems will be studied. This course meets for two hours of lecture and three hours of laboratory per week.

EET 218L—Microprocessor Interfacing (3 cr)

(Prerequisites: EET 209L, EET 208L) I/O devices including printers, terminals and proto board circuits will be interfaced to a microcomputer. Each student will make an oral presentation and prepare documentation describing system operation and organization along with block diagrams, schematics and structured software. This course has two hours of lecture and three hours of laboratory per week.

EET 219L—Electronic Systems (5 cr)

(Prerequisite: EET 209L; corequisite: EET 218L) Electronic system schematics will be studied along with frequency considerations, decibel usage, differential and operational amplifiers, power supplies, thyristors, PLLs, oscillators and feedback concepts. Each student will prepare a technical manual for a computer-controlled system. Video monitor basics and introductory transmission line theory will be presented. Computers will be used for instrument control and data logging via IEEE488 and RS232 bus interfacing, circuit analysis and word processing. This course has three hours of lecture and five hours of laboratory per week.

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)

(Available to students within two terms of graduation in EET program) Employment in the electronics field, if arranged by the student, may satisfy technical elective requirements with approval of the academic advisor. An oral presentation or written report will be required to summarize work experiences.

EET 299—Internship (3 cr)

(Prerequisite: Permission from 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 will not be 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.

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 residence requirements and must satisfy technical course requirements according to the catalog in effect when the degree work was started.

If a student takes MATH 100, it is recommended that the student also take the survey course for Electronics from the Developmental Studies Department before taking courses from 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. Courses with a course number of 200 or above may not be offered every term. Optional courses will be canceled before school starts each term, if enough students have not registered for the course. Entry into a course without the prerequisite may be allowed with the permission of the academic advisor.

Electronics Technology Program

Required Courses for Certificate

			<i>Credit Hours</i>
BA	111	Communications (7½ weeks)	2 to 3
or			
ENG	101	Writing with Readings in Exposition	
BA	131	Human Relations (7½ weeks)	2 or 3
or			
PSY	105	Introduction to Psychology	
#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	114A	Semiconductor Devices	3
and			

ELEC	114B	Semiconductor Devices	4
or			
ELEC	114L	Semiconductor Devices	7
ELEC	116L	Introduction to Microcomputers	3
ELEC	117	Introduction to Laser	4
#ELEC	118A	Electromechanical Devices	4
and			
ELEC	118B	Electromechanical Devices	3
or			
ELEC	118L	Electromechanical Devices	7
ELEC	202L	Electronic Circuits	7
#ELEC	203A	Introduction to Microprocessors	4
and			
ELEC	203B	Introduction to Microprocessors	3
or			
ELEC	203L	Introduction to Microprocessors	7
ELEC	212L	Electronic Applications	7
ELEC	214L	Troubleshooting Techniques	3
ELEC	215L	Advanced Microprocessors	7
		Technical Elective (one course)	3 to 7
		Total	76 - 82

#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.

Required Courses for Associate in Applied Science Degree

			<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	114A	Semiconductor Devices	3
and			
ELEC	114B	Semiconductor Devices	4
or			
ELEC	114L	Semiconductor Devices	7
ELEC	116L	Introduction to Microcomputers	3
ELEC	117	Introduction to Laser	4
#ELEC	118A	Electromechanical Devices	4
and			
ELEC	118B	Electromechanical Devices	3
or			
ELEC	118L	Electromechanical Devices	7

ELEC	202L	Electronic Circuits	7
#ELEC	203A	Introduction to Microprocessors.....	4
	and		
ELEC	203B	Introduction to Microprocessors.....	3
	or		
ELEC	203L	Introduction to Microprocessors.....	7
ELEC	212L	Electronic Applications	7
ELEC	214L	Troubleshooting Techniques	3
ELEC	215L	Advanced Microprocessors	7
		Technical Elective (one course)	4 to 7
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 or 4
	or		
MATH	180	Elementary Calculus	
PHYS	151/	Physics/	
	153L	Lab	4
	or		
PHYS	160	General Physics	
		Total.....	90 - 94

#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.

Technical Electives: One Required for Certificate

ELEC	216	Consumer Electronics	7
ELEC	217	Computer Repair.....	3
ELEC	218	Computer Networking.....	3
ELEC	219	RF/Communications for Radio/TV	3

Optional Courses

CP	274L	Introduction to the UNIX Operating System	2
DDET	105L	Basic Machine Tool	2
EET	217	Pulsed Power I	3
ELEC	204L	Computer Programming	4
ELEC	276L	Soldering Techniques (7½ weeks)	2
ELEC	278	Modern Technological Advances	3
ELEC	280	Introduction to Quality Control	3
ELEC	281	Semiconductor Manufacturing Overview	3
ELEC	296	Special Problems	3
ELEC	297	Cooperative Education	3
ELEC	299	Internship	3

IC	216L	Industrial Systems.....	3
MSP	101	Tool Applications	3
SMT	202	Vacuum Systems.....	3
SMT	203	Manufacturing Methods	3

Course Descriptions

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. This course has three hours of lecture and three hours of laboratory per week.

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. This course has three hours of lecture and three hours of laboratory per week.

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 constructing circuits from schematic diagrams and in the use of oscilloscopes, function generators and multimeters in laboratory exercises. This course has five hours of lecture and nine hours of laboratory per week.

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. Number systems and arithmetic operations are studied. Boolean algebra is applied to combinational logic. The basic logic gates and MSI, LSI circuits are used to develop operational digital circuits. This course has three hours of lecture and three hours of laboratory per week.

ELEC 114A—Semiconductor Devices (3 cr)

(Prerequisite: ELEC 103B or ELEC 103L) This course covers the basic concepts and applications of simple power supplies and operational amplifiers. Through laboratory exercises students will analyze and troubleshoot circuits containing basic electronic compo-

nents, diodes, transformers, filters, regulators and op amps. This course has two hours of lecture and three hours of laboratory per week.

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. Through laboratory exercises students will analyze and troubleshoot circuits of varying configurations. This course has three hours of lecture and three hours of laboratory per week.

ELEC 114L—Semiconductor Devices (7 cr)

(Prerequisites: ELEC 103L, ELEC 104) This course covers the study of 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. This course has five hours of lecture and five hours of laboratory per week.

ELEC 116L—Introduction to Microcomputers (3 cr)

This course covers microcomputer architecture, MS-DOS, word processing, spreadsheets, digital and analog circuit analysis software, computer assisted drafting and an introduction to computer programming. This course has two hours of lecture and three hours of laboratory per week.

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. This course has four hours of lecture and one hour of laboratory per week.

ELEC 118A—Electromechanical Devices (4 cr)

(Prerequisite: ELEC 103L, ELEC 104) This course introduces the students to the basic principles and components of hydraulic and pneumatic systems. Through laboratory experiments students will study component operation and principle application. Students will also receive an introduction to vacuum systems technology. This course has three hours of lecture and three hours of laboratory per week.

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. Through laboratory experiments students will analyze and troubleshoot servosystems for motor speed and positioning control. This course has two hours of lecture and three hours of laboratory per week.

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. This course has five hours of lecture and five hours of laboratory per week.

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 in this course. Students develop, analyze and troubleshoot complex circuits using the components above in laboratory experiments and assigned projects. This course has five hours of lecture and five hour of laboratory per week.

ELEC 203A—Introduction to Microprocessors (4 cr)

(Prerequisite: ELEC 118L, ELEC 116L) This course covers the organization of a micro-computer using the 8088 CPU, memory and I/O devices. Programs are written in assembly language and in a higher level language to drive the PC's serial I/O, parallel printer port and disk drives. This course has three hours of lecture and three hours of laboratory per week.

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. This course has two hours of lecture and three hours of laboratory per week.

ELEC 203L—Introduction to Microprocessors (7 cr)

(Prerequisite: ELEC 118L, ELEC 116L) The course centers on the 8088 microprocessor in an MS-DOS environment. Programs are written in assembly 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. This course has five hours of lecture and five hours of laboratory per week.

ELEC 204L—Introduction to Computer Programming (3 cr)

(Prerequisite: ELEC 116L) The student learns to program using a high level computer programming language. This course has two hours of lecture and three hours of laboratory per week.

Supply fee: \$15

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. This course has five hours of lecture and five hours of laboratory per week.

ELEC 214L—Troubleshooting Techniques (3 cr)

(Prerequisite: ELEC 202L or equivalent) In this course students apply troubleshooting techniques to a complete electronic system. Emphasis is on systematic analysis to locate problems. This course has two hours of lecture and three hours of laboratory per week.

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. This course has five hours of lecture and five hours of laboratory per week.

ELEC 216—Consumer Electronics (7 cr)

(Corequisite: ELEC 202L or IC 202L 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. This course includes five hours of lecture and five hours of laboratory per week.

ELEC 217—Computer Repair (3 cr)

(Prerequisite: ELEC 116L or permission of academic advisor) This course covers basic aspects of computer repair including problem areas, troubleshooting techniques with and without software, modifications and replacement. It emphasizes microcomputers and related hardware. The course includes two hours of lecture and three hours of lab.

Supply fee: \$15

ELEC 218—Computer Networking (3 cr)

(Prerequisite: ELEC 203L, ELEC 105L) This course includes a study of encoding schemes and protocols involved in networking microcomputers. Students are exposed to various networking schemes—token ring, novelle, apple talk and starlan, etc.—but will 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. This course has two hours of lecture and three hours of laboratory.

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 other associated microwave telecommunications. This course has two hours of lecture and three hours of laboratory per week.

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. This course has one hour of lecture and three hours of laboratory per week.

Supply Fee: \$15

ELEC 278—Modern Technological Advances (3 cr)

Various topics on the forefront of today's technology are explored. Subjects to be discussed include superconductivity, cryogenics, fiber optics applications, microelectronics, photonics, material interactions, holography, non-destructive testing, optical computing and chaos.

ELEC 280—Introduction to Quality Control (3 cr)

This course is an introduction to the concepts and practices currently being used in industry to insure quality.

ELEC 281—Semiconductor Manufacturing Overview (3 cr)

This course will introduce the student to the semiconductor manufacturing industry, its processes, materials and equipment.

ELEC 296—Special Problems (3 cr)

(Corequisites: ELEC 202L, ELEC 203L and permission from 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 from 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 will be a paid position.

ELEC 299—Internship (3 cr)

(Prerequisite: permission from 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 will not be a paid position.

Instrumentation and Control Technology

Associate in Applied Science Degree/
Certificate Program
Main Campus

The Instrumentation and Control Technology program provides students with job-entry skills to troubleshoot and repair automated or process control equipment and instrumentation. Students may earn an associate degree or certificate. Options in Semiconductor Manufacturing Technology (SMT) and Robotics are offered; students seeking an associate degree must complete one of the options.

Topics covered in the Instrumentation and Control program include digital and analog circuitry, microcomputer applications software, electronic and fluid systems instrumentation, vacuum systems and robotics. Software packages include CAD, spreadsheets and word processing.

Topics covered under the Semiconductor Manufacturing option include wafer manufacturing processes, quality control and hazardous materials.

The program meets in modern laboratories containing electronic laboratory benches and test instruments such as oscilloscopes, signal generators, power supplies, digital trainers, microcomputers, servo trainers, hydraulic-pneumatic and process control equipment, vacuum systems and a student shop area.

The associate in applied science degree program provides graduates with additional science and technical skills for the support of engineering activities. Certificate program graduates who want to earn a degree must fulfill the Arts & Sciences and residence requirements and satisfy core requirements according to the catalog in effect when the degree work was started.

A grade of C or better in each electronics course, instrumentation and control technology course and semiconductor manufacturing technology course is required for a degree or certificate. If a student takes MATH 100, it is recommended that the student also take the survey course for Instrumentation and Control from the Developmental Studies Department before taking courses from the major. It is strongly recommended that all beginning students meet with the department counselor to plan an individual course of study. Courses with a course number of 200 or above may not be offered every term. Optional courses will be canceled before school starts each term, if enough students have not registered for the course.

Entry into a course without the necessary prerequisites may be allowed with the permission of the academic advisor.

Instrumentation and Control Technology Program

Required Courses for Certificate

			<i>Credit Hours</i>
BA	111	Communications (7½ weeks)	2 to 3
	or		
ENG	101	Writing with Readings in Exposition	
BA	131	Human Relations (7½ weeks)	2 to 3
	or		
PSY	105	Introduction to Psychology	
#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	114A	Semiconductor Devices	3
	and		
ELEC	114B	Semiconductor Devices	4
	or		
ELEC	114L	Semiconductor Devices	7
ELEC	116L	Introduction to Microcomputers	3
ELEC	117	Introduction to Laser	4
#ELEC	118A	Electromechanical Devices	4
	and		
ELEC	118B	Electromechanical Devices	3
	or		

ELEC	118L	Electromechanical Devices	7
ELEC	203L	Introduction to Microprocessors	7
IC	202A	Linear Circuits	3
and			
IC	202B	Linear Circuits	4
or			
IC	202L	Linear Circuits	7
IC	214L	Instrumentation	7
IC	216L	Industrial Systems	3
		Total.....	66 - 68

Option I: Robotics Emphasis

All of the required courses plus the following:

IC	204L	Introduction to Computer Programming	3
IC	213L	Control Circuits	7
IC	215L	Microcontroller Interfacing	3
		Total.....	13

Option II: Semiconductor Manufacturing Emphasis

All of the required courses plus the following:

SMT	201	Semiconductor Manufacturing Technology I	3
SMT	202L	Vacuum Systems.....	3
SMT	203	Manufacturing Methods	3
or			
FS	203	Hazardous Materials	3
SMT	211	Semiconductor Manufacturing Technology II	3
		Total.....	12

*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.

Required Courses for Associate Degree

			<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	114A	Semiconductor Devices	3
and			
ELEC	114B	Semiconductor Devices.....	4
or			
ELEC	114L	Semiconductor Devices	7

ELEC	116L	Introduction to Microcomputers	3
ELEC	117	Introduction to Laser	4
#ELEC	118A	Electromechanical Devices	4
and			
ELEC	118B	Electromechanical Devices	3
or			
ELEC	118L	Electromechanical Devices	7
ELEC	203L	Introduction to Microprocessors.....	7
IC	202L	Linear Circuits	7
IC	214L	Instrumentation	7
IC	216L	Industrial Systems	3
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 or 4
or			
MATH	180	Elementary Calculus	
PHYS	151/	Physics/	
	153L	Lab	4
or			
PHYS	160	General Physics	
		Total.....	79 - 80

Option I: Robotics Emphasis

All of the required courses plus the following:

IC	204L	Introduction to Computer Programming	3
IC	213L	Control Circuits	7
IC	215L	Microcontroller Interfacing	3
		Total.....	13

Option II: Semiconductor Manufacturing Emphasis

All of the required courses plus the following:

SMT	201	Semiconductor Manufacturing Technology I	3
SMT	202L	Vacuum Systems.....	3
SMT	203	Manufacturing Methods	3
or			
FS	203	Hazardous Materials	3
SMT	211	Semiconductor Manufacturing Technology II	3
		Total.....	12

#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.

Optional Courses

CP	274L	Introduction to the UNIX Operating System	2
EET	217	Pulsed Power I	3
ELEC	214L	Troubleshooting Techniques	3
ELEC	219	RF Fundamentals for Radio/TV	3
ELEC	218	Computer Networking	3
ELEC	276L	Soldering Techniques (7½ weeks)	2
ELEC	278	Modern Technological Advances	3
ELEC	280	Introduction to Quality Control	3
ELEC	281	Semiconductor Manufacturing Overview	3
IC	296	Special Problems	3
IC	297	Cooperative Education	3
IC	299	Internship	3
MSP	101	Tool Applications	3

Course Descriptions

IC 202A—Linear Circuits (3 cr)

(Prerequisites: ELEC 114L, ELEC 118L) This course covers the fundamentals of operational amplifiers. Topics include differential amplifiers, current sources, level shifters, op-amp characteristics, amplifiers, summing amplifiers, instrumentation amplifiers and other applications. Emphasis is on the application of circuit theorems. This course has two hours of lecture and three hours of laboratory per week.

IC 202B—Linear Circuits (4 cr)

(Prerequisite: IC 202A) Topics are active filters, comparators, current difference amplifiers, operational transconductance amplifiers, modulation, phase lock loops, D/A, A/D converters, data acquisition systems, linear voltage regulators and switched mode regulators. Emphasis is on the practical applications of circuits to measurement and control. This course has two hours of lecture and six hours of laboratory per week.

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 convertors and D-A convertors and discrete transistors circuits. This course has five hours of lecture and five hours of laboratory per week.

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. This course has two hours of lecture and three hours of laboratory per week.

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 required systems project is to be designed and constructed by the student. This course has five hours of lecture and five hours of laboratory per week.

Supply fee: \$20

IC 214L—Instrumentation (7 cr)

(Prerequisites: IC 202L, ELEC 203L) This course covers instrumentation, calibration and troubleshooting and repair of equipment. This course has five hours of lecture and five hours of laboratory per week.

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. This course has two hours of lecture and three hours of laboratory per week.

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 proper troubleshooting techniques. Students will practice proper preventive and corrective maintenance procedures. The course has two hours of lecture and three hours of laboratory per week.

IC 296—Special Problems (3 cr)

(Corequisites: IC 214L, IC 215L) The student is given a problem to investigate and solve. The student then designs the solution using a combination of techniques.

IC 297—Cooperative Education (3 cr)

(Prerequisite: permission from 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 will be a paid position.

IC 299—Internship (3 cr)

(Prerequisite: permission from 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 will not be a paid position.

MSP 101—Tool Applications (3 cr)

Students acquire the skills necessary for mechanical and electrical assembly. The use of hand and power tools and soldering fabrication and inspection are emphasized. The course includes one hour of lecture and five hours of laboratory per week.

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 202L—Vacuum Systems (3 cr)

(Prerequisite: 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. This course has two hours of lecture and three hours of laboratory per week.

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.

Laser Electro-Optic Technology

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

The technology of lasers and electro-optics requires electronics, digital, laser and optics training for persons interested in a career in this rapidly growing industry. Lasers and electro-optic devices are used in a variety of areas including construction and excavation, marking, etching, cutting and welding operations, communications systems, laboratory testing and measurement, data processing, photography, medicine, military and space projects, and research and development.

The program's facilities include modern classrooms and laboratories containing state-of-the-art lasers, lenses, mirrors and analytical test equipment.

Students may graduate with either a certificate or associate degree. The associate in applied science degree program provides graduates with additional science and technical skills for the support of engineering activities. Certificate program graduates who want to earn a degree must fulfill the Arts & Sciences and residence requirements and satisfy core requirements according to the catalog in effect when the degree work was started.

Beginning students are admitted every term into the Electronics and Laser Electro-Optic core of courses at Main Campus. The upper-level Laser Electro-Optic courses are

offered every other term *only* at Montoya Campus. It is strongly recommended that all beginning students meet with the department counselor to plan an individual course of study. Courses with a course number of 200 or above may not be offered every term. Optional courses will be canceled before school starts each term, if enough students have not registered for the course.

If a student takes MATH 100, it is recommended that the student also take the survey course for Laser Electro-Optic Technology from the Developmental Studies Department before taking courses in the major. A grade C or better in each Laser Electro-Optic Technology and Electronics core course is required for a certificate or degree.

Entry into a course without the necessary prerequisites may be allowed with the permission of the academic advisor.

Laser Electro-Optic Technology Program

Required Courses for a Certificate

			<i>Credit Hours</i>
BA	111	Communications (7½ weeks)	2 or 3
or			
ENG	101	Writing with Readings in Exposition	
BA	131	Human Relations (7½ weeks)	2 or 3
or			
PSY	105	Introduction to Psychology	
#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	114A	Semiconductor Devices	3
and			
ELEC	114B	Semiconductor Devices	4
or			
ELEC	114L	Semiconductor Devices	7
ELEC	116L	Introduction to Microcomputers	3
ELEC	117	Introduction to Laser	4
#ELEC	118A	Electromechanical Devices	4
and			
ELEC	118B	Electromechanical Devices	3
or			
ELEC	118L	Electromechanical Devices	7
LEOT	204L	Electronic Circuits	7
LEOT	205L	Advanced Laser Systems	4
LEOT	206	Optics	7
LEOT	208L	Introduction to Microprocessors	4

LEOT	212L	Vacuum System Technology	1
LEOT	214L	Advanced Microprocessors	4
LEOT	215L	Electronic Systems Analysis	2
LEOT	217L	Advanced Laser Systems with Applications	7
LEOT	218L	Laser Measurements	4
		Total.....	82 - 83

#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.

Required Courses for Associate Degree

			<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	114A	Semiconductor Devices	3
and			
ELEC	114B	Semiconductor Devices	4
or			
ELEC	114L	Semiconductor Devices	7
ELEC	116L	Introduction to Microcomputers	3
ELEC	117	Introduction to Laser	4
#ELEC	118A	Electromechanical Devices	4
and			
ELEC	118B	Electromechanical Devices	3
or			
ELEC	118L	Electromechanical Devices	7
LEOT	204L	Electronic Circuits	7
LEOT	205L	Advanced Laser Systems	4
LEOT	206	Optics	7
LEOT	208L	Introduction to Microprocessors	4
LEOT	212L	Vacuum System Technology	1
LEOT	214L	Advanced Microprocessors	4
LEOT	215L	Electronic Systems Analysis	2
LEOT	217L	Advanced Laser Systems with Applications	7
LEOT	218L	Laser Measurements	4
CHEM	111/ 112L	Introduction to Chemistry/ Lab	4
or			
CHEM	121L	General Chemistry	
ENG	119	Technical Communications	3

		Humanities/Social Science Elective	3
MATH	162	Calculus I.....	3 or 4
	or		
MATH	180	Elementary Calculus	
PHYS	151/	Physics/	
	153L	Lab	4
	or		
PHYS	160	General Physics	
	and		
PHYS	163L	General Physics Lab	
		Total.....	95 - 96

*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.

Support Courses

DDET	105L	Basic Machine Tool	2
ELEC	214L	Troubleshooting Techniques	3
ELEC	276L	Soldering Techniques (7½ weeks)	2
ET	217	Pulsed Power I	3
IC	216L	Industrial Systems	3
LEOT	296	Special Problems	3
LEOT	297	Cooperative Education	3
LEOT	299	Internship	3

Course Descriptions

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. This course has five hours of lecture and five hours of laboratory per week.

LEOT 205L—Advanced Laser Systems (4 cr)

(Prerequisite: ELEC 117) This course covers the basics of theory and operation of solid state, ion gas, molecular gas and semiconductor lasers. Laboratory experiments stressing safety, accuracy and technical writing skills are performed. This course has four hours of lecture and one hour of laboratory per week.

LEOT 206—Optics (7 cr)

(Prerequisite: ELEC 117) Principles of geometric and wave optics are studied. Lenses, windows, mirrors and prisms are used to demonstrate imaging, interference and diffraction concepts. Filters, gratings and polarizers also are studied. This course has five hours of lecture and five hours of laboratory per week.

LEOT 208L—Introduction to Microprocessors (4 cr)

(Prerequisite: ELEC 116L) This course covers the architecture, programming, input/output and applications of a microprocessor. This course has four hours of lecture and one hour of laboratory per week.

LEOT 212L—Vacuum System Technology (1 cr)

(Prerequisite: ELEC 117) This course examines the various types of vacuum equipment used in industry. Laboratory work includes the assembly, maintenance and leak detection of various systems. This course has one hour of lecture and one hour of laboratory per week.

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. This course has four hours of lecture and one hour of laboratory per week.

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 217L—Advanced Laser Systems with Applications (7 cr)

(Prerequisites: LEOT 205L, LEOT 206) Students perform experiments using fiber optics, A-O Q switch, dye cell, spectrum analyzer and A-O modulator. Electronic instruments are studied for correct usage of application. Students are required to write a technical paper on a topic in the laser electro-optic field. This course has five hours of lecture and five hours of laboratory per week.

LEOT 218L—Laser Measurements (4 cr)

(Corequisite: LEOT 217L) Detection of radiation is covered. Various devices—calorimeters, photo-multiplier tubes, semi-conductor diodes and pyroelectric detectors—and interferometric measurements also are studied. This course has four hours of lecture and one hour of laboratory per week.

LEOT 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 techniques appropriate to the problem. An oral presentation may be required.

LEOT 297—Cooperative Education (3 cr)

(Prerequisite: permission from 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 will be a paid position.

LEOT 299—Internship (3 cr)

(Prerequisite: permission from 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 will not be a paid position.

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 approximately 275 hours of self-paced, directed instruction. Laboratory hours are arranged to provide flexible scheduling for employed and non-employed students.

This is an eight-credit program. Learning is self-paced with the assistance of a qualified instructor. The program consists of 20 modules, each with minimum 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, basic troubleshooting 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 of the units. 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 is estimated to require an average of 275 hours for completion. Any student requiring more than 275 hours will be evaluated for progress at 325 hours. A determination will be made at that time regarding the student's ability to complete the program in the allowed maximum of 375 hours. Each module has a maximum time allowed for completion. If the maximum time is exceeded, progress will be discussed with the student.

Students must demonstrate a math skill equivalent to or exceeding MATH 099 offered in the Department of Developmental Studies. If a student takes MATH 099, it is recommended that the student also take the Developmental Studies class in electronics.

Students purchase a textbook and pay a \$25 supply fee.

Changes as per Gene
101 has always been 101
Manufacturing Specialist Program

MSP 100L. Manufacturing Specialist Program (8 cr)

(Prerequisite: MATH 099 or equivalent) This course is a self-paced laboratory course covering each of the topics listed below:

General Skills

- Industrial Safety
- Hazardous Materials
- Quality Assurance
- Team Concepts
- Computer Literacy

Mechanical Skills

Hand and Power Tools
Torque
Blueprint Reading
Mechanical Components and Assembly
Measurement Devices
Fluid System Components

Electronic Skills

Electronic Components and Basic Electronic Theory
Basic Electrical Theory
Test Equipment
ESD Hardware Handling
Soldering Fabrication
Soldering Inspection
Cable and Harness Assembly
Wire Wrap
Surface Mount Technology





Trades & Service Occupations

The Trades & Service Occupations Department has the largest skill cluster at T-VI. Most classes meet on the Main Campus in classrooms and indoor, outdoor and off-campus lab spaces and live work areas. Admission information is available at either campus.

Most programs accept new students at the beginning of each term. Each applicant has an interview with an admission counselor and also may be interviewed by the program counselor during the admission process.

Students must furnish their own shop clothes that must be safe and appropriate for their programs. All students, instructors, instructional aides and visitors must wear approved safety glasses or goggles which conform to ANSI 287.1 in lab and work areas where they are required. It can be dangerous to wear contact lenses in any area where there are fumes from chemicals, solvents and gases. Affected students should plan to wear regular eyeglasses in classes where such hazards exist. Students who habitually endanger themselves or others may be suspended from T-VI.

Students are encouraged to participate in T-VI's chapter of the Vocational Industrial Clubs of America (VICA). VICA activities are an integral part of the curriculum.

Most Trades & Service Occupations programs require that students be in good physical condition and be free of allergies or health conditions which cannot be controlled and would endanger the student's or others' safety. Some programs have additional health requirements. A valid driver's license and good driving record are required by most employers.

All students should take the admissions placement advisement tests. Students having acceptable previous college

Students are encouraged to participate in T-VI's chapter of the Vocational Industrial Clubs of America (VICA).

course work or degrees, or minimum ACT or ASSET scores are not required to take the admissions placement tests.

Students must earn a minimum grade of C to meet all course prerequisite requirements.

Students must earn a minimum 2.0 grade point average and maintain a minimum grade of C in all required occupational courses.

All Trades & Service Occupations courses must be taken for a grade. The credit/no credit option may not be used.

Cooperative education is for students who have acquired most of the skills and work attitudes needed to succeed in an entry-level job. Students may apply for this option during the final term. This on-the-job experience is a training plan developed by the cooperating employer and T-VI instructional staff. The student must obtain the approval of the instructor, advisor and department administrator, and must have an exit interview with the department counselor prior to beginning the cooperative education. Students may be required to take BA 256, Employment Procedures and Techniques; as a corequisite or prerequisite.

The cooperative education option may not qualify students for Veterans Administration benefits or other student financial aid.

Apprenticeship Programs

Commercial Carpentry Apprenticeship

Main Campus

The Commercial Carpentry Apprenticeship program for persons currently employed in the industry is offered in conjunction with the Rio Grande Chapter of Associated Builders and Contractors Inc. (ABC).

The four-year program combines on-the-job experience with classroom instruction and provides the opportunity for qualified participants to become journeymen.

There is a \$20 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) This course consists of 600 hours of related classroom instruction at T-VI. 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 program is offered for persons currently employed full-time in the food service industry.

The three-year program combines on-the-job experience with classroom instruction and results in certified cook skill levels. Beginning students are admitted each term as space permits.

There is a \$20 registration fee each term. Students must purchase a textbook and instructional materials through the local chapter of the American Culinary Federation Rio Grande Valley Chapter.

CUAP 198—Culinary Apprenticeship (36 cr)

(Prerequisite: current full-time employment in the food service industry) This course consists of 400 hours of theory taught at T-VI. Theory covers culinary history, garde manger (food decorating), food management techniques and front-of-the-house personnel use. A three-step written and practicum final exam, administered in conjunction with the American Culinary Federation Rio Grande Valley Chapter, is required to graduate.

Electrical Trades Apprenticeship

Main Campus

The Electrical Trades Apprenticeship program, for persons currently employed full-time in the electrical industry, is offered in conjunction with the Independent Electrical Contractors (IEC).

The four-year program combines on-the-job experience with classroom instruction and provides the opportunity for participants to obtain New Mexico journeyman licenses.

There is a \$20 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) This course consists of 600 hours of related classroom instruction at T-VI. 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 program is offered for persons currently employed in the fire sprinkler field.

The four-year program combines on-the-job experience with classroom instruction and provides the opportunity for participants to become journeymen. Beginning students are admitted each term as space permits.

There is a \$20 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) 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 program, 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 four-year program combines on-the-job experience with classroom instruction and provides the opportunity for qualified participants to become journeymen.

There is a \$20 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) 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 program, 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 four-year program combines on-the-job experience with classroom instruction and provides the opportunity for participants to obtain New Mexico journeyman licenses.

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) This course consists of 600 hours of related classroom instruction at T-VI. The classroom 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 12 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. Students purchase textbooks for these courses. 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 Math/Blueprint	3
CARP	172L	Basic Remodeling—Structural	3
CJ	170	Physical Fitness	1
CMRP	170	Commercial Printing Skills Improvement: Basic	3
CMRP	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
FSMG	171	Food Service Nutrition	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	170	Sportscraft Skills Improvement I	3
SCSE	171	Sportscraft Skills Improvement II	3
TRDR	170	Commercial Driver's License	2
TRDR	171	Material Handling	2
TRDR	172	Material Packaging	2
+VICA	170	PDP Trainee and Leadership	1
+VICA	171	PDP Professional	1
+VICA	172	PDP Master	1
+VICA	173	PDP American and International	1
WELD	170	Welding Skills Improvement	3
WELD	171	Advanced Welding Skills Improvement	3

Business Occupations course: description on page 108.

+VICA 170—PDP Trainee and Leadership (1 cr)

This course is designed to assist the student in developing individual goals and commitments. The skills include personal awareness, goal setting, community service and communication skills.

+VICA 171—PDP Professional (1 cr)

(Prerequisite: VICA 170 or departmental approval) This course is designed to assist the student in understanding the relationship between the employees and the employers in the student's chosen field. The skills include career knowledge, communication skills and interaction with business and industry.

+VICA 172—PDP Master (1 cr)

(Prerequisite: VICA 171 or departmental approval) This course is designed to assist the student in developing job-seeking skills. The skills include finding job leads, writing a resumé, creating a job portfolio, communication skills and interaction with business and industry. This course meets one hour per week.

+VICA 173—PDP American and International (1 cr)

(Prerequisite: VICA 172 or departmental approval) This course is designed to assist the student in making a smooth transition from school to the work place. This course will assist the student to understand the structure of businesses and industry both in America and the rest of the world. This course meets one hour per week.

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 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 \$99 before entering ACHR 101L, 102L or 103L; \$77 before entering ACHR 111L, 112L or 113L; and \$77 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)

(Prerequisite: minimum placement test scores of 7-8 in BOTEL or RDG 099 and 31—Part I, 6—Part II, and 2—Part III in Math or MATH 099 or departmental approval) This course includes basic refrigeration theory and servicing techniques. An introduction to domestic refrigeration systems is also included.

ACHR 101L—Basic Refrigeration Lab (2 cr)

(Prerequisite/corequisite: ACHR 101 or departmental 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. This course meets 10 hours per week for 7½ weeks.

ACHR 102—Basic Control Circuitry Theory (2 cr)

(Prerequisite/corequisite: ACHR 101 or departmental 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)

(Prerequisite/corequisite: ACHR 102 or departmental approval) This lab covers the wiring, electrical servicing and troubleshooting of domestic refrigeration, heating and air conditioning units. Emphasis will be placed on safety when working with electricity. This course meets for five hours per week.

ACHR 103—Basic Air Conditioning Theory (2 cr)

(Prerequisite/corequisite: ACHR 101L, 102 or departmental approval) This course includes basic air conditioning and heating theory and servicing techniques. This course meets for four hours per week for 7½ weeks.

ACHR 103L—Basic Air Conditioning Lab I (2 cr)

(Prerequisite/corequisite: ACHR 101L, 102L, 103 or departmental approval) This course covers the introduction to servicing and troubleshooting window air conditioners and gas-fired and electric heating systems. This course meets 10 hours per week for 7½ weeks.

ACHR 104—Basic Refrigeration Math I (1 cr)

(Prerequisite: minimum placement test scores of 7-8 in BOTEL or RDG 099 and 31—Part I, 6—Part II, and 2—Part III in Math or MATH 099 or departmental 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)

(Prerequisite: ACHR 101, 102, 103 or departmental approval) This course covers the types and components of gas-fired furnaces. 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)

(Prerequisite/corequisite: ACHR 111 or departmental approval) This lab covers the proper installation, maintenance and servicing of heating systems. Safety is stressed when working with combustible gases and electricity. This course meets for 10 hours per week for 7½ weeks.

ACHR 112—Intermediate Control Circuitry Theory (2 cr)

(Prerequisite: ACHR 101, 102, 103 or departmental approval) This course includes 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)

(Prerequisite/corequisite: ACHR 111L, 112 or departmental approval) This lab covers the wiring, servicing and troubleshooting of heating, air conditioning and refrigeration systems. The use of electrical test instruments is emphasized. This course meets five hours per week.

ACHR 113—Intermediate Air Conditioning Theory (2 cr)

(Prerequisite/corequisite: ACHR 112 or departmental 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)

(Prerequisites/corequisite: ACHR 112L or departmental approval) This course covers the maintenance, installation and servicing of air conditioning and refrigeration units. Safety is stressed when working with the refrigerants and power tools. This course meets 10 hours per week for 7½ weeks.

ACHR 114—Math for Systems Design (3 cr)

(Prerequisites: ACHR 105 or departmental 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. This combination theory/lab course meets five hours per week.

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 throughout this course. Simple servicing and troubleshooting skills are developed. This combination theory/lab course meets seven hours per week.

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. The class includes numerous field trips. This course meets seven hours per week.

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 throughout this course. Simple servicing and troubleshooting skills are developed. This combination theory/lab class meets 4½ hours per week.

ACHR 201—Advanced Air Conditioning and Refrigeration Theory (2 cr)

(Prerequisite: ACHR 113, 114 or departmental approval) The theory of installation, maintenance and service of heat pumps, rooftop air conditioners and ice machines are covered. Troubleshooting and servicing are stressed. This course meets for four hours a week for 7½ weeks.

ACHR 201L—Advanced Air Conditioning and Refrigeration Lab (2 cr)

(Prerequisite: ACHR 113L or departmental approval) The installation, maintenance and service of heat pumps, rooftop air conditioners and ice machines are covered. Troubleshooting and servicing are stressed. This course meets for 10 hours a week for 7½ weeks.

ACHR 202—Commercial Air Conditioning and Refrigeration (2 cr)

(Prerequisite: ACHR 201 or departmental 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. This course meets for 10 hours a week for 7½ weeks.

ACHR 202L—Commercial Air Conditioning and Refrigeration Lab (2 cr)

(Prerequisite: ACHR 201L or departmental 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. This course meets for 10 hours a week for 7½ weeks.

ACHR 203—Advanced Building Controls Theory (2 cr)

(Prerequisite/corequisite: ACHR 201 or departmental 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)

(Prerequisite/corequisite: ACHR 115L, 203L or departmental approval) Basic control system components and diagrams are included. Emphasis is on the installation and calibration of building control systems. This course meets for five hours a week.

ACHR 204L—Advanced Control Circuitry Lab (1 cr)

(Prerequisite: ACHR 112 or departmental 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. This course meets for five hours per week for 7½ weeks.

ACHR 296—Special Topics (1 - 6 cr)

(Prerequisite: departmental approval) This flexible course enables students to pursue studies in specialized areas. This class also may be taken as an independent or guided study or as a refresher course to sharpen skills prior to licensing. Hours are by arrangement.

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. Proper safety procedures, systems, work ethics and correct selection and use of tools and equipment are stressed.

Students purchase all textbooks for this program. 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 must pay an tool fee of \$110 before entering AUBO 102L, 103L, 104L, 105L or 106L; \$82 before entering AUBO 112L, 113L, 114L, 115L, 116L or 117L, and \$55 before AUBO 202L, 203L, 205L, 206L or 207L.

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
¹ AUBO	106L	Auto Body Theory/Lab I	11
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
² AUBO	117L	Auto Body Theory/Lab II	12
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
³ AUBO 207L	Auto Body Theory/Lab III	12
	Total.....	38

¹This course is designed for full-time students only and is equivalent to AUBO 101, 102L, 103L, 104L and 105L.

²This course is designed for full-time students only and is equivalent to AUBO 111, 112L, 113L, 114L, 115L and 116L.

³This course is designed for full-time students only and is equivalent to AUBO 201, 202L, 203L, 204, 205L and 206L.

Course Descriptions

AUBO 101—Auto Body Theory I (3 cr)

(Prerequisite: RDG 099 or minimum placement test scores of 9-10 in BOTEL and 31—Part I in Math or MATH 099 or departmental 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, preparation of damage reports, damage analyzing, panel fasteners, engine cooling system, bolted body panel removal, replacement and adjustment, metal finishing, body fillers, basic paint and undercoating and refinishing, and oxyacetylene and mig welding.

AUBO 102L—Welding, Plastics and Adhesives I (2 cr)

(Prerequisite/corequisite: AUBO 101, DETC 102 or departmental approval) This lab course provides basic safety and instruction in oxyacetylene welding, gas metal arc welding, plastics identification, welding and adhesive repairs. This course meets five hours per week.

AUBO 103L—Metal Prep/Repair and Cooling Systems (2 cr)

(Prerequisite/corequisite: AUBO 101, DETC 102 or departmental approval) This lab course provides experience in analyzing damage, damage estimates, safety, panel removal, replacement and adjustment, engine cooling system inspection and repair. This course meets 10 hours per week for 7½ weeks.

AUBO 104L—Metal Finishing/Body Filling (2 cr)

(Prerequisite/corequisite: AUBO 101, DETC 102 or departmental approval) This lab course covers minor body dent repair, surface preparation, damage type, tool use and safety, metal finishing and body filler repair techniques. This course meets 10 hours per week for 7½ weeks.

AUBO 105L—Basic Refinishing Systems (2 cr)

(Prerequisite/corequisite: AUBO 101, DETC 102 or departmental approval) This lab course provides experience in paint safety, surface preparation by molding removal, surface cleaning, stripping, sanding materials and techniques, paint undercoats and applications, and spray gun operations. This course meets five hours per week.

AUBO 106L—Auto Body Theory/Lab I (11 cr)

(Prerequisite: minimum placement test scores of 9-10 in BOTEL or RDG 099 and 31—Part I in Math or MATH 099 or departmental approval; corequisite: DETC 102) This theory/lab course will provide instruction and experience in many phases of basic automotive collision repair, including repair estimates, analyzing non-structural damage, safety, hand and power tools, fasteners, panel removal, replacement and adjustment, oxyacetylene welding, gas metal arc welding, plastic identification, adhesives, engine cooling systems, minor dent repair, types of damage, surface preparation for painting, molding removal, surface cleaning, stripping, sanding, paint undercoats, application and spray gun operations. This course meets 23 hours per week.

AUBO 111—Auto Body Theory II (2 cr)

(Prerequisite: DETC 102, AUBO 101, 102L, 103L, 104L, 105L, 106L or 107L or departmental approval) This theory/lecture course introduces students to all phases of structural analysis and collision damage repair. Basic information includes damage diagnosis and repair in frame and unibody vehicle suspension and steering, wheel alignment, collision diagnosis, repair procedures, body measurements, brake systems, fuel intake and exhaust systems, advanced mig welding, plastics and fixed or moveable glass. This course meets two hours per week.

AUBO 112L—Welding, Plastics and Adhesives II (2 cr)

(Prerequisite/corequisite: AUBO 111 or departmental approval) This lab course provides experience in safe gas metal arc welding, plastic welding and adhesives use. This course meets five hours per week.

AUBO 113L—Suspension and Alignment (3 cr)

(Prerequisite/corequisite: AUBO 111 or department approval) This lab course provides experience in damage diagnosis and repair of steering systems, front and rear suspensions, wheel alignment angles and adjustments. This course meets 7½ hours per week.

AUBO 114L—Frame and Unibody Repair (2 cr)

(Prerequisite/corequisite: AUBO 111 or departmental 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. This course meets five hours a week.

AUBO 115L—Brakes, Fuel and Exhaust Systems (2 cr)

(Prerequisite/corequisite: AUBO 111 or departmental approval) This lab course provides instructions in how to safely remove, inspect, repair or replace brake parts, fuel tanks and systems. Collision related repair to fuel and engine exhaust vapor control systems is also covered. This course meet for five hours per week.

AUBO 116L—Automotive Glass Theory/Lab (1 cr)

(Prerequisite/corequisite: AUBO 111 or departmental approval) This lab course provides instruction in removing and replacing fixed or rubber gasket windshields and manual and electrical door glass hardware. Hand and power tools are to be used safely. This course meets 2½ hours per week.

AUBO 117L—Auto Body Theory/Lab II (12 cr)

(Prerequisite: DETC 102, AUBO 101, 102L, 103L, 104L 105L, 106L or 107L or departmental approval) This theory/lab course provides instruction in more advanced phases of structural damage analysis and repair of framed and unibody vehicles using pulling techniques and equipment. Students will also be instructed in repairs of suspension and steering systems, general brake repairs, engine exhaust and fuel vapor controls, automotive glass and more advanced mig welding and plastic repairs and corrosion protection techniques. Up-to-date hand and power tools are to be used safely. This course meet 25 hours a week.

AUBO 201—Auto Body Theory III (3 cr)

(Prerequisite: AUBO 111, 112L, 113, 114L, 115L, 116L or 107L or departmental approval) This theory/lecture course introduces students to advanced repair techniques to industry standards in mig welding, plastics, finishing paint systems, paint application problems, color matching and application, paint finish defects, passenger restraints, electrical components, types of drive trains and air conditioning regulators and equipment.

AUBO 202L—Welding, Plastics and Adhesives III (2 cr)

(Prerequisite/corequisite: AUBO 201 or departmental approval) This lab course provides instruction in industry standards for more advanced gas metal arc welding techniques and plastic repair. This course meets five hours per week.

AUBO 203L—Advanced Refinishing Systems/Techniques (4 cr)

(Prerequisite/corequisite: AUBO 201 or departmental approval) This lab course includes procedures used for painting spot, panel and complete repairs. Students will also solve paint application problems, including causes and corrections of finish defects. Personal safety equipment, detailing, environmental regulations and customer relations are taught. This course meets 10 hours per week.

AUBO 204L—Advanced Restraint/Electrical Systems (1 cr)

(Prerequisite/corequisite: AUBO 201 or departmental approval) This lab course will include instruction in inspection and repair of active, passive and air bag restraint systems. Students will also diagnose, adjust and repair various electrical components safely with up-to-date tools. The course meets 2½ hours per week.

AUBO 205L—Drive Train (1 cr)

(Prerequisite/corequisite: AUBO 201 or departmental approval) This lab course will teach students how to safely remove and replace power train assembly, electronic sensors, align mounts, adjusting cables and linkages and to service front-drive half shafts. This course meets 2½ hours per week.

AUBO 206L—Air Conditioning (1 cr)

(Prerequisite/corequisite: AUBO 201 or departmental approval) This lab course provides instruction in safety, environmental concerns, tools, equipment, servicing and repairing of air conditioning systems in passenger cars and trucks. This course meet 2½ hours per week.

AUBO 207L—Auto Body Theory/Lab III (12 cr)

(Prerequisite/corequisite: AUBO 111, 112L, 113L, 114L, 115L, 116L or 117L or departmental approval) This theory/lab course includes instruction in safety and repairing to

industrial standards with proper tools and equipment. Topics include advanced mig welding, plastic adhesives, paint refinishing systems and techniques used in spot, panel and complete repairs, diagnosing and solving refinishing application and surface defects and vehicle detailing. Students will also service passenger restraint systems, electrical components, drive train assemblies, cables and linkages, half shafts and air conditioning systems. The course meets 25½ hours per week.

AUBO 296—Special Topics (1 - 6 cr)

(Prerequisite: departmental 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. Proper safety procedures 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 purchase all textbooks for this program. 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 must pay a tool fee of \$110 before entering AUTC 101L, 102L or 103L; \$99 before entering AUTC 111L, 112L or 114L, and \$99 before entering AUTC 201L, 202L or 203L.

Automotive Technology Program

			<i>Credit</i>
			<i>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 Transmission/Transaxle Theory	2
AUTC 112L	Auto Transmission/Transaxle 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

Course Descriptions

AUTC 101—Braking Systems Theory (1 cr)

(Prerequisite: minimum placement test scores of 9-12 in BOTEL or RDG 099 and 31—Part I in Math or MATH 099 or departmental approval; corequisite: DETC 102) This course is designed to teach the students to identify mechanical, hydraulic and electrical parts in the brake systems of automobiles. The students will also learn use of tools and equipment for the service and repair of such systems and the theory of operation of each system.

AUTC 101L—Braking Systems Lab (2 cr)

(Prerequisite/corequisite: AUTC 101 or departmental approval) This course is designed to teach methods of repair and replacement of parts in automotive brake systems. This course meets five hours per week.

AUTC 102—Suspension and Alignment Theory (2 cr)

(Prerequisite/corequisite: AUTC 101 or departmental approval) This course is designed help the students identify and determine repairs for the parts of automotive suspension systems. Front-end and four-wheel alignment methods and procedures are covered.

AUTC 102L—Suspension and Alignment Lab (2 cr)

(Prerequisite/corequisite: AUTC 101 or departmental approval) This course includes instruction in the correct use of tools and equipment for repairs of suspension systems, including front-end and four-wheel alignments. This course meets five hours per week.

AUTC 103—Manual Transmissions and Axles Theory (2 cr)

(Prerequisite/corequisite: AUTC 101 or departmental approval) This course covers 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)

(Prerequisite/corequisite: AUTC 101 or departmental approval) This course provides the skills required to service, repair or overhaul automotive manual transmissions and clutches on front and rear drive vehicles. Also included are service and overhaul of differential assemblies and drive lines, as well as diagnostic procedures in solving noise vibration and harshness problems. This course meets five hours per week.

AUTC 111—Engine Overhaul Theory (2 cr)

(Prerequisite: DETC 102, AUTC 101, 101L, 102, 102L, 103, 103L or departmental approval) This course covers the skills needed to identify engine systems (cooling, ignition, fuel, emission and exhaust) and the proper 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 also.

AUTC 111L—Engine Overhaul Lab (2 cr)

(Prerequisite/corequisite: AUTC 111 or departmental 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. This course meets five hours per week.

AUTC 112—Automatic Transmissions and Transaxles Theory (2 cr)

(Prerequisite/corequisite: AUTC 111 or departmental approval) This course covers design and operating theory of automotive transmissions and transaxles. Procedures and theory of service and troubleshooting are also covered. This course meets two hours per week.

AUTC 112L—Automatic Transmissions and Transaxles Lab (2 cr)

(Prerequisite/corequisite: AUTC 111 or departmental approval) This course provides hands-on experience in servicing, overhaul and troubleshooting automatic transmission and transaxles. This course meets five hours per week.

AUTC 113—Transportation Electronics (3 cr)

(Prerequisites/corequisite: AUTC 111 or departmental approval) This course provides the information required to test and replace malfunctioning electronic components. The theory of solid-state devices, basic principles of electronics and interpretation of circuit diagrams are included. Signal tracing characteristics and operation of semi-conductor diodes and rectifier circuits are covered. Lab experiments are conducted on full wave and voltage rectifiers, transistors, integrated circuits, operational amplifiers, digital gates and timing circuits.

AUTC 114—Heating and Air Conditioning Theory (1 cr)

(Prerequisite/corequisite: AUTC 111 or departmental 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. This course meets one hour per week.

AUTC 114L—Heating and Air Conditioning Lab (2 cr)

(Prerequisite/corequisite: AUTC 114 or departmental approval) This laboratory course is designed to teach the use, safety and environmental concerns of operation and repair of vehicle heating and air conditioning systems. This course meets five hours per week.

AUTC 170—Transportation Trades Machining (3 cr)

This course introduces basic machine shop practices particularly as they relate to the auto diesel mechanic. Instruction is provided in safety, hand tools, elementary lathe, mill and drill press. Emphasis is on tapping, rethreading, broken stud removal, thread inserts, shaft straightening, torque wrenches, fasteners, sized nuts and chisel use. This combination theory/lab course meets five hours per week.

AUTC 172—Air Care Inspector (1 cr)

This 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 rules and regulations governing air pollution, emissions inspections and approved manufacturers' analyzers. This combination theory/lab course meets four hours per week for seven weeks.

AUTC 201—Automotive Ignition Systems Theory (2 cr)

(Prerequisites: AUTC 113 or departmental approval) This theory course covers the design, operation and troubleshooting of standard points, ignition, electronic ignition and distributor-less ignition systems.

AUTC 201L—Automotive Ignition Systems Lab (3 cr)

(Prerequisite/corequisite: AUTC 201 or departmental approval) This laboratory course teaches the use of equipment and troubleshooting technique to identify and repair all types of ignition systems. This course meets for seven hours per week.

AUTC 202—Automotive Fuel Systems (2 cr)

(Prerequisites/corequisite: AUTC 201 or departmental 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)

(Prerequisite/corequisite: AUTC 201 or departmental approval) This laboratory course teaches the identification, operation and testing of different fuel systems. This course meets five hours per week.

AUTC 203—Automotive Computer Systems (2 cr)

(Prerequisite/corequisite: AUTC 201 or departmental approval) This is a theory course in the design, components, operation and repair of automotive computer systems.

AUTC 203L—Automotive Computer Systems Lab (2 cr)

(Prerequisite/corequisite: AUTC 201 or departmental approval) This lab covers troubleshooting, operation and repair of automotive computer systems. This course meets for five hours per week.

AUTC 296—Special Topics (1 - 6 cr)

(Prerequisite: departmental 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 persons for jobs as bakers in restaurants, bake shops, bakeries and institutional kitchens such as schools or hospitals. Persons entering this field should be early risers since most baking begins early in the morning.

The Baking program meets in a lab furnished with commercial equipment and display cases. The program's products are sold in the T-VI food service areas.

Students must be free of chronic allergies. In addition, to enroll in this field, it is necessary to present a certificate to T-VI stating that the student is free from tuberculosis in a transmissible form. The certificate must be obtained from and signed by a licensed physician no more than 90 calendar days before the start of classes.

Students purchase all textbooks for this program.

Students must pay a tool fee of \$110 before entering BKNG 103L, 104L, 105L, 106L or 107L; and \$33 before entering BKNG 112L, 113L, 114L, 115L, 116L or 117L.

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
¹ BKNG	107L	Baking I Theory/Lab I	10
BKNG	111	Baking Theory II	3
BKNG	112L	Yeast Doughs	2
BKNG	113L	Batters	2
BKNG	114L	Pastries/Cookies	2
BKNG	115L	Icings and Fillings	2
BKNG	116L	Cake Decorating	1
² BKNG	117L	Baking II Theory/Lab II	12
		Total	25

¹This course is designed for full-time students only and is equivalent to BKNG 101, 103L, 104L, 105L and 106L.

²This course is designed for full-time students only and is equivalent to BKNG 111, 112L, 113L, 114L, 115L and 116L.

Course Descriptions

BKNG 101—Baking Theory I (2 cr)

(Prerequisite: minimum placement test scores of 5 in BOTEL or RDG 099 and 24—Part I in Math or MATH 099 or departmental 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 Mathematics (3 cr)

(Prerequisite: minimum placement test scores of 5 in BOTEL or RDG 099 and 24—Part I in Math or MATH 099 or departmental approval; corequisite: BKNG 101) The student learns basic arithmetic skills for sales, portioning and pricing of food products. Students also learn to use cash registers.

BKNG 103L—Breads (2 cr)

(Prerequisite/corequisite: BKNG 101, 102 or departmental 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. This safety-oriented course meets five hours per week.

BKNG 104L—Sweet Yeast Goods (2 cr)

(Prerequisite/corequisite: BKNG 101, 102 or departmental approval) This lab course covers basic instruction in retail production of donuts, sweet rolls, cinnamon rolls, coffeecake and danish. Proper sanitation technique, portion control and costing skills are included. This course meets five hours per week.

BKNG 105L—Cake Batters (2 cr)

(Prerequisite/corequisite: BKNG 101, 103 or departmental approval) This lab course covers basic instruction in the fundamentals of mixing and processing ingredients in a variety of cake batters, icings and fillings. The student learns basic cake decorating skills. Special emphasis is placed on ingredient storage, proper formulation and care and use of bakery equipment. This course meets five hours per week.

BKNG 106L—Pies and Pastries (2 cr)

(Prerequisite/corequisite: BKNG 101, 102 or departmental approval) This lab course covers a variety of specialized pastries with emphasis on roll-in doughs and leavening agents. The students are introduced to communication, human relation and interviewing skills. This course meets five hours per week.

BKNG 107L—Baking Theory/Lab I (10 cr)

(Prerequisite: minimum placement test scores of 5 in BOTEL or RDG 099 and 24—Part I in Math or MATH 099 or departmental approval; corequisite: BKNG 102) This course introduces students to baking fundamentals through the scratch production of high quality

baked goods. The theory portion includes baking chemistry safety, sanitation and formulation. The lab portion is designed for hands-on experience in retail production of breads, sweet yeast goods, cakes, pies and specialized pastries. This course meets 22 hours a week.

BKNG 111—Baking Theory II (3 cr)

(Prerequisites: BKNG 101, 102, 103L, 104L, 105L, 106L or departmental 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. This course meets three hours per week.

BKNG 112L—Yeast Doughs (2 cr)

(Prerequisite/corequisite: BKNG 111 or departmental approval) The student learns advanced production procedures of a variety of breads, sweet doughs and croissants. This course meets five hours per week.

BKNG 113L—Batters (2 cr)

(Prerequisite/corequisite: BKNG 111 or departmental approval) The student learns advanced production procedures of a variety of international cakes and tortes with emphasis on baking chemistry. This course meets five hours per week.

BKNG 114L—Pastries/Cookies (2 cr)

(Prerequisite/corequisite: BKNG 111 or departmental approval) The student learns advanced production techniques of international pastries, pies and petit fours. The student will also learn the seven different methods of cookie production. International roux products are introduced. This course meets five hours per week.

BKNG 115L—Icings and Fillings (2 cr)

(Prerequisite/corequisite: BKNG 111 or departmental approval) The student learns advanced production techniques of international buttercreams, fondants, ganache and marzipan. Competition pieces are covered. This course meets five hours per week.

BKNG 116L—Cake Decorating (1 cr)

(Prerequisite/co-requisite: BKNG 111 or departmental approval) In this lab course, the student expands on fundamental knowledge on the production of tiered, special occasion and sculpted cakes. This course meets 2½ hours per week.

BKNG 117L—Baking Theory/Lab II (12)

(Prerequisite: BKNG 101, 102, 103L, 104L, 105L and 106L or departmental approval) This course emphasizes safety, sanitation, baking chemistry and advanced production procedures and techniques. The lab portion expands on international pastries, desserts, yeast doughs, batters, cookies, cakes, fillings and advanced cake decorating. This course meets 24 hours per week.

BKNG 296—Special Topics (1 - 6 cr)

(Prerequisite: departmental 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. Hours are by arrangement.

Carpentry

Certificate Program
Main Campus

The Carpentry program provides students with entry-level job skills to enter the construction industry. Classes meet on- and off-campus and in labs designed for residential construction and cabinetmaking.

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. Students purchase all textbooks for this program.

Carpentry students must pay a tool fee and supply fee of \$110 before entering CARP 102L, 103L, 104L or 105L; and an additional \$77 before entering CARP 112L, 113L, 114L or 115L.

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
¹ CARP	105L	Carpentry Theory/Lab I	9
CARP	111	Carpentry, Math/Blueprint Reading II	3
CARP	112	Interior Finish Theory	1
CARP	112L	Interior Finish Lab	2
CARP	113	Cabinet and Millwork Theory	1
CARP	113L	Cabinet and Millwork Lab	2
CARP	114	Carpentry Remodel Theory	1
CARP	114L	Carpentry Remodel Lab	2
² CARP	115L	Carpentry Theory/Lab II	9
		Total.....	24

¹This course is designed for full-time students only and is equivalent to CARP 102, 102L, 103, 103L, 104 and 104L.

²This course is designed for full-time students only and is equivalent to CARP 112, 112L, 113, 113L, 114 and 114L.

Course Descriptions

CARP 101—Carpentry Mathematics/Blueprint Reading I (3 cr)

(Prerequisite: minimum placement test scores of 5 in BOTEL or RDG 099 and 31—Part I and 6—Part II in Math or MATH 099 or departmental approval) This course provides instruction in whole numbers, combining numbers, lumber sizing, scaling, centering and triangle theory. Instruction in the interpretation of elevation drawings and floor plans, symbols and notations, dimensions and structural information is included. Students are introduced to material estimation.

CARP 102—Foundations Theory (1 cr)

(Prerequisite: minimum placement test scores of 5 in BOTEL or RDG 099 and 31—Part I and 6—Part II in Math or MATH 099 or departmental approval) This course provides instruction in the safety and use of hand and power tools, site layout, footing and stemwall construction, exterior wall coverings and window and door installation.

CARP 102L—Foundations Lab (2 cr)

(Prerequisite/corequisite: CARP 101, 102 or departmental approval) This lab course provides instruction in the safety and use of hand and power tools, site layout, footing and stemwall construction and flat concrete work. This course meets six hours per week.

CARP 103—Framing Theory (1 cr)

(Prerequisite: CARP 101, 102 or departmental 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)

(Prerequisite/corequisite: CARP 103 or departmental 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). This course meets six hours per week.

CARP 104—Exteriors Theory (1 cr)

(Prerequisite/corequisite: CARP 101, 102, 103 or departmental 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/corequisite: CARP 104 or departmental approval) This lab course provides the students with experience in installing exterior wall and roof sheathings, the roof system, exterior siding and windows and doors in accordance with the Uniform Building Code (UBC). This lab course meets six hours per week.

CARP 105L—Carpentry Theory/Lab I (9 cr)

(Prerequisite/corequisite: minimum placement test scores of 5 in BOTEL or RDG 099 and 31-Part I and 6-Part II in Math or MATH 099 or departmental approval) This theory/lab course provides instruction in the safety and use of hand and power tools. Methods of site layout, footing and stemwall construction, exterior wall and roof coverings and floor and window installation are included. Students do site layout, footing and stemwall construction, floor and wall framing, flat construction and installation of doors, windows and exterior wall coverings in accordance with the Uniform Building Code (UBC). This course meets 21 hours per week.

CARP 111—Carpentry Mathematics/Blueprint Reading II (3 cr)

(Prerequisite: CARP 101, 102, 102L, 103, 103L, 104, 104L or 105L or departmental approval) This course introduces blueprint applications for residential homes, multiple family dwellings and commercial buildings. 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)

(Prerequisite/corequisite: CARP 111 or departmental approval) This course provides instruction in the Uniform Building Code requirements for the installation of various types of thermal insulation and drywall. Techniques and 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)

(Prerequisite/corequisite: CARP 112 or departmental 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. This lab course meets six hours per week.

CARP 113—Cabinetmaking and Millwork Theory (1 cr)

(Prerequisite/corequisite: CARP 111 or departmental approval) This course provides instruction in the design, layout and construction of wood cabinets in residential and commercial buildings.

CARP 113L—Cabinetmaking and Millwork Lab (2 cr)

(Prerequisite/corequisite: CARP 113 or departmental approval) This lab course offers hands-on learning in the safe use of equipment and power tools used in the construction and finish of wooden cabinets. This course meets five hours per week.

CARP 114—Carpentry Remodel Theory (1 cr)

(Prerequisite/corequisite: CARP 111 or departmental 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)

(Prerequisite/corequisite: CARP 114 or departmental approval) This lab course offers hands-on learning in the safe use of power equipment and problem solving in remodeling. This course meets six hours per week.

CARP 115L—Carpentry Theory/Lab II (9 cr)

(Prerequisite: CARP 101, 102, 102L, 103, 103L, 104, 104L or 105L or departmental approval) This course provides instruction in the Uniform Building Code requirements for the installation of various types of thermal insulation and drywall. The techniques and methods involved in painting, trimming and finishing interiors, including cabinets, are presented. Students work on real buildings for practical applications of the instruction presented. This course meets 21 hours per week.

CARP 170—Carpentry Fundamentals and Cabinetmaking (3 cr)

This theory/lab course introduces the student to the carpentry and cabinetmaking field. Job, shop and hand/power tool safety are stressed. Students are required to pass a safety examination before they are allowed to work with any equipment in the lab. Students will be required to construct and finish a cabinet or like project out of pinewood, plywood, composite materials and hardware furnished by the student. All projects must be approved by the instructor before they are started. This course meets 4½ hours per week.

CARP 171—Construction Blueprint/Math (3 cr)

This theory course provides instruction 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 construction and electrical 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 will be introduced. This theory/lab course meets six hours per week.

CARP 296—Special Topics (1 - 6 cr)

(Prerequisite: departmental approval) This course includes an in-depth study of methods and advanced techniques. Hours are by arrangement.

Commercial Printing

Certificate Program Main Campus

This program provides students with 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 \$33 before entering CMRP 103L, 104L, 105L, 106L or 107L.

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
¹ CMPR	107L Commercial Printing Theory/Lab I	11
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
² CMPR	116L Commercial Printing Theory/Lab II	11
	Total.....	24

¹This course is designed for full-time students only and is equivalent to CMPR 101, 102, 103L, 104L, 105L and 106L.

²This course is designed for full-time students only and is equivalent to CMPR 111, 112, 113L, 114L, and 115L.

Course Descriptions

CMPR 101—Commercial Printing Math I (1 cr)

(Prerequisite: minimum placement test scores of 9-12 in BOTEL or RDG 099 and 35—Part I in Math or MATH 099; corequisite: CMPR 102 or departmental approval) This course provides instruction 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)

(Prerequisite: minimum placement test scores of 9-12 in BOTEL or RDG 099 and 35—Part I in Math or MATH 099 or departmental approval; corequisite: CMPR 101) This course covers conceptual material encompassing 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 also are exposed to job seeking and job retention skills.

CMPR 103L—Graphics Studio (2 cr)

(Prerequisite/corequisite: CMPR 101, 102 or departmental approval) This course introduces learners to graphics design principles 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. This course meets five hours per week.

CMPR 104L—Pre-press Lab (2 cr)

(Prerequisite/corequisite: CMPR 101, 102, 103L or departmental 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. This course meets five hours per week.

CMPR 105L—Press and Bindery Lab (2 cr)

(Prerequisite/corequisite: CMPR 101, 102, 103L, 104L or departmental approval) In this lab students learn the procedures for set-up, operation, clean-up and maintenance of several popular offset lithography presses. Students run a combination of skill development projects and jobs from outside customers. They learn how the care taken in pre-press stages affects the quality of the printed product. Students get initial training in custom ink mixing and basic bindery and finishing, including the operation of the folder and the power cutter. This course meets five hours per week.

CMPR 106L—Advanced Projects Lab (2 cr)

(Prerequisite/corequisite: CMPR 101, 102, 103L, 104L, 105L or departmental 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. This course meets five hours per week.

CMPR 107L—Commercial Printing Theory/Lab I (11 cr)

(Prerequisite/corequisite: minimum placement test scores of 9-12 in BOTEL or RDG 099 and 35—Part I in Math or MATH 099, CMPR 101 or departmental approval) This course includes everything in CMPR 102, 103L, 104L, 105L and 106L with a total overview of offset lithography from design to bindery. This course meets 23 hours per week.

CMPR 111—Commercial Printing Math II (1 cr)

(Prerequisite/corequisite: CMPR 101, 102, 103L, 104L, 105L, 106L or 107L or departmental 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)

(Prerequisite: CMPR 111 or departmental approval) This class covers advanced techniques in offset printing. A continuation of training in design theory, layout and paste-up techniques, darkroom processes, hairline stripping with chokes and spreads and press operation are included. Students learn page layout skills and techniques using advanced graphics and word processing software. Students are exposed to the most popular professional desktop publishing hardware and software. Also covered are the requirements for accurate estimating.

CMPR 113L—Desktop Publishing (2 cr)

(Prerequisite/corequisite: CMRP 111, 112 or departmental approval) This course teaches 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. This course meets five hours per week.

CMPR 114L—Estimating (2 cr)

(Prerequisites/corequisite: CMPR 111, 112, 113L or departmental approval) This lab teaches students the basics of estimating costs, labor and overhead for a variety of printing jobs. Students learn how to charge jobs in a simulated business environment using both catalog and computer methods from Franklin. This course meets five hours per week.

CMPR 115L—Production Printing (4 cr)

(Prerequisite/corequisite: CMPR 111, 112, 113L, 114L or departmental approval) In this lab students learn advanced camera and stripping techniques and signature layout and get the opportunity to run our two-color press. This course meets 10 hours per week.

CMPR 116L—Commercial Printing Theory/Lab II (11 cr)

(Prerequisite/corequisite: CMPR 101, 102, 103L, 104L, 105L, 106L, 111L or departmental approval) This course includes everything in CMPR 112, 113L, 114L and 115L, teaching advanced skills in offset lithography plus training in desktop publishing and estimating. This course meets for 23 hours per week.

CMPR 170—Commercial Printing Skills Improvement: Basic (3 cr)

This theory course covers everything contained in CMPR 102 and 107 in a condensed form. The course is designed for individuals with industry experience who need to know why they are doing what they do or for people with prior experience who need to update their knowledge. The entire range of offset experience will be covered from design to bindery, with an emphasis on improving quality of production.

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 their skills upgraded. The course teaches desktop publishing on the Macintosh computer from the basics to the most recent upgrades of the most popular page layout and illustration software. This course meets five hours per week.

CMPR 296—Special Topics (1 - 6 cr)

(Prerequisite: departmental approval) This course includes an in-depth study of problems and the advanced techniques that commercial printing experts use in responding to them. Hours are by arrangement.

Criminal Justice

Associate in Applied Science Degree/

~~Certificate Program~~

Main Campus

Memo 9/10/92 Only a Degree Program no longer a Cert. Progra

This program provides comprehensive instruction in the field of 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. The T-VI application will provide verification. Students purchase all textbooks and supplies for this program.

Graduates of this program may transfer credits toward a bachelor's degree in training and learning technology at the University of New Mexico.

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	3
	or	.....	3
CJ	114	Contemporary Enforcement Techniques	3
CJ	111	Traffic Investigation and Enforcement	3
CJ	112	Criminal Investigation	3
CJ	113	Organized and White Collar Crime	3
CJ	115	Physical Conditioning	1
	or	.....	1
CJ	170	Physical Fitness	1

Required Arts & Sciences Courses

ENG	101	Writing with Readings in Exposition	3
SOC	111	Criminal Justice System	3
MATH	120	Intermediate Algebra	3
CS	101	Computer Literacy	4
ENG	119	Technical Communications	3
		Psychology Elective.....	3

SOC	101	Introduction to Sociology.....	3
SOC	280	Social Science Research.....	3
Communications		Elective	3
SOC	211	Social Problems	3
SOC	212	Juvenile Delinquency	3
SOC	215	Criminology.....	3
SOC	214	Sociology of Corrections.....	3
SOC	216	Ethnic and Minority Groups.....	3
		Total.....	71

Course Descriptions

CJ 101—Criminal Law and Procedure (3 cr)

(Prerequisite: minimum placement test scores of 9-12 in BOTEL or RDG 099 and 31—Part I in Math or MATH 099 or departmental 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)

(Prerequisite: minimum placement test scores of 9-12 in BOTEL or RDG 099 and 31—Part I in Math or MATH 099 or departmental 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)

(Prerequisite: minimum placement test scores of 9-12 in BOTEL or RDG 099 and 31—Part I in Math or MATH 099 or departmental 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)

(Prerequisite: minimum placement test scores of 9-12 in BOTEL or RDG 099 and 31—Part I in Math or MATH 099 or departmental 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)

(Prerequisite: minimum placement test scores of 9-12 in BOTEL or RDG 099 and 31—Part I in Math or MATH 099 or departmental approval; class 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: minimum placement test scores of 9-12 in BOTEL or RDG 099 and 31—Part I in Math or MATH 099 or departmental approval) The course includes the history and development of the security services function, relationships to the legal process, career roles and operational processes in various 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)

(Prerequisites: CJ 104, CJ 106 and or departmental 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)

(Prerequisites: CJ 101 and CJ 106 or departmental 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)

(Prerequisite: CJ 101 or departmental 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)

(Prerequisites: CJ 101, CJ 104, and limited to Criminal Justice majors or departmental 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 115—Physical Conditioning (1 cr)

(Limited to Criminal Justice majors; class size limited to 20 students or departmental approval) This course introduces the student to the concept of health maintenance by use of fitness methods and equipment.

CJ 170—Physical Fitness (1 cr)

(Prerequisite: physician's certificate documenting student's health/physical condition or departmental approval) This course offers a fitness program based on an assessment that includes blood pressure, percent of body fat, girth measurements, a test of cardiovascular endurance and strength and flexibility tests. The course is self-paced with a evaluation at the end of 15 weeks to determine a grade.

CJ 296—Special Topics (1 - 6 cr)

(Prerequisite: departmental approval) This course includes an in-depth study of problems and the advanced techniques that criminal justice experts use in responding to them. Hours are by arrangement.

Culinary Arts

Associate in Applied Science Degree
Main Campus

The Culinary Arts associate in applied science degree will provide students an option to the certificate programs.

The program prepares individuals for entry-level jobs in bakeries, restaurants and commercial kitchens. The program also prepares graduates to become entry-level supervisors or managers. The program emphasizes safety, sanitation, nutritional food preparation, cashiering, proper equipment use, human relations, supervision and business practices.

Courses are from the Quantity Foods, Baking and Food Service Management certificate programs, along with Arts & Sciences. Graduates may transfer credits toward a bachelor's degree in training and learning technologies at the University of New Mexico.

Culinary Arts 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
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/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
		Total.....	56

Required Arts & Sciences Courses

Communication Elective			3
ENG 101	Writing with Readings in Exposition		3
ENG 119	Technical Communications		3
Social Science/Humanities Elective			3
Math Elective			3
CSCI 101	Computer Literacy		4
Total			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 working labs where students are introduced to 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 of these components.

Students purchase all textbooks for this program. 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.

Diesel Equipment Technology students must pay an equipment fee of \$143 before entering DETC 103L, 104L, or 105L; \$143 before entering DIME 1113L, 114L or 115L; and \$110 before entering DIME 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 Transmission Lab		3
DETC 104L	Drive Axles, Brakes, Automotive Transmission 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	2
		Total.....	39

Course Descriptions

DETC 101—Diesel Drive Train Theory (3 cr)

(Prerequisite/corequisite: minimum placement test scores of 9-12 in BOTEL or RDG 099 and 31—Part I in Math or MATH 099, DETC 102 or departmental 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)

(Prerequisite/corequisite: minimum placement test scores of 9-12 in BOTEL or RDG 099 and 31—Part I in Math or MATH 099, DETC 101 or departmental approval) The student learns and applies basic math skills, such as fractions, decimals, percentages, ratios, proportions, areas and volumes, and basic electricity principles and electrical circuits. Horsepower and other power theories are also covered in this course.

DETC 103L—Manual Shift Transmissions Lab (3 cr)

(Prerequisite/corequisite: DETC 101 or departmental approval) Students learn shop safety, disassembly, evaluation, assembly and adjustment of manual shift transmissions used in trucks. These will include single and twin countershaft transmissions, auxiliary transmissions and transfer gear cases. This course meets for 7½ hours per week.

DETC 104L—Drive Axles, Brakes, Automatic Transmissions (3 cr)

(Prerequisite/corequisite: DETC 101 or departmental approval) Students learn shop safety and disassembly, evaluation, assembly and adjustment of automatic transmissions, drive axles, clutches and other drive train components. Air and hydraulic brake system components are disassembled, evaluated and reassembled. This course meets for 7½ hours per week.

DETC 105L—Hydraulic Systems (2 cr)

(Prerequisite/corequisite: DETC 101 or departmental approval) Students learn shop safety, disassembly, evaluation and assembly of hydraulic pumps, valves, actuators and hydraulic circuits used in the heavy-equipment industry. Hydrostatic transmissions and in-line circuit testers are covered. This course meets for five hours per week.

DETC 111—Diesel Engine Theory (3 cr)

(Prerequisites: DETC 101, 102, 103L, 104L, 105L or departmental 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—Engine Overhaul (3 cr)

(Prerequisite/corequisite: DETC 111 or departmental 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. This course meets 7½ hours per week.

DETC 112L—Precision Measurement and Component Repair Lab (3 cr)

(Prerequisite/corequisite: DETC 111 or departmental approval) This course deals with the use of micrometers and dial indicators. 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. This course meets 7½ hours per week.

DETC 113L—Engine Tune-Up and Testing Lab (2 cr)

(Prerequisite/corequisite: DETC 111 or departmental approval) Engine adjustments and tune-ups are performed on major brands of engines. Troubleshooting and dynamometer testing techniques are performed on engines in running condition. This course meets five hours per week.

DETC 201—Diesel Electrical Theory (1 cr)

(Prerequisites: DETC 111, 112L, 113, 113L or departmental approval) Students study shop safety and diagnosis and troubleshooting procedures of electrical systems and diesel components.

DETC 201L—Diesel Electrical Lab (3 cr)

(Prerequisites/corequisite: DETC 201 or departmental approval) Students practice shop safety and diagnostic and troubleshooting procedures of electrical components and diesel systems. This course meets 7½ hours a week.

DETC 202—Diesel Fuel Injection Theory (1 cr)

(Prerequisites/corequisite: DETC 201 or departmental approval) Students study safety and diagnostic, troubleshooting and repair procedures of fuel injection systems and diesel components.

DETC 202L—Diesel Fuel Injection Lab (3 cr)

(Prerequisites/corequisite: DETC 201, 202 or departmental approval) The students study safety and diagnostic, troubleshooting and repair procedures on fuel injection systems and diesel components. This course meets 7½ hours per week.

DETC 203—Transport Refrigeration/Air Conditioning (1 cr)

(Prerequisite/corequisite: DETC 201 or departmental 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)

(Prerequisites/corequisite: DETC 201, 203 or departmental approval) Students practice shop safety skills and diagnostic, troubleshooting and repair procedures on transport refrigeration and air conditioning systems. This course meets five hours a week.

DETC 296—Special Topics (1 - 6 cr)

(Prerequisite: departmental approval) This course includes an in-depth study of problems and the advanced techniques diesel technicians use in responding to them. Hours are by arrangement.

Electrical Trades

Certificate Program

Main Campus

The program provides the student with 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 of the program.

Student must have normal color differentiation. 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 personal equipment fee of \$110 before entering ELTR 103L, 104L or 105L; \$94 before entering ELTR 114L, 115L and 116L; \$55 before entering ELTR 204L, 205L or 206L, and \$55 for entering ELTR 213L, 214L or 215L.

Electrical Trades Program

			<i>Credit Hours</i>
#BA	131	Human Relations	2
or			
*ENG	101	Writing with Readings in Exposition	3
+BA	111	Communications	2
or			
^PSY	105	Introduction to Psychology	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
¹ ELTR	105L	Electrical Trades Theory/Lab I	9
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
² ELTR	116L	Electrical Trades Theory/Lab II	9
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
³ ELTR	206L	Electrical Trades Theory/Lab III	12
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
⁴ ELTR	215L	Electrical Trades Theory/Lab IV	12
		Total.....	58 - 60

¹This course is designed for full-time students only and is equivalent to ELTR 101, 103L and 104L.

²This course is designed for full-time students only and is equivalent to ELTR 113, 114L and 115L.

³This course is designed for full-time students only and is equivalent to ELTR 201, 203, 204L and 205L.

⁴This course is designed for full-time students only and is equivalent to ELTR 211, 212, 213L and 214L.

#Business Occupations course (see page 106).

*Arts & Sciences course (see page 72.)

†Business Occupations course (see page 105).

^ Arts & Sciences course (see page 84).

Course Descriptions

ELTR 101—Electrical Theory I (3 cr)

(Prerequisite: minimum placement test scores of 7-8 in BOTEL or RDG 099 and 35—Part I, 6—Part II, and 2—Part III in Math or MATH 099, or departmental 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)

(Prerequisite: minimum placement test scores of 7-8 in BOTEL or RDG 099 and 35—Part I, 6—Part II, and 2—Part III in Math or MATH 099, or departmental approval; corequisite: ELTR 101) The student reviews basic arithmetic functions and is introduced to electrical formulas which include Ohm's and Kirchoff's laws. Problem solving includes calculations of material and circuit load requirements, rules for series, parallel and combination circuits and mechanical work and power.

ELTR 103L—Electrical DC/AC Lab (3 cr)

(Prerequisite/corequisite: ELTR 101, 102 or departmental approval) This lab course covers the basic fundamentals of electricity. Emphasis is placed on safety, and Red Cross first aid and CPR are taught, with certification issued upon successful completion. Topics include electrical circuitry, meters, power sources, conductors, insulators, reactive circuits and application of the National Electrical Code. This course meets nine hours per week.

ELTR 104L—AC Circuitry, Motors, Generators (3 cr)

(Prerequisite/corequisite: ELTR 101, 102 or departmental 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. This course meets nine hours per week.

ELTR 105L—Electrical Trades Theory/Lab I (9 cr)

(Prerequisite: minimum placement test scores of 7-8 in BOTEL or RDG 099 and 35—Part I, 6—Part II, and 2—Part III in Math or MATH 099 or departmental approval; corequisite: ELTR 102) This theory/lab course includes the basic concepts of DC and AC electricity with emphasis on conductor, semi-conductor and insulator properties, magnetism, electro-magnetism, circuit analysis, troubleshooting, Ohm's Law, Kirchoff's Law, symbol identification, schematic reading, circuit application, basic transformers, single-phase motors and the application of the National Electrical Code. This course meets 21 hours per week.

ELTR 111—Electrical Algebra (3 cr)

(Prerequisite: ELTR 101, 102, 103L, 104L or 105L or departmental 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.

ELTR 112—Residential Blueprint Reading I (3cr)

(Prerequisite/corequisite: ELTR 111 or departmental 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)

(Prerequisite/corequisite: ELTR 111, 112 or departmental approval) The fundamentals of electricity are applied to the design and installation of residential and light commercial electrical circuitry. This course covers the application of the National Electrical Code and

local codes and regulations for installation of branch circuits, services, feeders, temporary services and associated materials and equipment.

ELTR 114L—Residential Wiring Lab (3 cr)

(Prerequisite/corequisite: ELTR 111, 112, 113 or departmental approval) The fundamentals of electricity are applied to the actual installation of residential and light commercial circuitry. This lab course covers safety, tools, materials, devices, single pole switches, receptacles, overcurrent protection, three- and four-way switch circuits, pilot switches, low voltage lighting, door chimes, dryer and range receptacles and swamp coolers, as well as application of the National Electrical Code. This course meets nine hours per week.

ELTR 115L—Residential Services (3 cr)

(Prerequisite/corequisite: ELTR 111, 112, 113 or departmental 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 and adhere to the National Electrical Code. This course meets nine hours per week.

ELTR 116L—Electrical Trades Theory/Lab II (9 cr)

(Prerequisite/corequisite: ELTR 101, 102, 103L, 104L or 105L or departmental approval)

This course provides instruction in the application of the National Electrical Code, local codes and regulations in the installation of branch circuits, services, feeders, temporary services, associated materials and equipment. This course also covers safety, tools, materials, devices, overcurrent protection, three- and four-way switches, pilot switches, low voltage lighting, chimes, dryer and range receptacles, circuit panels and installation of wiring. This course meets 21 hours per week.

ELTR 170—Residential Wiring Circuitry (2 cr)

This 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 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. This theory/lab course meets 3½ hours per week.

ELTR 172L—Pole Climbing (1 cr)

Instruction is provided in safety, proper use of equipment, climbing and maneuvering techniques and the proper use of ladders on poles and spanlines. This lab course meets 2½ hours per week.

ELTR 173—Industrial Motor Control Circuitry (2 cr)

This 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 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. This theory/lab course meet six hours per week.

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)

This theory course provides instruction 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 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. This theory/lab course meets six hours per week.

ELTR 201—Electrical Theory III (3 cr)

(Prerequisite: ELTR 111, 112, 113, 114L or 115L or departmental approval) This lecture/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)

(Prerequisite/corequisite: ELTR 112, 201 or departmental 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. This course meets three hours per week.

ELTR 203—Electrical Motor Control Theory (3 cr)

(Prerequisite/corequisite: ELTR 201, 202 or departmental approval) This lecture/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)

(Prerequisite/corequisite: ELTR 201, 202 or departmental approval) This lab course covers 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. This course meets nine hours per week.

ELTR 205L—Industrial Power Distribution (3 cr)

(Prerequisite/corequisite: ELTR 201, 202 or departmental approval) This lab covers safety, conduit bending using mechanical and hydraulic benders, cutting and threading of rigid conduit using power threaders, use of 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 National Electrical Code. This course meets nine hours per week.

ELTR 206L—Electrical Trades Theory/Lab III (12 cr)

(Prerequisite: ELTR 111, 112, 113, 114L, 115L or 116L or departmental approval) This theory/lab course instructs students in the commercial and industrial aspects of electrical safety, tools, materials, power distribution systems, services, hazardous locations, intrusion/fire alarm systems, motor control symbology and circuitry, use of electromechanical relay-type motor controls and control devices, motor starters, National Electrical Code requirements, installation of commercial and industrial electrical systems and troubleshooting techniques. This course meets 24 hours per week.

ELTR 211—Industrial Electrical Circuitry and Safety (3 cr)

(Prerequisite: ELTR 201, 202, 203, 204L, 205L or 206L or departmental 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)

(Prerequisite/corequisite: ELTR 211 or departmental approval) This theory course introduces the students 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)

(Prerequisite/corequisite: ELTR 211, 212 or departmental approval) This lab course enables a student to install programmable logic controllers in accordance with manufacturer's specifications and National Electrical Code requirements. The student is able to enter basic programs in the controller simulating fundamental industrial control processes with various input and output devices. This lab course meets nine hours per week.

ELTR 214L—PLC Systems Operation and Troubleshooting (3 cr)

(Prerequisite/corequisite: ELTR 211, 212 or departmental approval) This lab course builds on the wiring and programming abilities learned in ELTR 214L. The student will learn intricate industrial wiring, motor controls and motor troubleshooting, programmable controller timer, counter and sequence program operations and the troubleshooting techniques involved. This lab course meets nine hours per week.

ELTR 215L—Electrical Trades Theory/Lab IV (12)

(Prerequisite: ELTR 201, 202, 203, 204L, 205L or 206L or departmental approval) This theory/lab course provides instruction in safety principles and standards used in an industrial setting. Occupational Safety and Health Act (OSHA) regulations are studied. Efficient electrical controllers are studied with emphasis on installation to meet manufacturer's specifications and National Electrical Code requirements. Logic ladder diagrams are taught. This course meets 24 hours per week.

ELTR 296—Special Topics (1 - 6 cr)

(Prerequisite: departmental approval) This course provides advanced, in-depth study and research into methods and current technological equipment used in the electrical trades. Hours are by arrangement.

Environmental Protection Technology

Associate in Applied Science Degree
Main Campus

The Environmental Protection Technology program provides basic classroom instruction in the diverse field of environmental protection 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.

All Arts & Sciences courses have a tuition charge; science courses also have lab fees (see pages 24 and 25).

Students purchase all textbooks and supplies for this program.

Graduates may transfer credits toward a bachelor's degree in training and learning technologies at the University of New Mexico.

Environmental Protection Technology Program

			<i>Credit Hours</i>
EPT	101	Emergency First Aid Response	1
EPT	111	Environmental Protection Technology I	4
EPT	112	Hazards and Protection Training	3
EPT	173	Water Quality Protection	3
EPT	198	Cooperative Education	3
	or	.....	3
Approved Elective			
EPT	211L	Environmental Protection 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	1
	or	.....	1
AUTC	172	Air Care Inspector Certification	

FS 203 Hazardous Materials 3

BIO 130L Required Arts & Sciences Courses

BIO 111	Environmental Science	3
CHEM 111	Introduction to Chemistry	3
CHEM 112L	Introduction to Chemistry Lab	1
PHYS 102	Introduction to Physics	3
MATH 120	Intermediate Algebra	3
BIO 123	Biology for Health Sciences	3
BIO 124L	Biology Lab for Health Sciences	1
CHEM 212	Integrated Organic Chemistry and Biochemistry	4
MATH 121	College Algebra	3
BIO 231L	Applied Environmental Microbiology	4
Communication Elective		3
ENG 101	Writing with Readings in Exposition	3
CS 101	Computer Literacy	4
Social Science/Humanities Elective		3
ENG 119	Technical Communication	3
Total		78

See Memo Dated 7/31 92 with Change
 Chem 212L should read Chem 212
 Course Descriptions

EPT 101—Emergency First Aid Response (1 cr)

This course presents training in the Red Cross Multimedia System and cardiopulmonary resuscitation for which Red Cross certification is issued. This is an introductory course stressing immediate care and recognition of life-threatening injuries and illnesses. Instruction is also provided in hazardous materials and toxicology. Emphasis is on emergency temporary help in order to preserve life.

EPT 111—Environmental Protection Technology I (4 cr)

(Prerequisite: minimum placement test scores of 9-12 in BOTEL or RDG 099 and 31—Part I in Math or MATH 099 or departmental 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)

This course provides training in safety, health and personal protection associated with hazardous waste operations. 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)

This course provides training in the fundamentals of water quality preservation. Students will study water supply system operations, distribution systems and basic hydraulics, and will become familiar with water quality protection and treatment techniques, including backflow prevention and cross connection control.

EPT 198—Cooperative Education (3 cr)

The student is employed at an approved environmental job-related work station and applies environmental theory learned via goals and objectives.

EPT 211L—Environmental Protection Technology II/Lab (4 cr)

(Prerequisite: EPT 111, BIO 231L, CHEM 212L, PHYS 102, MATH 120 or departmental approval) Technical, operational and regulatory aspects of environmental protection technology are explored. The course covers the basics of environmental science and engineering with emphasis on water and air pollution control, solid and hazardous waste management, treatment and disposal consistent with federal regulations. Students will learn to identify and handle biological, chemical and nuclear wastes in the context of risk and impact assessment and contingency planning. Also covered are site sampling, characterization and assessment, waste removal, on- and off-site remediation methods, closure and post-closure.

EPT 212—Energy and Waste Management (3 cr)

(Prerequisite: PHYS 102 and MATH 120 or permission of instructor or departmental 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 through recycling, conservation, reuse, precycling, waste pre-treatment and safe disposal.

EPT 213—Occupational Safety (3 cr)

Topics in current safety research and practices are introduced. Students are instructed in safety principles and standards. 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)

(Prerequisite: EPT 111, MATH 120 or departmental 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 gain a theoretical understanding of accepted procedures and actual practice in measuring environmental control parameters. Students learn proper maintenance, calibration and operation of the following instruments and meters: pH, conductivity, dissolved solids, spectrophotometers, dissolved oxygen, gas chromatographs, explosion and toxic gas detectors and instruments for air, soil and water testing. USEPA approved protocol and alternative methods are discussed and compared.

EPT 232—Air Quality Protection (1 cr)

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 296—Special Topics (1 - 6 cr)

(Prerequisite: departmental 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 students 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.

Graduates may transfer credits toward a bachelor's degree in training and learning technologies at the University of New Mexico.

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
CJ	115	Physical Conditioning	1
	or	.....	1
CJ	170	Physical Fitness	1
#EMS	160L	Emergency Medical Technician	6
EPT	213	Occupational Safety	3

Required Arts & Sciences Courses

ENG	101	Writing with Readings in Exposition	3
SOC	101	Introduction to Sociology	3
ENG	119	Technical Communications	3
PHYS	102	Introduction to Physics	3
		Psychology Elective	3
CHEM	111/112	Intro to Chemistry/Lab	4
		Communications Elective	3
MATH	120	Intermediate Algebra	3
CS	101	Computer Literacy	4
SOC	216	Race and Ethnic Groups	3
		Total	74

#Health Occupations course (see page 125).

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)

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)

This course presents basic principles of fire prevention, public fire safety education, protection provided by alarm and sprinkler systems, and code development and adoption procedures.

FS 112—Building Construction (3 cr)

The student is introduced to building construction with emphasis on structural elements, fire spread in buildings, fire loading and safe fire department operations in different building types.

FS 201—Fire Protection Systems (3 cr)

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 permission of the instructor) 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)

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)

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)

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)

This course covers life-saving procedures, special fire-fighting equipment, salvage and prevention of rekindling. Problems in storage, handling and manufacture of hazardous materials commonly found in industry also are reviewed.

FS 214—Facilities Inspection (3 cr)

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 296—Special Topics (1 - 6 cr)

(Prerequisite: departmental 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.

Classroom instruction includes theory in human relations, supervision and business practices. A cooperative education portion is available under the supervision of the instructor.

Students purchase all textbooks for this program.

This program may not qualify students for Veterans Administration training benefits or other student financial aid. Students must purchase textbooks for this 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 lecture course introduces the student to basic functions of supervision and management, sanitation, quality control, purchasing, record keeping, inventory control, storing and issuing, and safety. This course includes oral and written communication skills. Certifications 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 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)

(Prerequisite: FSMG 101, 102, 103 or departmental 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.

FSMS 171—Food Service Nutrition (3 cr)

This course is a study of food and nutrition as they pertain to the food service industry. The student is introduced to the digestive system, diet control and vitamins and nutrients. This combination theory/lab 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)

(Prerequisite: departmental approval) This flexible course is designed to enable students currently in Quantity Foods or Baking to pursue expanded studies in management skills in the food service industry. This course also may be taken as an independent or guided study or as a 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.

Students learn the fundamental 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 an equipment fee of \$110 before entering MATT 103L, 104L, 105L or 106L; \$88 before entering MATT 114L, 115L or 116L; and \$77 before entering MATT 204L, 205L or 206L.

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
¹ MATT 106L	Machine Tool Technology Theory/Lab I	12
MATT 111	Machine Tool Technology Math II	2
MATT 112L	Numerical Control Programming I	3
MATT 113	Machine Tool Technology Blueprint Reading II	1
MATT 114	Intermediate Lathe Principles Theory	1
MATT 114L	Intermediate Lathe Principles	3
MATT 115	Intermediate Milling Machining and Support Equipment Theory	1
MATT 115L	Intermediate Milling Machining and Support Equipment Lab	3
² MATT 116L	Machine Tool Technology Theory/Lab II	9
MATT 201	Geometric Tolerancing and Dimensioning	1
MATT 202	Metallurgy	2
MATT 203L	Numerical Control Programming II	2
MATT 204	Advanced Lathe Principles Theory	1
MATT 204L	Advanced Lathe Principles Lab	3

MATT 205	Advanced Milling Machining and Support Equipment Theory	1
MATT 205L	Advanced Milling Machining and Support Equipment Lab	3
³ MATT 206L	Machine Tool Technology Theory/Lab III	13
	Total.....	42

¹This course is designed for full-time students only and is equivalent to MATT 103, 103L, 104, 104L, 105 and 105L.

²This course is designed for full-time students only and is equivalent to MATT 112L, 114 and 115.

³This course is designed for full-time students only and is equivalent to MATT 201, 202, 203, 204, 204L, 205 and 205L.

Course Descriptions

MATT 101—Machine Tool Technology Mathematics I (2 cr)

(Prerequisite: minimum placement test scores of 7-8 in BOTEL or RDG 099 and 35—Part I, 6—Part II, and 2—Part III in Math or MATH 099 or departmental approval) This course begins with a review of basic math including whole numbers, fractions and decimals. Instruction is provided in basic geometry, basic algebra and formula manipulation, ratio and proportion, Pythagorean formula, basic trigonometry and calculator use.

MATT 102—Machine Tool Technology Blueprint Reading I (2 cr)

(Prerequisite: minimum placement test scores of 7-8 in BOTEL or RDG 099 and 35—Part I, 6—Part II, and 2—Part III in Math or MATH 099 or departmental 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)

(Prerequisite/corequisite: MATT 101, 102, 103L or departmental approval) This lecture/theory course introduces students 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)

(Prerequisite/corequisite: MATT 101, 102, 103 or departmental approval) This lab course covers basic engine lathe operations. Instruction is offered in safety, nomenclature, speeds and feeds, use of three jaw and four jaw chucks, turning, facing, shouldering, grooving, chamfering and drilling on center. Single point threading is also introduced. This course meets for five hours a week.

MATT 104—Milling Machine Theory (2 cr)

(Prerequisite/corequisite: MATT 104L or departmental approval) This lecture/theory course introduces students to the basic elements of the milling machine. 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)

(Prerequisite/corequisite: MATT 101, 102, 104 or departmental 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. This course meets for five hours a week.

MATT 105—Basic Supporting Machine Tool Theory (2 cr)

(Prerequisite/corequisite: MATT 101, 102, 105L or departmental approval) This lecture/theory course introduces students to the basic elements of the drill press, horizontal and vertical bandsaw, surface and pedestal grinder, benchwork, precision measurement and inspection, 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)

(Prerequisite/corequisite: MATT 101, 102, 105 or departmental approval) This lab course covers basic drill press, bandsaw, grinder, benchwork, inspection and hand tool operations. Instruction is offered in safety, nomenclature, speeds, feeds and depths of cut, care and use of tooling and measuring instruments, machine maintenance and precision and semi-precision layout. This course meets for five hours a week.

MATT 106L—Machine Tool Technology Theory/Lab I (12 cr)

(Prerequisite: minimum placement test scores of 7-8 in BOTEL or RDG 099 and 35—Part I, 6—Part II, 2—Part III in Math or MATH 099 or departmental approval) This course provides experience in the operation of drill presses, pedestal grinders, band saws, engine lathes, surface grinders and milling machines. Instruction also covers shop safety, bench work, machine construction and nomenclature, speeds and feeds, and cutting tool physics and abrasives. This course meets 21 hours per week.

MATT 111—Machine Tool Technology Math II (2 cr)

(Prerequisite: MATT 101, 102, 103, 103L, 104, 104L, 105, 105L or departmental approval) This class includes 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 112L—Numerical Control Programming I (3 cr)

(Prerequisite/corequisite: MATT 111 or departmental approval) This course provides instruction in the word address format or G code programming languages. Students learn computer skills necessary to edit and prepare tapes for the CNC equipment. This class offers instruction on both a light duty CNC vertical milling machine and a turning center. This class meets for two hours of lecture and 2½ hours of lab per week.

MATT 113—Machine Tool Technology Blueprint Reading II (1 cr)

(Prerequisite/corequisite: MATT 111 or departmental approval) This course provides instruction 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 114—Intermediate Lathe Principles Theory (1 cr)

(Prerequisite/corequisite: MATT 111, 113, 114L or departmental approval) This theory course covers the information necessary to accomplish the work in MATT 114L. Instruction is provided in turret lathe, power cutoff, boring, single point threading and carbide tooling, and CNC turning machines are introduced.

MATT 114L—Intermediate Lathe Principles Lab (3 cr)

(Prerequisite/corequisite: MATT 111 or departmental approval) This theory/lab course covers turret lathe operation, power cutoff, boring, single point threading and introduction to carbide tooling. Operation of CNC turning centers and taper turning is introduced. This class meets 7½ hours per week.

MATT 115—Intermediate Milling Machining and Support Equipment Theory (1 cr)

(Prerequisite/corequisite: MATT 111, 113, 115L or departmental approval) This theory course covers the information necessary to accomplish the work in MATT 115L. Instruction is offered in both horizontal and vertical milling machines. Course work includes surface and pedestal grinding machines and precision measuring equipment, and an introduction to CNC milling machines.

MATT 115L—Intermediate Milling Machining and Support Equipment Lab (3 cr)

(Prerequisite/corequisite: MATT 111, 114L or departmental approval) This course covers operation of the horizontal and vertical ram milling machines. Instruction is offered in climb and conventional milling, hole production, spur gear and rack machining. Operation of CNC milling machines is introduced. Operation of the surface and pedestal grinder and setup of precision measuring equipment are also covered. This class meets 7½ hours per week.

MATT 116L—Machine Tool Technology Theory/Lab II (9 cr)

(Prerequisite: MATT 101, 102, 103, 103L, 104, 104L, 105, 105L or 106L or departmental approval) This course includes instruction in engine lathe and milling machine operations. Turret lathe operation and introductory exposure to CNC machining are covered. The theory portion deals with advanced measurement, single point threading, tooling applications, use of the Machinery's Handbook and advanced machining techniques. Carbide tooling is also introduced, as are mathematics and blueprint reading. This course is offered in the traditional occupational block and is intended for students attending the program on a full-time basis. This course meets for 19 hours per week.

MATT 171—Precision Measurement (3 cr)

This course is an introduction to basic measurement principles and techniques. Student are instructed in the care, calibration, uses and applications of outside micrometers, inside micrometers, depth micrometers, vernier calipers, indicators and other measuring equipment specific to their majors. This combination theory/lab course meets five hours per week.

MATT 173—Machine Tool Technology Skills Improvement (3 cr)

This course is for students wishing to acquire basic knowledge or upgrade skills in the machine tool industry. This structured theory/lab course offers instruction in safety, hand tools, elementary lathe mill, drill press and bench work. The class also covers basic

precision measurement, blueprint reading and shop math. This class meets for five hours per week.

MATT 174—Advanced Machine Tool Technology Skills Improvement (3 cr)

(Prerequisite: MATT 173) This course offers advanced instruction materials introduced in MATT 173, including advanced lathe and mill work and surface grinding. More advanced precision measuring techniques, blueprint reading and shop math are covered. This course meets for five hours per week.

MATT 201—Geometric Tolerancing and Dimensioning (1 cr)

(Prerequisite: MATT 111, 112, 113, 114L, 115L or departmental approval) This course covers 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)

(Prerequisite/corequisite: MATT 201 or departmental approval) This course includes the care and application of tooling with emphasis on applications to commonly machined materials with high-speed steels, carbides and ceramic cutters. Instruction also covers structure, properties, alloying and heat treatment of ferrous and non-ferrous metals.

MATT 203L—Numerical Control Programming II (3 cr)

(Prerequisite/corequisite: MATT 201 or departmental approval) This course provides advanced instruction in numerical control programming languages. Subjects include advanced canned cycles, subroutines, loops, LAPS and macros. Students receive instruction and training in menu and interactive graphic programming, as well as an introduction to CAD/CAM systems. This class meets two hours per week for lecture and 2½ hours per week for lab.

MATT 204—Advanced Lathe Principles Theory (1 cr)

(Prerequisite/corequisite: MATT 201, 202, 203, 204L or departmental approval) This theory course covers the information necessary to accomplish the work in MATT 204L. Instruction is offered in advanced lathe operations, including pressure padding, trepanning, using soft jaws, internal grooving and threading. Students also receive instruction in the setup of CNC turning centers.

MATT 204L—Advanced Lathe Principles Lab (3 cr)

(Prerequisite/corequisite: MATT 201 or departmental approval) This lab course covers advanced turret lathe operation, pressure padding, trepanning and the set-up and use of soft jaws. Internal threading, internal grooving and production machining are also covered. Students also receive training in the set-up and operation of CNC turning centers. This class meets 7½ hours per week.

MATT 205—Advanced Milling Machine and Support Equipment Theory (1 cr)

(Prerequisite/corequisite: MATT 201, 202, 203, 205L or departmental approval) This theory course covers the information necessary to accomplish the work in MATT 205L. Instruction is offered in advanced operations of both the horizontal and vertical milling

machines and CNC milling machines. Included is material on special setups for grinding equipment and precision measuring devices.

MATT 205L—Advanced Milling Machining and Support Equipment Lab (3 cr)
(Prerequisite/corequisite: MATT 201 or departmental 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 and carbide shell mills. CNC milling machines, the surface grinder and precision measuring equipment are also covered. This class meets 7½ hours a week.

MATT 206L—Machine Tool Technology Theory/Lab III (13 cr)
(Prerequisite: MATT 111, 112, 113, 114L, 115L or 116 or departmental approval) This course includes instruction in advanced mill work including boring, broach, rotary tables, indexing devices and complex set-ups. Advanced lathe work includes boring, internal threading, pressure padding, trepanning and soft jaw usage. Students become involved with advanced set-ups and operations of CNC equipment. The theory portion includes metallurgy and geometric tolerancing and dimensioning. This course meets 22 hours per week.

MATT 296—Special Topics (1 - 6 cr)
 This course includes an in-depth study of problems and advanced techniques that experts in the machine tool technology field use in responding. Hours are by arrangement.

Mechanical Technology

Associate in Applied Science Degree
 Main Campus

The Mechanical Technology associate in applied science degree is available to students in mechanical trades programs with two options: air conditioning and plumbing.

Credits from this program may be transferred toward a bachelor's degree in training and learning technologies at the University of New Mexico.

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

CSCI 101	Computer Literacy	4
Communication Elective	.....	3
ENG 101	Writing with Readings in Exposition	3
ENG 119	Technical Communications	3
Humanities/Social Science Elective	.....	3
Math Elective	.....	3
PHYS 102	Introduction to Physics	3
Total	.....	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 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 & Science Courses

CSCI	101	Computer Literacy	4
Communication Elective			3
ENG	101	Writing with Readings in Exposition	3
ENG	119	Technical Communications	3
Humanities/Social Science Elective			3
Math Elective			3
PHYS	102	Introduction to Physics	3
Total.....			75

Plumbing

Certificate Program Main Campus

The Plumbing program provides the 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 and plastic compounds. Students purchase all textbooks for this program.

Plumbing students must pay a tool fee of \$110 before entering PLMB 101L, 102L, 103L or 106L; and \$77 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	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)

(Prerequisite: minimum placement scores of 7-8 BOTEL or RDG 099 and 31—Part I and 6—Part II in Math or MATH 099 or departmental approval) The correct procedure for installation of plastic, steel, cast iron and copper pipe is covered. The correct method of

installation, addition, repair, replacement or maintenance of plumbing and gas piping systems is also covered. This class meets two hours per week for 7½ weeks.

PLMB 101L—Basic Plumbing Lab (2 cr)

(Prerequisite/corequisite: PLMB 101 or departmental approval) Identification of plumbing fittings and pipe nomenclature are covered. The correct procedure in soldering copper pipe, threading and cutting iron pipe, flaring copper pipe and making diagonal offsets are covered. This class meets for 10 hours a week for 7½ weeks.

PLMB 102—Plumbing Systems Theory (1 cr)

(Prerequisite/corequisite: PLMB 101 or departmental approval) This class covers the proper 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. This class meets two hours a week for 7½ weeks.

PLMB 102L—Plumbing Systems Lab (2 cr)

(Prerequisite/corequisite: PLMB 101, PLMB 102 or departmental approval) This lab course introduces the student to the correct procedure for the installation, repair and service of drainage and vent, sprinkler and water supply systems. Rough-ins and top outs are also covered. This course meets for 10 hours a week for 7½ weeks.

PLMB 103—Heating Control Circuitry Theory (1 cr)

(Prerequisite/corequisite: PLMB 101, PLMB 102 or departmental 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. This course meets two hours per week for 7½ weeks.

PLMB 103L—Heating Control Circuitry Lab (2 cr)

(Prerequisite/corequisite: PLMB 102L, PLMB 103 or departmental approval) This course includes 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. This course meets for 10 hours a week for 7½ weeks.

PLMB 104—Plumbing Mathematics (1 cr)

(Prerequisite/corequisite: Minimum placement test scores of 7-8 in BOTEL or RDG 099 and 31—Part I and 6—Part II in Math or MATH 099, PLMB 103 or departmental approval) This course covers basic arithmetic, whole numbers, and fractions and decimals. Volumes and weight measurements are also covered.

PLMB 105—Plumbing Blueprint Reading (1 cr)

(Prerequisite: minimum placement test scores of 7-8 BOTEL or RDG 099 and 31—Part I and 6—Part II in Math or MATH 099 or departmental approval) This course introduces blueprint reading. Also covered are sketching and reading blueprint working drawings for residential work.

PLMB 106L—Backflow Prevention (2 cr)

This course teaches the student to identify, test, troubleshoot and repair backflow prevention assemblies. A minimum of 50 percent of class time is spent in the lab working with assemblies. Successful completion of the course qualifies the student to become a certified backflow prevention assembly tester. This course meets five hours per week.

PLMB 111—Systems Layout/Maintenance Theory (1 cr)

(Prerequisites: PLMB 103L, PLMB 106L or departmental approval) This course emphasizes design, layout and installation of water, soil and vent lines; related fixtures and fittings; inspecting and testing systems; soldering; maintenance and repair of plumbing; solar systems; yard irrigation; and swimming pool, hot tub and spa installation and service. This course meets two hours per week for 7½ weeks.

PLMB 111L—Systems Layout Lab (2 cr)

(Prerequisites/corequisites: PLMB 106L, PLMB 111 or departmental approval) This course emphasizes the layout and installation of water, soil and vent lines; related fixtures and fittings; inspecting and testing systems and soldering. This course meets for 10 hours a week for 7½ weeks.

PLMB 112L—Systems Maintenance Lab (2 cr)

(Prerequisites/corequisites: PLMB 111, PLMB 111L or departmental approval) This course emphasizes the maintenance and repair of plumbing, yard irrigation and swimming pool, hot tub and spa installation and service. This course meets 10 hours per week for 7½ weeks.

PLMB 113—Energy Management/Solar Application Theory (1 cr)

(Prerequisites/corequisites: PLMB 111L, PLMB 112L or departmental approval) This course is for students interested in management of the residential energy package. 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 as related to heating water and air. This course meets two hours per week for 7½ weeks.

PLMB 113L—Energy Management Lab (2 cr)

(Prerequisites/corequisites: PLMB 112L, PLMB 113 or departmental approval) This course involves management of residential energy packages. The course covers life styles, design and orientation as well as energy conservation methods and procedures. This course meets for 10 hours a week for 7½ weeks.

PLMB 114L—Solar Applications Lab (2 cr)

(Prerequisites/corequisites: PLMB 112L, PLMB 113L or departmental approval) This course covers the selection, installation, maintenance and repair of solar equipment for heating water and air. This course meets for 10 hours a week for 7½ weeks.

PLMB 115—Plumbing Blueprint Reading II (2 cr)

(Prerequisite: PLMB 104, PLMB 105 or departmental 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)

This course covers basic arithmetic, whole numbers and 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)

This course provides safety and basic remodeling instruction. The student learns to maintain, replace and enhance plumbing, gas and heating systems. This theory/lab course meets six hours per week.

PLMB 296—Special Topics (1 - 6 cr)

(Prerequisite: departmental approval) This flexible course is designed to enable students currently in the plumbing trades to pursue studies in specialized areas with unique goals. This class also may be taken as an independent or guided study or as a refresher to sharpen skills prior to licensing. Hours are by arrangement.

Quantity Food Preparation

Certificate Program

Main Campus

Quantity Food Preparation emphasizes nutritional food preparation and prepares students for entry into the rapidly growing food industry—as sauté 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 by reservation only (see page 46).

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 certificate to T-VI stating that the student is free from tuberculosis in a transmissible form. The certificate must be obtained from and signed by a licensed physician no more than 90 calendar days before the start of classes.

Students purchase all textbooks for this program.

Quantity Food Preparation students must pay a tool fee of \$110 before entering QUFD 103L, 104L, 105L or 106L, and another \$88 before entering QUFD 112L, 113L, 114L, 115L, 116L or 117L.

Quantity Food Preparation Program

			<i>Credit</i>
			<i>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)

(Prerequisite: minimum placement test scores of 5 in BOTEL or RDG 099 and 24—Part I in Math or MATH 099 or departmental 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 Mathematics (3 cr)

(Prerequisite/corequisite: QUFD 101 or departmental approval) Basic arithmetic for sales, portioning and costing of food products are covered. Students also learn how to use cash registers.

QUFD 103L—Buffet Procedures (2 cr)

(Prerequisite/corequisite: QUFD 101, 102 or departmental approval) This course provides instruction for front-of-the-house serving techniques, cashiering and product tracking. This course meets five hours per week.

QUFD 104L—Salad and Pantry (2 cr)

(Prerequisite/corequisite: QUFD 101, 102 or departmental approval) Assorted salads, dressings, sandwiches, soups, vegetables and condiments are discussed during this session. This course meets five hours per week.

QUFD 105L—Dinner (2 cr)

(Prerequisite/corequisite: QUFD 101, 102 or departmental approval) Entree preparation of various types, along with complementary sauces, is stressed during this session. The course ranges from breakfast to lunch and special main offerings. This course meets five hours per week.

QUFD 106L—Fry (2 cr)

(Prerequisite/corequisite: QUFD 101, 102 or departmental approval) Entree preparation of various types is stressed, including saute, deep fat and table side frying for the restaurant industry. This course meets five hours per week.

QUFD 111—Quantity Food Theory II (3 cr)

(Prerequisites: QUFD 101, 102, 103L, 104L, 105L, 106L or departmental approval) Students learn methods of cooking stews, fricassees, garnishes, sauces and other dinner items. 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)

(Prerequisite/corequisite: QUFD 111 or departmental approval) The student will learn to set tables, fold napkins, service customers, cashier and manage a service staff in the dining room.

QUFD 113L—Cold Preparation (2 cr)

(Prerequisite/corequisite: QUFD 111 or departmental approval) Students learn basic salad and dressing preparations and dessert preparations. They will learn such skills as proper use of knives. This course meets five hours per week.

QUFD 114L—Stocks and Sauces—Sous Chef (2 cr)

(Prerequisite/corequisite: QUFD 111 or departmental approval) Students learn how to prepare stocks. They will learn the basic sauces and derivations of these sauces. This course meets five hours per week.

QUFD 115L—Entree (Meat Preparation) (2 cr)

(Prerequisite/corequisite: QUFD 111 or departmental approval) The student will learn basic techniques of preparing meats and poultry. This course meets five hours per week.

QUFD 116L—Entree (Fish Preparation) (2 cr)

(Prerequisite/corequisite: QUFD 111 or departmental approval) The student will learn basic techniques of preparing fish. This course meets five hours per week.

QUFD 296—Special Topics (1 - 6 cr)

(Prerequisite: departmental approval) This flexible course is designed to allow students enrolled in Food Service Management and Baking classes to pursue related studies in specialized areas. This class also may be taken as an independent or guided study or as a refresher course to sharpen skills prior to moving into management positions. Hours are by arrangement.

Sportscraft/Small Engine Mechanics

Certificate Program
Main Campus

The Sportscraft/Small Engine program provides entry-level skills needed to diagnose and repair problems on recreational vehicles, industrial equipment and outdoor power products. Proper safety procedures along with the correct 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 purchase all textbooks for this program. 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 must pay a tool fee of \$110 before entering 102L, 103L or 104L; \$105 before entering 112L, 113L or 114L; and \$99 before entering 202L, 203L, 204L or 205L.

Sportscraft/Small Engine Mechanics Program

			<i>Credit Hours</i>
SCSE	101	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	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	Theory III	3
SCSE	202L	Hydraulic Systems	2
SCSE	203L	Electrical Systems III	3
SCSE	204L	Troubleshooting and Failure Analysis	2
SCSE	205	Management Skills	2
		Total	37

Course Descriptions

SCSE 101—Sportscraft/Small Engine Theory I (3 cr)

(Prerequisite: minimum placement test scores of 7-8 in BOTEL or RDG 099 and 31—Part I in Math or MATH 099 or departmental approval) This course introduces students to all

phases of the sportscraft/small air-cooled engine industry. Information pertaining to safety, environmental issues, hand tools, measuring devices and test equipment is covered. Engine teardown, inspection, measuring, rebuilding procedures and testing are examined on both two- and four-stroke cycle gasoline engines found in motorcycles, marine products and outdoor power equipment.

SCSE 102L—Engine Service and Overhaul (3 cr)

(Prerequisite/corequisite: SCSE 101, DETC 102 or departmental approval) Students overhaul two- and four-stroke engines in this class. Areas addressed include tear-down procedures, cleaning, inspection, measuring with precision tools, cylinder resizing, valve reconditioning and reassembly and final testing of the engines. Special tools needed for overhaul and testing are also taught. This course meets for 7½ hours per week.

SCSE 103L—Failure Analysis (2 cr)

(Prerequisite/corequisite: SCSE 101, DETC 102 or departmental approval) Problem solving is taught as it applies to mechanical devices and the internal combustion engine. Students learn to analyze critical component wear points, study cause and effect relationships on failed engine parts, and develop conclusions about component failures based on facts. This course meets five hours per week.

SCSE 104L—Fuel Systems (2 cr)

(Prerequisite/corequisite: SCSE 101, DETC 102 or departmental approval) This course covers the identification, diagnosis, inspection and repair of carburation and fuel system components found on motorcycles, marine outboards and outdoor power products. This course meets five hours per week.

SCSE 111—Theory II (2 cr)

(Prerequisite: SCSE 101, 102L, 103L, 104L, DETC 102 or departmental approval) This course teaches the student how to diagnose and safely repair various types of clutches, transmissions, transaxles and final drives found on outdoor power products and motorcycles. Disc and drum brake systems are studied along with steering and suspension systems. Electrical starting, charging and ignition systems are also examined in this course, which meets two hours per week.

SCSE 112L—Transmission and Drive Line (2 cr)

(Prerequisite/corequisite: SCSE 111 or departmental approval) Various components of engine power transmission are studied in this course. Clutches, constant mesh transmissions, transaxles, differentials and gear reduction units are disassembled, inspected, reassembled and tested. The course meets five hours per week.

SCSE 113L—Steering, Suspension and Brakes (2 cr)

(Prerequisite/corequisite: SCSE 111 or departmental approval) This course covers repair, service and adjustment procedures on motorcycles and riding equipment suspension components, disc and drum brakes and steering systems. The course meets five hours per week.

SCSE 114L—Electrical Systems II (3 cr)

(Prerequisite/corequisite: SCSE 111 or departmental approval) Students learn electrical system diagnostic procedures along with testing and repair of starting, charging and ignition systems. This course meets 7½ hours per week.

SCSE 170L—Sportcraft 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. This course meets for five hours per week.

SCSE 171L—Sportcraft Skills Improvement II (3 cr)

(Prerequisites: SCSE 170L or departmental approval) This intermediate theory/lab course offers instruction and practice in the diagnosis and 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. Continued safety instruction is integral to the course. This course meets five hours per week.

SCSE 201—Theory III (3 cr)

(Prerequisite/corequisites: SCSE 111 or departmental approval) This course introduces the students to basic hydraulic theory and covers components of hydraulic systems used in the power equipment industry. Additionally, equipment service procedures and engine tune-up techniques are taught on equipment that students will encounter on the job. Emission controls and environmental concerns relating to the small engine industry are also addressed. This course meets three hours per week.

SCSE 202L—Hydraulic Systems (2 cr)

(Prerequisite/corequisite: SCSE 201 or departmental 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. This course meets five hours per week.

SCSE 203L—Electrical Systems III (3 cr)

(Prerequisite/corequisite: SCSE 201 or departmental approval) This lab course involves broader and more detailed electrical studies than SCSE 115L. Students learn how to diagnose, repair and adjust stationary and portable power generating equipment. Consumer Product Safety Commission (CPSC) mandated safety controls and devices are examined on power equipment, motorcycles and marine products. This course meets 7½ hours per week.

SCSE 204L—Troubleshooting and Failure Analysis (2 cr)

(Prerequisite/corequisite: SCSE 201 or departmental approval) This course addresses 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. This course meets five hours per week.

SCSE 205—Management Skills (2 cr)

(Prerequisite/corequisite: SCSE 201 or departmental approval) Students attending this course will learn vital customer and employee relations skills together with proven shop management practices. Repair liability is addressed, as well as the responsibilities of employer and employee.

SCSE 296—Special Topics (1 - 6 cr)

(Prerequisite: departmental approval) This course covers an in-depth study of problems and the advanced techniques used by sportcraft/small engine mechanics. Hours are by arrangement.

Truck Driving

Certificate Program Main Campus

The Truck Driving program provides basic instruction required to become a professional truck driver.

Students learn how to handle a tractor trailer safely and efficiently. The program is designed for students who are already licensed as automobile drivers in New Mexico. The goal of the program is to provide the basic instruction and skill development required to test for the commercial driver's license needed to operate tractor trailers.

Students must pay a non-refundable supply fee of \$110 for the course. The program is certified by PTDA (Professional Truck Drivers Institute of America). The certification agency requires students to purchase textbooks.

Entrance Requirements:

- 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 five years and a medical examiner's certificate signed by a physician.

This program may not qualify students for Veterans Administration benefits or other financial aide.

Truck Driving Program

			<i>Credit Hours</i>
TRDR	101	Basic Operation Theory	6
TRDR	102L	Basic Operation Lab	4
TRDR	103L	Advanced Operational Practices.....	3
		Total.....	13

Course Descriptions

TRDR 101—Basic Operation Theory (6 cr)

(Prerequisite: minimum placement test scores of 9-12 in BOTEL or RDG 099 and 35—Part I in Math or MATH 099 or departmental approval) This course provides instruction in the fundamentals of control systems, vehicle inspection, shifting, backing, coupling and uncoupling, speed and space management, hazard perception, cargo handling, protection and documentation, hours of service requirements, accident procedures, trip planning, preventive maintenance, reporting, malfunctions, public and employer relations, defensive driving, hazardous materials, first aid and CPR, and state and federal regulations governing the professional truck driver. This course meets 25 hours a week for four weeks.

TRDR 102L—Basic Operational Lab (4 cr)

(Prerequisite/corequisite: TRDR 101, CDL learner's permit or departmental approval) This hands-on course provides basic instruction in vehicle inspection, basic control, shifting, backing, coupling and uncoupling, hazard perception, visual search, speed and space management, driving conditions, vehicle systems, preventive maintenance and handling cargo. These activities are carried out in labs and driving range conditions. This course meets 25 hours a week for six weeks.

TRDR 103L—Advanced Operational Practices (3 cr)

(Prerequisite: TRDR 101, 102L or departmental approval) This course covers the higher level skills needed to cope with the hazards of the roadway environment. Learning activities are carried out on public highways and streets during day and evening hours. The following will be covered: control systems, vehicle inspections, diagnosing and reporting malfunctions, hours of service requirements, shifting, backing, coupling and uncoupling, speed and space management, weather conditions, night operation, trip planning, accident procedures, extreme driving conditions, and public and employer relations. This course meets 25 hours a week for five weeks.

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. This course meets for four hours per week for 7½ weeks.

TRDR 171—Material Handling (2 cr)

This combination 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. This course meets seven hours per week for 7½ weeks.

TRDR 172—Material Packaging (2 cr)

This combination theory/lab course covers personal safety, cost efficient packaging and labeling techniques used in various manufacturing and related industries. This course meets seven hours per week for 7½ weeks.

TRDR 296—Special Topics (1 - 6 cr)

(Prerequisite: departmental approval) This course includes an in-depth study of problems and the advanced techniques that experts in the trucking industry use to solve them. Hours are by arrangement.

Welding

Certificate Program

Main Campus

The Welding program qualifies students for entry-level employment in the metals-processing industry. Specific welding qualification is the goal of each term. This program admits students only once a year for the fall term.

Students study, practice and qualify in oxyacetylene welding. Instruction also is provided in shielded metal-arc welding (SMAW) and gas metal-arc welding (GMAW). Qualification tests are given in shielded metal-arc welding and gas metal-arc welding. 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 the WELD 102 to 119L series.

Welding students must pay a tool fee of \$110 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 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
	Total.....	39

Course Descriptions

WELD 101—Welding Metallurgy Theory I (2 cr)

(Prerequisite: minimum placement test scores of 5 in BOTEL or RDG 099 and 31—Part I in Math or MATH 099 or departmental approval) This lecture/ theory course offers instruction in welding safety, general tools and equipment, common gases and their properties, welding materials, welding joints, manufacturing processes and structure and properties of metals. Further instruction is offered in oxyacetylene processes and shielded metal-arc welding. The effects of temperature changes in welding, effects of alloying elements, variations of fluxes, and slags and gases for shielding are covered in this class.

WELD 102—Welding Mathematics I (2 cr)

(Prerequisite: minimum placement test scores of 5 in BOTEL or RDG 099 and 31—Part I in Math or MATH 099 or departmental approval) This lecture/theory course begins with basic arithmetic and continues with fractions, decimals, surface and direct measurements, graphs and charts. Payroll calculations are also studied in this course.

WELD 103—Welding Blueprint Reading I (1 cr)

(Prerequisite: minimum placement test scores of 5 in BOTEL or RDG 099 and 31—Part I in Math or MATH 099 or departmental approval) This lecture/ theory course offers instruction 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)

(Prerequisite/corequisite: WELD 101, 102, 103 or departmental approval) This course offers instruction in safety, use of general tools and the use of oxyacetylene equipment. Instruction is provided in use of thermal cutting torches and techniques of brazing. Various positions are covered as well as tubing welding, welding of alloys and fusion welding. This course meets for five hours a week.

WELD 105L—Oxyacetylene Brazing/Soldering and Fabrication (2 cr)

(Prerequisite/corequisite: WELD 101, 102, 103 or departmental approval) This course provides instruction in the 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. This course meets five hours a week.

WELD 106L—Introduction to SMAW (2 cr)

(Prerequisite/corequisite: WELD 101, 102, 103 or departmental 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. This course meets five hours per week.

WELD 107L—Introduction to SMAW Qualifications and Fabrication (2 cr)

(Prerequisite/corequisite: WELD 101, 102, 103 or departmental approval) This course provides instruction on procedure for arc welding qualifications. AWS D1.1 Code will be followed on A36 material with A501 electrodes. Basic fabrication and repair problems will be used for practical applications. This course meets five hour per week.

WELD 111—Welding Metallurgy Theory II (2 cr)

(Prerequisites: WELD 101, 102, 103, 104L, 105L, 106L, 107L or departmental approval) This course provides instruction in filler metals, shrinkage and distortion, pre-heating and post-heating and difficulties and defects. This course meets two hours per week.

WELD 112—Welding Blueprint Reading II (2 cr)

(Prerequisites/corequisite: WELD 111 or departmental approval) This course offers blueprint reading instruction in which the student reads commercial construction and fabrication drawings. The class also covers detail and assembly drawings related to the welding field. This course meets two hours per week.

WELD 113—Welding Mathematics II (2 cr)

(Prerequisites/corequisite: WELD 111 or departmental 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)

(Prerequisite/corequisite: WELD 111 or departmental approval) This course offers advanced instruction in SMAW. The student will practice stringers, weaves and wash passes. Various electrodes and sizes will be used. This course meets five hours per week.

WELD 115L—Introduction to GMAW and Fabrication (2 cr)

(Prerequisite/corequisite: WELD 111 or departmental approval) This course in mig welding provides instruction in spray and short-circuiting transfer. Fabrication and repairs are assigned for practical applications. This course meets five hours a week.

WELD 116L—Introduction to Gas Tungsten-Arc Welding/Fabrication (2 cr)

(Prerequisite: WELD 111 or departmental approval) This course provides basic instruction in tig welding. Instruction will be give on aluminum and stainless steel. Fabrication and repairs are assigned for practical applications. This course meets five hours a week.

WELD 117L—Qualifications for SMAW and GMAW (2 cr)

(Prerequisite/corequisite: WELD 111 or departmental approval) This course provides qualification procedures for arc and mig welding. The student qualifies in all positions with A36 material. This course meets five hours per week.

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. This combination theory/lab course meets five hours per week.

WELD 171—Advanced Welding Skills Improvement (3 cr)

(Prerequisite: WELD 170 or departmental approval) This course provides instruction 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. This combination theory/lab course meets five hours per week.

WELD 201—Welding Metallurgy Theory III (2 cr)

(Prerequisites: WELD 111 or departmental 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. This course meet two hours per week.

WELD 202—Welding Blueprint Reading III (3 cr)

(Prerequisite/corequisite: WELD 201 or departmental approval) This lecture/drafting course provides instruction in the development of templates for various types of pipe and fabrication welding, materials estimating, pipe layout and development, pipe and structural print reading, performance of pipe qualification tests for basic intersections, transferring of measurements from working drawings and blueprints, design considerations and layout and welding related to fabrication.

WELD 203L—Basic Pipe Welding/Pipe Layout/Fabrication (4 cr)

(Prerequisites/corequisite: WELD 201 or departmental 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. This course meets 10 hours a week.

WELD 204L—Advanced Gas Tungsten-Arc Welding/Fabrication (4 cr)

(Prerequisites/corequisite: WELD 201 or departmental approval) This course provides instruction on aluminum, stainless steel and carbon steel tig welding. Instruction is provided on AWS lab inspection and fabrication/repair. This course meet 10 hours a week.

WELD 296L—Welding Special Topics (1 - 2 cr)

(Prerequisite: departmental approval) This flexible course is designed to enable 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 of recertification exams. Hours are by arrangement.



Outreach & Transition

Outreach & Transitional Programs (OTP) provide on- and off-campus courses to assist students in making the transition to other T-VI programs. OTP's major programs are Adult Education courses (including English as a Second Language and GED preparation) 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 Lab. 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

OTP's major programs are Adult Education and the Vocational Enrichment Program.

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 periodos 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. 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
Bernalillo High School, P.O. Box 430; Bernalillo, NM
Cochiti Elementary School, 3100 San Isidro NW
Dolores Gonzales Elementary School, 900 Atlantic Ave. SW
East Central Multi-Service Center, 7525 Zuni SE
El Buen Samaritano, 700 Granite NW
Eugene Field Elementary School, 700 Edith Blvd. SE
Hawthorne Elementary School, 420 General Sommerville NE
Holy Family School, 562 Atrisco SW
John Marshall Multi-Service Center, 1500 Walter SE
La Mesa Elementary School, 7500 Copper NE
Los Padillas Community Center, 2117 Los Padillas Rd. SW
Moriarty High School, P.O. Box 2000, Moriarty, NM
Mountain View Elementary School, 5317 2nd Street
Polk Middle School, 2220 Raymac SW
Reginald Chavez Elementary School, 2700 Mountain Rd. NW
Rio Grande High School, 2300 Arenal SW
San Jose Cursillo Center, 2401 Broadway SE
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. Text-books 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. The first transcript is free; one dollar is charged for any additional transcripts. At least 48 hours is required to process transcript requests.

Basic Skills/GED Preparation

Basic Skills/GED courses offer introduction and review of grammar, spelling, composition, basic mathematics 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 needs to register 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.

Students who pass the GED will receive a high school diploma from the New Mexico State Board of Education. The high school diploma will allow the students to further their post-secondary education.

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 campuses. 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 224-4268 at Main Campus or 224-5575 at the Joseph M. Montoya Campus.

Beginning Literacy: 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 skills in the content areas of popular and classical literature, social studies, natural science and mathematics. This course is for students who can read but who want to improve their comprehension and confidence. Materials will be relevant to students' life experiences, emphasizing higher-level thinking processes and analytical strategies. Instruction will be primarily individualized. Areas covered in this course include vocabulary, spelling and finding main and supporting ideas. Students will learn to determine main ideas and inferences. In addition, students will acquire the ability to make judgments about the validity or accuracy of information and to comprehend better.

Writing Improvement Skills (Composition): This course is for students who want to improve or develop their skills in writing standard English. Students will learn basic grammar, sentence structure, and how to recognize and correct errors. They will learn to structure paragraphs and to write a composition so that the intended meaning is correctly and clearly stated. Students will learn to think logically and present ideas in proper sequence. The course will emphasize topics which are relevant to adults.

Basic Spelling and Grammar: This course is for students who want to improve their spelling, usage, mechanics and style in order to write more effectively. A variety of spelling improvement techniques will be taught, such as phonics, correct dictionary usage and homonyms. Students will also learn the eight parts of speech and how to write simple, compound and complex sentences. Terminal and internal punctuation will be covered. Students will learn the difference between phrases and clauses and how to spot and correct stylistic errors. Special attention will be paid to problem areas like comma placement and combining ideas within sentences. Students will learn sentence structure so that they can compose complete, correct sentences in paragraphs and essays.

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. Areas covered in this course include numbers, basic operations, measurement, percents, ratios and proportion, graphs, practical geometry, basic algebraic concepts, basic statistical concepts, problem-solving and logical reasoning. Students may progress at their own rate.

Spanish GED: Adult Education offers classes for students whose first language is Spanish and who wish to take the official GED examination in their own language. The class provides preparation in the five GED subjects. Upon passing the GED exam compo-

nents in Spanish, the students must pass an English proficiency test by writing an essay in English.

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 course 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 course 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 course provides a hands-on guide to working with the metric system of measurement. The course compares the metric system with the "traditional" system, discusses the decimal system and powers of ten, explains how to make conversions within and between systems, and offers a chance to practice using the metric system in practical situations.

Basic Mathematical Formulas: This course 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 course is for students who want to improve or develop systematic problem-solving abilities useful in school and in life. The course will be especially beneficial for students preparing to take the GED examination. 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 which require critical thinking, decision-making and problem-solving tactics.

Because the new (1988) version of the GED test requires more of the examinees in terms of higher-level thinking and problem-solving skills, students need to strengthen their reasoning skills to understand, explain and evaluate experiences. The GED science and social studies tests demand that students comprehend, apply, analyze and evaluate data. Students will learn to use reason to think productively and positively across the curriculum.

Job Skills: This course teaches students to write resumes, fill out job applications, scan classified advertising for jobs, and market their skills confidently.

Study Skills: This is a course 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 course 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 course 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 course 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 course is designed for students who need to develop their basic reading, writing, vocabulary and spelling skills in English/Spanish.

Adult Education Learning Lab

The lab is supervised by 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 lab provides 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 and textbooks.

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 3:30 p.m., and Saturday from 8:30 a.m. to 3:30 p.m. The Adult Learning Lab is located in BV-20A. For assistance or information, call 224-4280.

English as a Second Language

Learn English as a second language.

Aprenda inglés como segundo idioma.

Lerne Englisch als zweite Sprache.

Imparate l'inglese come una seconda lingua.

Apprenez l'anglais comme deuxième langue.

Aprenda inglês como segunda lingua.

Nauč się Angielskiego jako drugą Mowę.

Hãy học anh ngữ như sinh ngữ thứ nhì .

Gusto kong matuto ng pangalawang linguahe.

Uč it se Angličtinu jako druhý jazyk.

УЧИТЬСЯ АНГЛИЙСКОМУ, СВОЕМУ ВТОРОМУ ЯЗЫКУ

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Tanulj angolul, miutha ez lenne a második anyanyelved!

ESL: English as a Second Language courses are for people who want to learn to speak, read and write English.

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 until the student and the instructor feel that the student is ready for the next level. 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. The sounds of American English, as well as its stress and intonation patterns, are practiced. Students learn to hear and to produce the English sounds that do not occur in their own language. Students are encouraged to listen and critique each other. 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.

ESL 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.

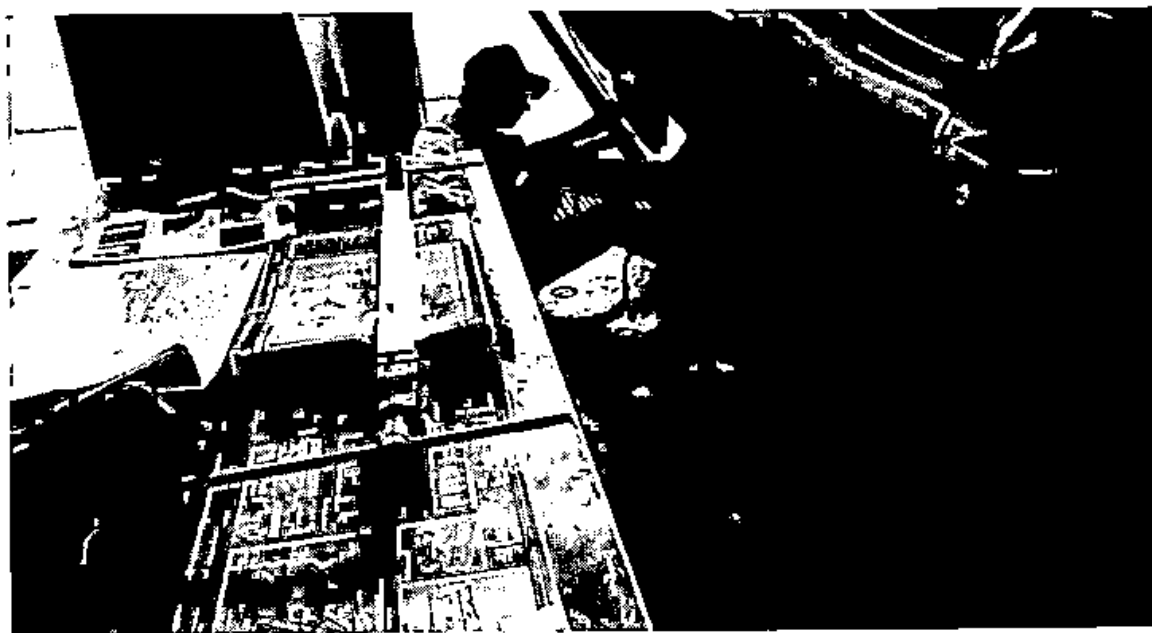
ESL Writing: This course supplements the ESL courses and provides individualized practice in writing and using English grammar at sentence and paragraph levels as well as in essays.

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.

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. Instructors for the Vocational Enrichment Program are certified in secondary education by the state of New Mexico and are usually members of the schools' regular faculty.

Course lists and additional information are available from high school counselors and both T-VI Adult Education offices. VEP courses are available at public high schools.





A Community College

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M.Ed., Colorado State University
Jacqueline Sanders, Dean of Business Occupations, M.A., University of New Mexico

Student Services Personnel

- Alice Abeyta, Counselor, M.A., Highlands University
- Cindy Brennan, Counselor, M.A., Eastern New Mexico University
- Manuel Bustamante, Counselor, M.A., Stanford University
- Jane Campbell, Registrar, B.A., University of New Mexico
- Michael Campbell, Admissions Advisor, B.A., University of New Mexico
- Raymond Corona, Counselor, M.A., University of New Mexico
- Richard Delgado, Testing Director, M.P.A., University of New Mexico
- Rudy Grado, Counselor, M.A., University of New Mexico
- Joanne Kirby, Counselor, M.A., Webster University
- Richard Martin, Admissions Advisor, B.A., University of New Mexico
- Pamela Micker, NCC, Counselor, M.S.E., Arkansas State University
- Nahid Movaghar, Counselor, M.A., University of New Mexico
- Deborah Mzhickteno, Counselor, M.A., University of Kansas
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- Larry Perez, Counselor, M.A., University of New Mexico
- Barbara Silva-Greene, Counselor, M.A., University of New Mexico
- Victor B. Watson, Dean of Student Services, Ed.D., Texas Tech University

Developmental Studies

- Rita C. Apodaca, assistant to the dean, B.A., M.A., Ph.D., University of New Mexico
- Tim Allen, math and science instructor, B.S.E., Northeast Missouri State University
- Keith M. Atkins, math and science instructor, B.S., Ohio University
- Donald Bauer, math instructor, B.S., St. Cloud State University
- Judith L. Brown, math and English instructor, B.A., Temple University, M.A., University of New Mexico
- Paige Brown, communications/survey/mini courses coordinator, R.N., Birmingham Baptist Hospital, B.S., Samford University, M.Ed., University of Louisville
- Roy Caton, math instructor, B.F.A., Ph.D., University of New Mexico
- James N. Chaves, math and electronic instructor, B.S., M.S., University of New Mexico
- Max Cisneros Jr., math coordinator, B.A., University of New Mexico
- Merrie Courtright, reading and English instructor, B.S., University of Nebraska at Omaha, M.S., Purdue University
- Don Croxton, math instructor, B.S., University of Albuquerque
- Terry Daughtrey, anthropology instructor, B.A., M.A., University of New Mexico
- Darryl Domonkos, math and reading instructor, A.B., Xavier University, M.C.P., University of Cincinnati
- Martin J. Doviak, English and math instructor, B.A., Princeton University, M.A., University of California at Santa Barbara
- Shirley Ellison-Pryor, Special Services instructor, B.S., Youngstown State University, M.A., Special Education, University of New Mexico
- Vicki Froehlich, math instructor, B.S., M.Ed., Texas Tech University
- Rudy Garcia, T-VI/UNM coordinator, B.S., St. Thomas Aquinas College
- Jean Hafner, science and reading coordinator, B.S., University of New Mexico

- Vicki Hagen, English instructor, T-VI/UNM, B.A., Concordia College, M.A., University of Iowa
- Margaret Ann (Gretta) Hochstatter, math instructor, B.S., University of Albuquerque
- Donna Hurtado, Special Instructional Services coordinator, B.A., University of New Mexico
- William Johns, math and science instructor, B.S., Southern Illinois University, B.S., Alma College, M.A., New Mexico Highlands University
- Larry Johnson, coordinator for instructional computing, B.A., University of California at Santa Barbara, M.A., University of New Mexico, M.A., Lesley College
- James B. Kimmons, math and English instructor, B.A., M.A., University of New Mexico
- David Kohles, Montoya Campus coordinator, B.S., University of New Mexico
- Judy G. Kristl, math and English instructor, B.S., Indiana State University
- Joseph R. Krzyzanowski, math instructor, B.B.A., M.A., University of Wisconsin
- Stephen Lonz, math instructor, B.U.S., University of New Mexico, M.Math., University of Waterloo
- Ilene P. Maness, math and English instructor, B.S., M.A., University of New Mexico
- Connie Jo Martinez, master schedule coordinator, B.S., M.A., University of New Mexico, M.B.A., Highlands University
- Elizabeth C. Martinez, business occupations instructor, B.S., M.A., University of New Mexico
- Charles Miller, math instructor, B.S., Northern Illinois University
- Karin K. Nelson, special education/reading instructor, B.A., University of New Mexico, M.A., Appalachian State University
- Maria C. Pacheco, science and math instructor, B.S., University of New Mexico
- Deborah W. Parker, English instructor, B.S., Wheaton College, M.A., University of North Dakota
- Ralph Peters, math and science instructor, B.S., M.S., University of Wisconsin
- Richard Randolph, English and Spanish language programs coordinator, B.A., M.A., Portland State University
- Mark Rudd, math instructor, B.A., University of New Mexico
- John M. Saavadra, math and trades instructor, B.S., University of New Mexico
- Carlos Salazar, English and math instructor, B.A., New Mexico Highlands University
- Phyllis Sanchez, math and English instructor, B.S., M.A., University of New Mexico
- Gary Sandstrom, math and science instructor, B.S.B.A., University of Phoenix
- Wilfred Sawyer, English instructor, T-VI/UNM, B.S., University of Dubuque, M. Div., McCormick Theological Seminary, Ph.D., Michigan State University
- Sally Serrels, math instructor, B.A., University of Michigan, M.A., Columbia Teachers College
- Jana Smith, accounting and math instructor, B.S., Southwest Texas State University
- Ann Tran, math and English instructor, B.A., University of Saigon, M.A., University of Chicago
- Deloris Watkins, business occupations instructor, A.A., B.A., College of Santa Fe
- Phillip Weaver, math instructor, T-VI/UNM, A.A., Lassen Junior College, B.S., M.A., University of New Mexico
- Mary Willingham, math and science instructor, B.A., Hardin-Simmons University, M.S., University of Arizona, M.A., University of New Mexico

Arts & Sciences

- Rama Akkaraju, mathematics instructor, B.S., Women's College Osmania University (India), M.S., Science College Osmania University (India)
- Betsy Alden, English instructor, B.A., Colorado College, M.A., Indiana University, D.Min., Southern Methodist University
- Jon Bentley, English instructor, B.A., M.A., University of New Mexico
- Eli Blake, mathematics instructor, B.S., M.S., New Mexico Institute of Mining and Technology
- Gene Booth, English instructor, B.A., George Mason University, M.A., University of New Mexico
- Joseph Boroughs, psychology instructor, B.A., San Diego State University, M.A., Ph.D., University of New Mexico
- Richard Calabro, biology instructor, B.S., Cornell University, M.S., University of New Mexico
- Connie Callahan, psychology instructor, B.A., Missouri Southern State College, M.S., Pittsburgh State University, Ph.D., University of New Mexico
- Sravanthi Cornell, chemistry instructor, B.S., Nizam College (India), M.S., Osmania University (India), Ph.D., Texas Women's University
- John Cornish, assistant to the dean, B.A., University of Northern Colorado, M.A., University of Denver
- Lee Couch, biology instructor, B.S., M.S., University of New Mexico
- Arnold Crelier, chemistry instructor, B.A., Brooklyn College, Ph.D., Indiana University
- Rose Day, English instructor, B.A., State University at New York/Buffalo, M.A., University of New Mexico
- Jack Douthett, mathematics instructor, B.Mus., M.Mus., University of New Mexico
- Kazik Dziarka, English instructor, B.A., M.A., Jagiellonian University (Poland), Ph.D., University of New Mexico
- Jeanne Elmhorst, communication studies instructor, B.A., M.A., University of Wisconsin/Steven's Point
- Joseph Eridon, chemistry instructor, B.S., Western Michigan University, M.S., University of New Mexico
- Virginia Fisher, mathematics instructor, B.S., Midwestern State University, M.A., University of New Mexico
- Cheryl Foote, history instructor, B.A., M.A., Ph.D., University of New Mexico
- Richard Fox, political science instructor, B.A., M.A., University of New Mexico
- Ollar Fuller, biology instructor, B.S., M.S., Memphis State University, Ph.D., University of New Mexico
- Gerald Gallant, English instructor, B.A., City College of New York, M.A., Ph.D., State University at New York/Binghamton
- Rosalind Gottfried, sociology instructor, B.A., Rutgers College, M.A., Ph.D., Brandeis University
- Janet Heath, mathematics instructor, B.S., University of Tulsa, M.S., New Mexico State University
- Catherine Heaton, mathematics instructor, M.S., B.S., State University of New York/Plattsburgh
- Michael Hillard, psychology instructor, B.A., Baylor University, M.A., Illinois State University, Ph.D., Brigham Young University
- Bruce Hofkin, biology instructor, B.A., University of California at San Diego, M.A., University of Oregon, Ph.D., University of New Mexico
- Sherry Holmen, communication studies instructor, B.A., M.A., University of New Mexico

- Julie Huntsman, biology instructor, B.S., M.S., University of New Mexico
- Cindy Jager, mathematics instructor, B.S., Central Michigan University, M.A., Western Michigan University
- Barbara Jameson, English instructor, B.S., Abilene Christian University, M.A., University of New Mexico
- Stephanie Kauffman, English instructor, B.A., University of Delaware, M.A., University of Houston, Ph.D., University of New Mexico
- Maureen Kelly, mathematics instructor, B.U.S., M.A., University of New Mexico
- William Kuipers, biology instructor, B.S., Ph.D., University of New Mexico
- George Lane, philosophy instructor, B.A., Reed College, M.A., Ph.D., University of Chicago
- Kevin Leith, mathematics instructor, B.S., M.S., New Mexico Institute of Mining and Technology
- Gary Lemons, sociology instructor, B.S., Oklahoma City University, Ph.D., University of New Mexico
- Carol Martinez, chemistry instructor, B.S., New Mexico Highlands University, M.S., University of California at Davis
- Stephen Mathewson, English instructor, B.A., University of Oklahoma, M.A., Ph.D., University of New Mexico
- Geraldine L. McBroom, assistant to the dean, B.S., M.A., Kent State University, Ph.D., Ohio State University
- Colleen McNamara, biology instructor, B.S., M.S., University of New Mexico, Ph.D., University of North Carolina
- Shelly Metz, psychology instructor, B.S., M.S., Fort Hays University, Ph.D., University of New Mexico
- 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
- Victoria Mora, philosophy instructor, B.A., University of New Mexico, M.A., Ph.D., Yale University
- 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 (Mickey) Odom, physics instructor, B.S., M.S., University of Texas/El Paso
- Umesh Pandey, physics instructor, B.Ed., Delhi University (India), M.S., University (India), M.S., New Mexico Highlands University
- Esther Pariente-Ahmed, Spanish instructor, B.A., Instituto del Profesorado San Miguel, M.A., Kansas State University, M.A., University of New Mexico
- Kate Parker, English instructor, B.A., University of Richmond, M.A., Western Kentucky University, Ph.D., University of New Mexico
- Harold Partin, mathematics instructor, B.S., Eastern New Mexico University, 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 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
- Daniel Primozić, philosophy instructor, B.A., M.A., Southern Illinois University, Ph.D., University of New Mexico
- 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
 Timothy Russell, English instructor, B.A., M.A., Miami University, Ph.D., University of New Mexico
 Janet Shagam, biology instructor, B.S., University of Massachusetts, M.S., University of Arizona, Ph.D., University of New Mexico
 Wayne Shrubsall, 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
 Carole Usner, Spanish instructor, B.A., M.A., University of New Mexico
 Rachel Vickrey, mathematics instructor, B.A., Evergreen State College, M.A., University of New Mexico
 Patricia Walter, English instructor, B.A., Eastern New Mexico University, M.A., Texas Tech University
 Shawn Wright, biology instructor, B.S., Penn State University, M.S., Northeastern University

Business Occupations

Dawn Addington, CPA, accounting instructor, B.B.A., 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, accounting instructor, M.B.A., University of New Mexico
 Priscilla Carrillo, court reporting instructor, M.A., University of New Mexico
 Leigh Anne Chavez, legal assistant studies instructor, J.D., University of California, Los Angeles
 Susie Cutler, administrative assistant instructor, M.A., Webster University
 Chuck Edelman, business administration instructor, M.B.A., University of New Mexico
 Sally Fish, business administration instructor, M.B.A., National University
 Anita Frantz, legal assistant studies instructor, J.D., University of New Mexico

Jean Gallegos, accounting instructor, B.A., Adams State College
 Precilliano Garcia, administrative assistant instructor, M.A., New Mexico Highlands University
 Marianne Gardner, administrative assistant instructor, M.S., University of Dayton
 Elmo Gomez, administrative assistant instructor, B.A., University of New Mexico
 Fred Gordon, accounting instructor, M.A., New Mexico Highlands University
 Marcella Green, administrative assistant instructor, M.A., University of New Mexico
 Joann Griffin, administrative assistant instructor, B.S., University of New Mexico
 Nadine Grosjean, administrative assistant instructor, M.A., University of New Mexico
 Sue Gunckel, CPA, accounting instructor, 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, M.S., State University of New York, Albany
- Guy Hobbs, accounting instructor, B.S., University of Chattanooga
- Jim Holmes, accounting instructor, M.B.A., New Mexico Highlands University
- Judy Johnson, administrative assistant instructor, B.S., Western Kentucky State University
- Marilyn Konnick, administrative assistant instructor, M.A., University of New Mexico
- Deborah LaPointe, administrative assistant instructor, M.S., Northern Illinois University
- Myron Liberman, business administration instructor, M.A., University of New Mexico
- Barbara Logan, CPS, business administration instructor, M.A.T., 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, M.A.T., University of New Mexico
- Gloria Madrid, administrative assistant instructor, M.A., New Mexico Highlands University
- Joyce Matthews, administrative assistant instructor, M.A., University of New Mexico
- Judy McCutcheon, administrative assistant instructor, M.A., University of New Mexico
- Nancy NtiAsare, legal assistant studies instructor, J.D., Willamette University
- William Price, accounting instructor, M.A., University of Arizona
- Shirley Quintana, court reporting instructor, B.S., University of New Mexico
- Robert Reeback, legal assistant studies instructor, J.D., University of New Mexico
- Wayne Reynolds, business administration instructor, M.B.A., University of New Mexico
- David Steele, business administration instructor, M.B.A., University of New Mexico
- Anita Sterchi, administrative assistant instructor, 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
- Maja Whittington, accounting instructor, M.B.A., University of Texas, El Paso
- Anna Wormald, administrative assistant instructor, M.A., University of New Mexico

Health Occupations

- Tamara G. Campbell, RN, nursing instructor, B.S.N., Adelphi University, M.S., Boston University
- Charles Fatta, RRT, RCP, respiratory care instructor, B.A., University of New Mexico
- Pamela Fletcher, RD/LD, 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
- Helen Dorothy Kopczynski, RN, nursing instructor, B.S.N., M.S.N., St. John's University
- 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, nursing instructor, B.S.N., University of Kansas, M.A., University of New Mexico, M.S.N., University of Texas, El Paso
- Marie Rea, RN, nursing instructor, B.A., Mt. 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, Davis, B.A., 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
- Diane Swihart, RN, nursing instructor, A.D.N., Sinclair Community College, Ohio, B.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
- 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
- Frederick Downum, architectural/engineering drafting instructor, B.S., Northern Arizona University
- Steven Fraker, architectural/engineering drafting instructor, B.S., Eastern New Mexico University
- 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, M.M.P., University of New Mexico
- Beverly Gersema, business computer programming instructor
- James Green, electronics instructor, A.S., B.S., University of New Mexico
- Gordon Hall, architectural/engineering drafting instructor, B.F.A., M.A., 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
- Wilbur Kahn, electronics instructor, B.S., U.S.M.A. West Point, M.S.M.E., University of Southern California
- Paul Kirkpatrick, civil and surveying instructor, B.U.S., University of New Mexico
- Alfred Lauber, architectural/engineering drafting instructor, B.A., 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
- Fabian Lopez, electronics instructor
- Thomas Lucero, architectural/engineering drafting instructor, B.A., M.A., University of New Mexico
- Patrick McDonough, electronics instructor, B.A., New Mexico Institute of Mining and Technology, M.S., University of Utah
- Thelnessa McKinney, math instructor, B.S., Southwestern State College
- 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., Canada 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
Mary Jane Willis, electronics instructor, B.S., Northwestern State University of Louisiana
Elizabeth Wilkinson, design drafting engineering instructor, B.A., University of New Mexico
Thomas Wright, electronics instructor, B.S., University of Albuquerque
Charles A. Young, business computer programming instructor, B.S., University of Arizona, M.A., Webster University

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, assistant to the dean, 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, diesel equipment technology instructor, B.S., Southern Illinois University
Glen Bugge, automotive technology instructor, B.S., Illinois 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
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
Dave Hinchcliffe, carpentry instructor
Robert Kho, automotive technology instructor, B.A., California State University
Barry King, environmental protection 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, sportscraft/small engine 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

Loren Omness, machine tool technology instructor, B.A., Ferris State College
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 William Senke, environmental protection technology instructor, A.S., B.S., New Mexico State 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 & Transitional Programs

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.Ed.S., 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
Luz L. Valdes-Norris, bilingual instructor, M.A., University of New Mexico



Campus Directory

Main Campus

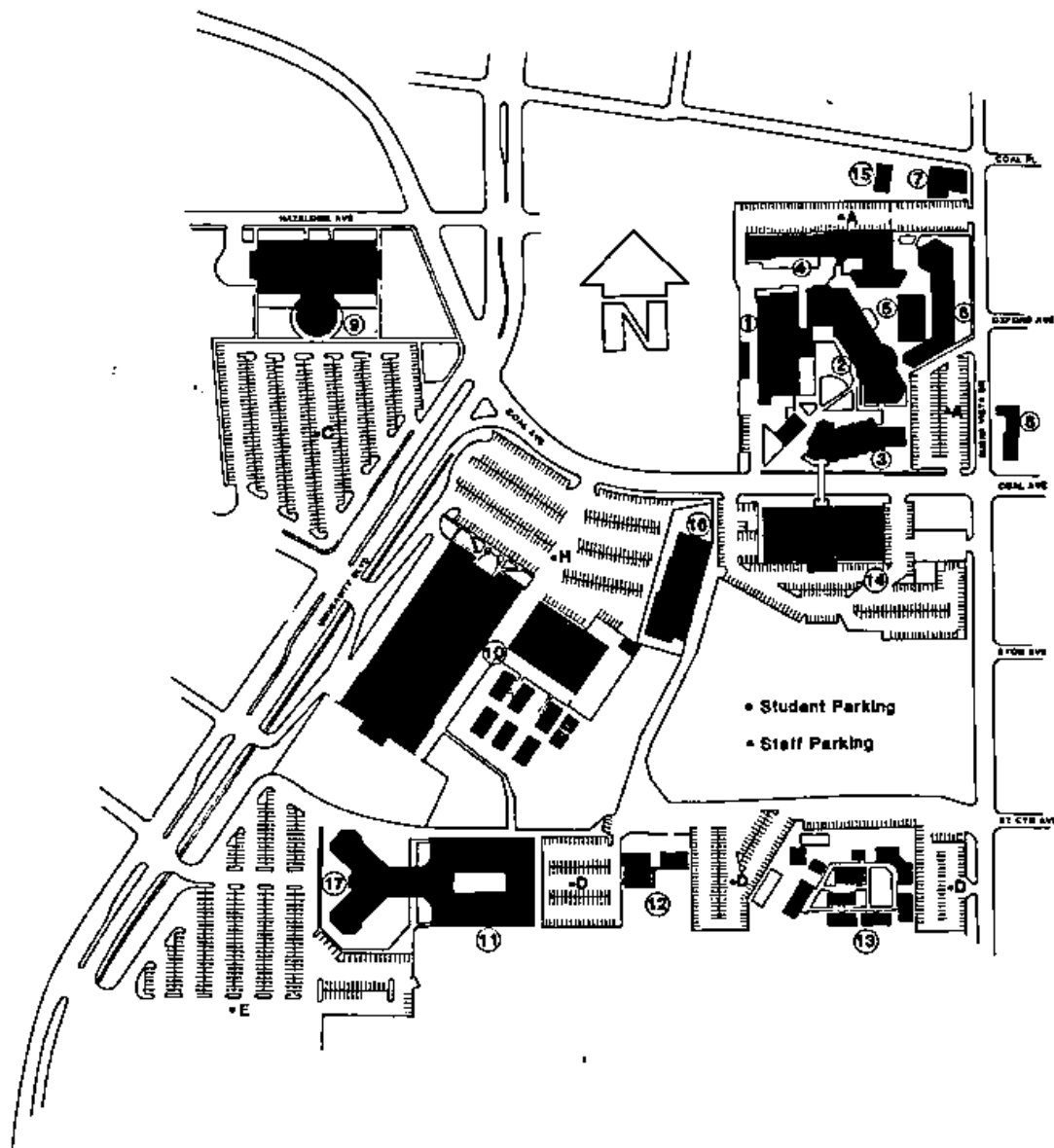
Switchboard/Locator	224-3000
FAX	224-4556
Admissions	224-3160
Admissions TTY	224-3193
Adult Education	224-4266
Adult Education TTY	224-4267
Bookstore	224-4490
Cashier	224-4767
Financial Aid	224-3090
GED	224-4268
Health Center	224-3080
Information	224-3160
Instructional Programs/Counselors	
Administration	224-3321
Developmental Studies	224-3931
Arts & Sciences	224-3561
Business Occupations	224-3811
Health Occupations	224-4111
Technologies	224-3340
Trades	224-3711
Outreach & Transitional Programs	
Programs	224-4300
Library	224-3274
Student Records	224-3202
Special Services	224-3259
Special Services TTY	224-4732
Student Job Placement	224-3060
Student Services	
Administration	224-4760
Testing	224-3244
Tutorial/Learning Center	224-4306

Joseph M. Montoya Campus

Switchboard/Locator	224-5500
FAX	224-5550
Admissions	224-5662
Admissions TTY	224-5551
Adult Education	224-5575
Bookstore	224-5803
Cashier	224-5590
Financial Aid	224-5656
Information	224-5522
Instructional Programs/Counselors	
Developmental Studies	224-5681
Arts & Sciences	224-5782
Business Occupations	224-5597
Library	224-5721
Special Student Services	224-5946
Student Job Placement	224-5507
Testing	224-5761
Tutorial/Learning Center	224-5990

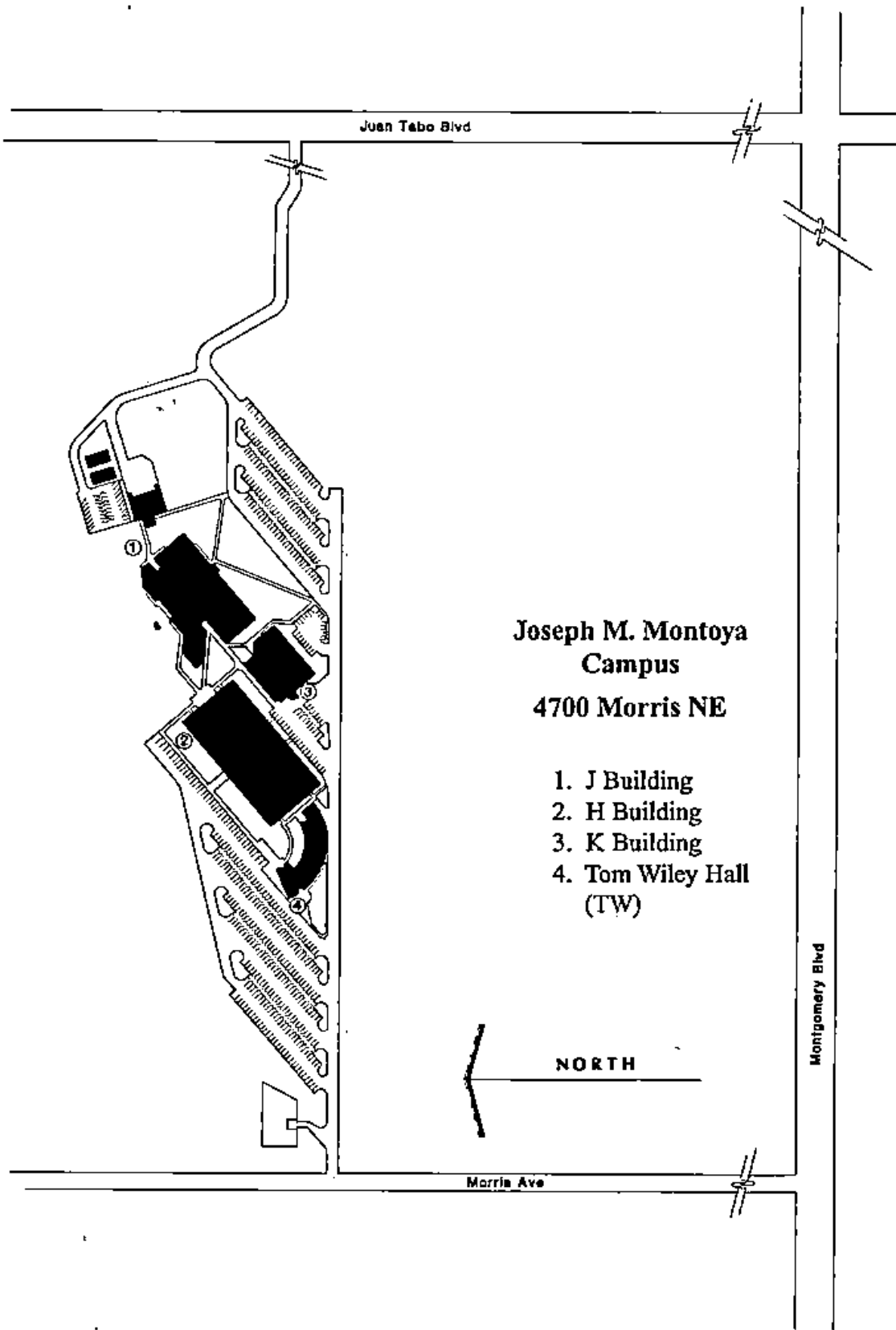


A Community College



**Main Campus
525 Buena Vista SE**

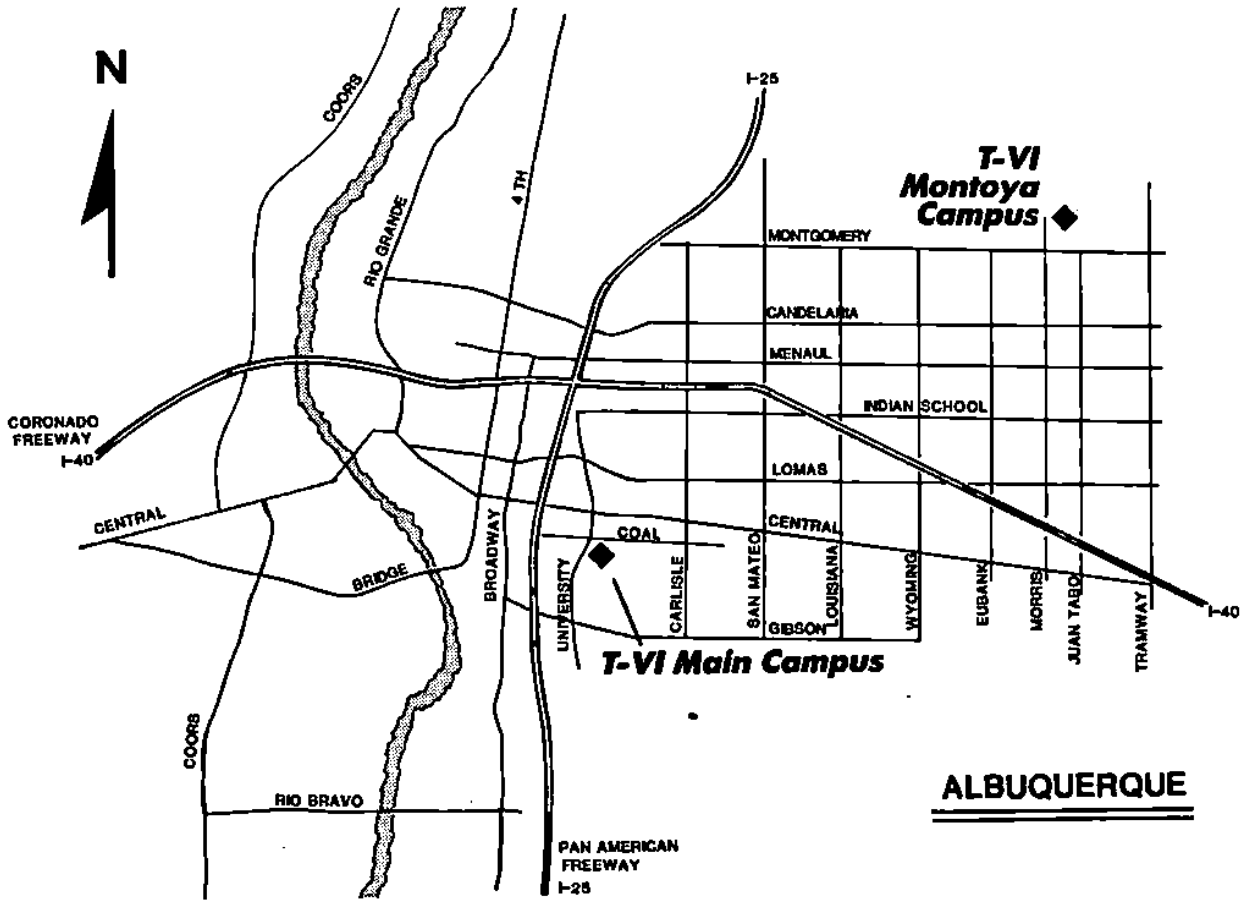
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|-----------------------------------|-------------------------------------|
| 1. West Building (W) | 10. Trades Buildings (T) |
| 2. Administration Building (A) | 11. Preparatory Building (P) |
| 3. South Building (S) | 12. South Temporary Buildings (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) | |



**Joseph M. Montoya
Campus
4700 Morris NE**

- 1. J Building
- 2. H Building
- 3. K Building
- 4. Tom Wiley Hall (TW)

NORTH



**T-VI
Montoya
Campus** ◆

T-VI Main Campus ◆

ALBUQUERQUE

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