1997–1998 CATALOG

ALBUQUERQUE TECHNICAL VOCATIONAL INSTITUTE

VOLUME 32 **JULY 1997**

Main Campus
525 Buena Vista SE
Albuquerque, New Mexico 87106-4096

Joseph M. Montoya Campus
4700 Morris NE
Albuquerque, New Mexico 87111-3704

Rio Rancho Campus
State Road 528 and Sara Road
Rio Rancho, New Mexico 87124

South Valley Campus
5816 Isleta SW
Albuquerque, New Mexico 87105

TVI
COMMUNITY
COLLEGE

TVI is an equal opportunity institution.

CONTENTS

ABOUT THIS CATALOG

The Catalog is the student's official guide to programs, courses and policies of Albuquerque Technical Vocational Institute. Beginning with an introduction that includes the TVI mission statement, the Catalog contains:

- ☐ general information about TVI: a summary of offerings and information about admission, registration, financial aid, academic regulations and student services;
- ☐ instructional programs: details about TVI's six departments, including course descriptions and requirements for earning degrees and certificates; and
- ☐ lists of TVI Governing Board members, administrators, student services/learning resources personnel and faculty.

The TVI Catalog is a summary of information of interest to students; it is not a complete statement of programs and policies. Other important information is published in:

- ☐ the Schedule of Classes;
- ☐ the Student Handbook;
- ☐ the Financial Aid Guide; and
- ☐ handbooks published by instructional departments and other offices.

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

Information in the Catalog is subject to change.

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

INTRODUCING TVI

Now in its third decade, the Albuquerque Technical Vocational Institute is an accredited community college offering courses in a variety of occupational, college transfer and adult/developmental education subjects. In 1997–98 TVI's programs include:

- ☐ certificates: in 39 business, health, technologies and trades occupations;
- ☐ associate degrees: in 31 occupational fields and liberal arts;
- ☐ college transfer: courses in pre-management, pre-engineering, other occupational subjects and 27 liberal arts disciplines transferable for freshman and sophomore credit at four-year institutions; and
- ☐ adult/developmental education: basic skills (including English as a second language and GED exam preparation) and remedial, preparatory and developmental classes for students preparing to meet admission requirements at TVI or other institutions.

Other TVI programs include: concurrent enrollment for high school students, special services for students with disabilities, tutoring and self-paced learning centers. TVI also offers workshops, support for small business and custom training for local employers.

TVI is accredited to grant certificates and associate of applied science, associate of arts and associate of 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.

TVI
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EQUAL OPPORTUNITY POLICY

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

It is the policy of the Institute not to discriminate on the basis of sexual orientation, ıarital status or ancestry.

Any person who wants to file a complaint based on these laws should contact the equal pportunity officer, Delma Molina, in the Human Resources Office, 224-4600.

In accordance with the Americans with Disabilities Act (ADA) and Section 504 of the ehabilitation Act of 1973, Albuquerque TVI provides notice that no qualified individual ith a disability shall, on the basis of the disability, be excluded from participation in, be enied the benefit of, or otherwise be subjected to discrimination related to any of the stitution's educational programs or activities.

If a student has concerns about TVI's compliance, he or she should contact A. Paul marrella in Special Services, 224-3259.

HISTORY

Authorized by the New Mexico Legislature in 1963, the Albuquerque Technical Voca-onal Institute was approved by district voters in 1964 to provide adults with skills neces-ıry for success in the world of work. The first nine classes, for 155 students, were held in ıe summer of 1965 in surplus barracks and a vacated elementary school.

From the first, TVI's priority has been job training, broadly defined to include prepara-ıry work, skill improvement for adults, vocational courses for high school students and, in cent years, liberal arts and college transfer. Today's job training programs are offered in usiness, health, technologies and trades subjects, with emphasis on up-to-date, hands-on kills needed by local employers. Internships, co-op programs and apprenticeships are avail-ble.

TVI was accredited by the North Central Association of Colleges and Schools in 1978. he first college-prep course, MATH 100, was offered in 1985. Degree-granting power was pproved for TVI by the Legislature in 1986, beginning the transition to a community col-ge. By the late 1980s, liberal arts was not only TVI's fastest growing component but also n increasingly important part of occupational instruction, and the University of New Mexico ad arranged to offer all its remedial courses through TVI.

Until 1979, TVI was part of the Albuquerque Public Schools, with the APS Board of ducation serving as the TVI Governing Board. The first election for an independent TVI oard was held in September 1979, following approval by the Legislature. In 1994, the egislature approved districting the Governing Board.

TVI TODAY

With enrollment approaching 20,000, TVI is the second largest postsecondary institu tion in New Mexico. The Main Campus occupies 60 acres near downtown Albuquerque an the 42-acre Joseph M. Montoya Campus is in the Northeast Heights. Classes also are of fered at the Rio Rancho Campus, the South Valley Campus and at the University of Nev Mexico, as well as various off-campus sites. Plans are being made for a permanent Wes Side presence.

TVI's classrooms, libraries and laboratories are modern and comfortable. Each studen has access to state-of-the-art equipment, especially computers. TVI programs, facilities an services are accessible to the disabled.

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

TVI's Governing Board members are elected by voters in seven geographical district within the Institute district, which includes all of Bernalillo County and part of Sandova County.

Funding for TVI programs and most construction and equipment comes from a prop erty tax levy in the Institute district and annual appropriations by the New Mexico Legisla ture. Tuition and fees are moderate, and financial aid is available to many students. Privat contributions through the TVI Foundation are increasing every year.

TVI's academic year is divided into three terms: fall (begins in September), sprin (begins in January) and summer (begins in May). Short sessions also are held in som programs. Most programs admit beginning students each term.

COMMUNITY OFFERINGS

In addition to the adult/developmental and credit courses described in this Catalog TVI offers a number of non-credit educational opportunities to the community, includin walk-in learning centers and libraries (see pages 35, 36 and 75). The Emeritus Colleg offers workshops for those over 50 (call 224-5501). The Workforce Training Center (224 4249) is developing customized short-term training, management support and technolog upgrades for local business and industry; assistance also is provided to new and prospectiv entrepreneurs.

PHILOSOPHY

The Albuquerque Technical Vocational Institute, a community college, believes tha each individual, regardless of economic status, should be provided the educational opportu nity to develop to the maximum extent possible. The Institute believes that occupationa education is necessary for an ever-increasing number of New Mexicans. The Institute be lieves in providing occupational, basic, general and related education to enable students t develop competence, self-awareness and social responsibility to compete successfully in chosen field.

MISSION STATEMENT

The Albuquerque Technical Vocational Institute recognizes its unique role as a provider of education leading to employment. Therefore, the primary emphasis is placed on instruction that enhances employment opportunities and lifelong learning. The Institute provides coursework leading to occupational certificates and the degrees Associate of Applied Science, Associate of Arts and Associate of Science; and opportunities for transfer credit to other degree-granting institutions.

The three-fold mission of the Institute is:

- ☐ to provide occupational education that enables students to acquire job skills consistent with local, state and national work force needs;
- ☐ to provide basic education and general education that will expand students' opportunities to succeed in society and the world of work; and
- ☐ to participate in partnerships which promote economic development, including training opportunities for the work force.

GOALS

1. The Institute, consistent with work force needs, will offer occupational education to develop its students to the desired level of competence.
2. The Institute will use its degree-granting powers to enhance occupational education and to participate with other colleges and universities in the delivery of education statewide.
3. The Institute will collaborate with other degree-granting institutions to ensure that its liberal arts courses and, where applicable, its occupational courses meet the standards required for transfer credit.
4. The Institute will offer 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 accessibility, equity and diversity to enable New Mexicans to develop educationally and economically regardless of their financial resources or previous education.
7. The Institute will work with businesses, government and other institutions to support the economic development of the community and state.

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.

ASSESSMENT

Albuquerque TVI, in compliance with the North Central Association's Commission on Institutions of Higher Education, regularly conducts assessment of its instruction. Assessment of student academic achievement is an effort throughout each of the instructional departments wherein the departments evaluate their success in fulfilling both course and program objectives. Towards this end, during a semester students may be requested to participate in forums, portfolios, testing or surveys that help the departments measure student success or satisfaction.

Specifically, in attempting to measure student academic achievement, instructional departments are trying to better understand those circumstances that lead to student success and mastery of course objectives and program goals. In applying measurement tools, departments gain knowledge and experience that help them to continue to do things well or to improve instruction where weaknesses are found.

DISTANCE EDUCATION

An increasing number of TVI credit courses are offered in innovative distance-education formats designed to overcome barriers of time or space. Some courses are available through the Internet, some are shown on television and others use audio and video links to two or more classrooms. Printed materials and interaction with the instructor (in person, by telephone or via electronic mail) are available.

1997–1998 ACADEMIC CALENDAR*

FALL TERM 1997

First day of instruction ..... September 2
Last day to enroll
Full term classes ..... September 8
Short session classes ..... third day of the session
Graduation applications due/Midterm ..... October 21
Thanksgiving holiday (no classes; offices closed) ..... November 27–28
Last day of the term ..... December 18

SPRING TERM 1998

First day of instruction ..... January 12
Last day to enroll
Full term classes ..... January 16
Short session classes ..... third day of the session
Martin Luther King Day (no classes; offices closed) ..... January 19
Presidents' Day (no classes; offices open) ..... February 16
Graduation applications due/Midterm ..... March 4
Employee Professional Development Day (no classes; offices closed) ..... March 20
Graduation ..... April 24
Last day of the term ..... April 30

SUMMER TERM 1998

First day of instruction ..... May 18
Last day to enroll
Full term classes ..... May 22
Short session classes ..... third day of the session
Memorial Day holiday (no classes; offices closed) ..... May 25
Graduation applications due/Midterm ..... June 26
Independence Day holiday (no classes; offices closed) ..... July 3–4
Last day of the term ..... August 7

*Complete academic calendars appear in the Schedule of Classes each term.

ADMISSION AND REGISTRATION

Admission is the process of applying and being accepted to TVI. Registration (see page 14) is the process of selecting courses, receiving a schedule of classes and completing enrollment at TVI. The following requirements and procedures do not apply to students taking Adult Education classes.

ADMISSION

The Albuquerque Technical Vocational Institute has an open admission policy which provides individuals the opportunity to enroll in the Institute's certificate or degree programs as well as individual courses. Students are considered for admission to TVI without regard to sex, race, color, national origin, religion, age or disability. It is the policy of the Institute not to discriminate on the basis of sexual orientation, marital status or ancestry.

TVI's academic year is divided into three terms which begin in September, January and May. Students are urged to apply for admission at least two months before registration begins and may apply for any term up to one year in advance.

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

GENERAL ADMISSION REQUIREMENTS

Any person wishing to apply for admission to TVI must meet one of the following criteria:

- ☐ be at least 18 years of age; or
- ☐ have a high school diploma*; or
- ☐ have a General Educational Development (GED) diploma; or

□ qualify under concurrent enrollment (see below).

Note: Some programs have additional admission requirements (see program descriptions).

In order to meet this criterion, the school must be a regular high school or a home school. The regular high school must be approved by the state department of education in the institution's home state or by a regional accrediting agency approved by the New Mexico State Board of Education; the home school must be accredited by the Distance Education and Training Council Accrediting Commission (formerly known as the National Home Study Council).

ADMISSION STATUS

A student's admission status is determined by the student's primary goal for taking courses at TVI:

Certificate/Degree Status: Certificate/degree students are those who have chosen a program of study and intend to earn a certificate or degree from TVI. Note: Students must demonstrate basic computer literacy in order to earn a certificate or degree (see page 29).

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 TVI in non-degree status may request to change to certificate/degree status, declare a major and transfer credits earned in non-degree status by completing a Declare a Major form.

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

Concurrent Enrollment: In the fall and spring terms, qualified high school juniors and seniors may enroll in non-developmental credit courses at TVI. They enroll in non-degree status and earn college credit as well as credit toward high school graduation. Concurrent enrollment students may take a maximum of eight credit hours each term.

Interested students should visit their high school counseling office, the Albuquerque Public Schools Career Enrichment Center or any TVI Admissions Office. Applications for concurrent enrollment are processed through the Career Enrichment Center. Qualified students must take the Accuplacer test for course placement.

APPLYING FOR ADMISSION

RETURNING STUDENTS

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

NEW STUDENTS

New students—those who have never attended TVI in certificate/degree status—should take the following steps:

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

ADVISEMENT AND COUNSELING

Counselors, advisors and student technicians are available to assist students with identifying and/or meeting their educational goals.

PROGRAM AND COURSE PLACEMENT

High School/GED Requirement: Students wishing to enter a certificate or degree program who have not earned a high school diploma may be required (because of federal Ability to Benefit standards) to have minimum scores on the Accuplacer test. Results of the exam may affect the student's eligibility to enter his or her chosen program.

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.

Program and/or Course Requirements: Students enrolling in courses with prerequisites must be able to provide proof of meeting the prerequisites before enrolling. Prerequisites may be met with approved scores on Accuplacer, ACT, SAT or ASSET tests, by transfer credit from another institution or by successful completion of the prerequisite course. (Also see page 14.)

Students should take the Accuplacer as soon as possible after admission. Students may be exempt from Accuplacer testing if they:

- ☐ hold an associate degree or higher from an institution in the United States (these students may take courses for which ENG 101 and RDG 101 are prerequisites); or
- ☐ are non-degree students not enrolling in ENG or MATH courses and not registering for more than six credits per term (does not apply to concurrent enrollment students); or
- ☐ can provide proof of successful completion of previous college-level math and/or English courses.

TRANSFER OF CREDIT

Traditional Credit: Credits earned at other institutions by certificate or degree-seeking students at TVI 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 TVI 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 postsecondary institutions will be evaluated automatically upon receipt of the official transcript. Courses with D or better grades earned at public New Mexico institutions will be considered for transfer credit; courses from institutions outside New Mexico and private institutions in 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 TVI'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; demonstration of competence is required for all transfer credit which is at least ten years old. Courses will be evaluated according to the occupational program to be followed at TVI and may be substituted for TVI requirements as approved by the department dean.

2. Remedial courses and upper-division courses are not generally accepted.
3. Students may appeal the decision on acceptability of liberal arts transfer credit. The student should contact the Advisement Office to begin the appeal process.

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

Continuing Education Credit: Current students who completed credit courses in TVI's Continuing Education Division prior to the winter 1991 term may apply to have that credit transferred to their TVI transcript. Interested students must request, through the Records Office, that an official copy of their Continuing Education record be sent to the department in which the course was offered.

EXAMINATION CREDIT

Occupational Challenge Exams: Challenge examinations are offered for some occupational courses for students who wish to establish TVI credit for prior education, training and/or experience. The fee for most exams is $15. The following restrictions apply:

- ☐ A student may attempt a challenge exam only once per course.
- ☐ A student may not take a challenge exam if, within the last ten years, he or she enrolled in the course at any other postsecondary institution or enrolled at TVI after the 15th day of the term (including Saturdays).
- ☐ The student's TVI transcript will record 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 may not be accepted by other postsecondary institutions.

Arts & Sciences Exams: Students may earn up to 30 credit hours toward Arts & Sciences requirements through Advanced Placement (AP) and College Level Examination Program (CLEP) tests. Details are available in the Student Handbook and in advisement offices.

COURSE SUBSTITUTIONS AND WAIVERS

A course for which a student has already established credit may substitute for another course if allowed by the department offering the course for which substitution is requested. If the substitute course has fewer credit hours, the difference must be made up. A required course may be waived if the student has earned credit in a similar but not equivalent course and/or through training or work experience. The student must make up the waived credit hours.

REGISTRATION

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

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

Orientation: Orientation sessions are offered to help new and returning students learn about TVI's services, programs and registration process. Students who have never attended a postsecondary institution are required to attend a TVI orientation before registering for classes. Information is in the Schedule of Classes.

Schedule of Classes: A class schedule is published prior to each term. Starting and ending dates, meeting times and locations, registration instructions and payment information are listed in the schedule, which is available in the admissions, registration and 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 TVI grade point average of 2.5; and
- ☐ have no grade lower than C in the previous term; and
- ☐ secure permission from the Advisement Office.

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

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

COREQUISITES AND PREREQUISITES

Pre- and corequisites are listed in course descriptions and are subject to change with each new Catalog. It is the student's responsibility to meet the pre- and/or corequisites in effect for the term in which a course is taken, regardless of the Catalog under which the

student entered or will graduate. Students may be barred from enrolling or may be disenrolled if pre- or corequisites are not met.

Corequisite: A corequisite is a course which is either recommended or required to be taken in combination with another course. If a course with a required corequisite is taken for audit, the corequisite also must be taken for audit. When a course which has a required corequisite is dropped, the corequisite must also be dropped.

Prerequisite: A prerequisite is a requirement which must be successfully completed before a student may enroll in a course. A student who receives a W, AU, I, NC, PR, D or F as a final grade may not enroll in any class for which the former is a prerequisite. A recommended prerequisite is one which is strongly suggested for successful completion of the course but is not required.

Most entry-level courses have prerequisites for math, English or reading. Students who have completed course prerequisites may be required to provide proof through transcripts or test scores. Students who do not meet course prerequisites may enroll in preparatory courses in Developmental Studies.

The following are alternatives or equivalents to meet entry-level course prerequisites. ACT, SAT and ASSET scores may not be more than five years old. Accuplacer scores may not be more than two years old.

Prerequisite	**Alternatives/Equivalents***
ENG 099	ENG 099 or above with passing grade or approved score on Accuplacer, ACT, SAT or ASSET
ENG 100	ENG 100 or above with passing grade or approved score on Accuplacer, ACT, SAT or ASSET
MATH 099	MATH 099 or above with passing grade or approved score on Accuplacer, ACT, SAT or ASSET
MATH 100A	MATH 100A or above with passing grade or approved score on Accuplacer, ACT, SAT or ASSET
MATH 100 or 100B	MATH 100, 100B or above with passing grade or approved score on Accuplacer, ACT, SAT or ASSET
RDG 099	RDG 099 or 100 with passing grade or approved score on Accuplacer, ACT, SAT or ASSET or other college lecture-type courses 101 or higher with C or better
RDG 100	RDG 100 with passing grade or approved score on Accuplacer, ACT, SAT or ASSET or other college lecture-type courses 101 or higher with C or better

* Approved scores are published in the Student Handbook.

ENROLLMENT AND GRADE OPTION CHANGES

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

Adding Courses: Most courses may be added or sections changed through the fifth day of full-term and 12-week summer term classes and the third day of short-session classes. Students may enter most open-entry courses through the tenth week of a full term and the eighth week of the 12-week summer term. Registration deadlines and instructions are in the Schedule of Classes.

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

Stepbacks: Students may, with department approval, step back into most developmental courses through the third week of the term and into some lower level occupational courses (in the same discipline) through the fifth week of the term. Students may, however, step back into a self-paced, developmental math course through the tenth week of a full term and the eighth week of the 12-week summer term. Students who are having difficulty in a class and are considering this option should contact the instructor or an advisor.

Course Repetition Limit: Beginning in the fall 1995 term, a course may be repeated up to three times, regardless of grade option. A student wishing to repeat a course more than three times must obtain approval from the department dean's office. Topics, problems, internship and cooperative education courses, as well as physical fitness courses and full-term courses dropped prior to the 15th day of the term, are exempt from the course repetition limit.

Dropping Courses or Withdrawing: Full-term courses may be dropped through the 12th week of the term, 12-week summer courses through the 10th week and short-session courses through the Friday following the mid-point of the course. Full-term courses dropped on or before the 15th day of the term (including Saturdays) do not appear on the student's TVI transcript. A W grade will appear on the student's record for full-term and 12-week summer courses dropped after the 15th day and for all other courses dropped as of the first day of the session.

Students should not assume they will be dropped from their courses for non-attendance. Students who have not officially dropped a course will receive a final grade in the course. Drop and withdrawal deadlines are in the Schedule of Classes.

NEW MEXICO RESIDENCY

Residence requirements for tuition purposes are established by the New Mexico Commission on Higher Education. A brochure detailing residency requirements and restrictions is available in the Admissions and Records offices.

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 new or returning student with questions about his or her residency status should contact the Admissions Office.

A continuing non-resident student who has satisfied requirements for New Mexico residency may file a Petition for New Mexico Residency in the Records Office. Residency petitions will be accepted through the 15th day of each term (including Saturdays). All requirements for residency must be met before the first day of the term.

In general, 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. Information on the number and type of required overt acts is available in the Admissions and Records Offices.

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 in-state residency status to be denied or revoked.

OTHER RESIDENCE REGULATIONS

The spouses and dependents of persons 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.

Active participating members of the New Mexico National Guard 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 Immigration and Naturalization Service 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 65 years of age and older who move to New Mexico for retirement, as well as their spouses and dependents, or those 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.

TUITION AND FEES

Upon registering for courses, students receive a registration invoice. In order to complete registration, all charges must be paid. Payment deadlines are printed in the Schedule of Classes each term. Failure to pay all charges in full may result in the deletion of the student's schedule. Authorized agencies that have agreed to pay a student's training expenses are billed by the Institute.

Checks submitted for tuition and fees must have the student's ID number (Social Security number) written on them. If the student prefers not have the ID number on the check, he or she should pay in cash or by credit card. TVI staff will write student ID numbers on checks and money orders if the student has not already done so.

TUITION

Tuition is charged according to a student's residency status and the number of credit hours carried. Special tuition rates do not exist for non-resident part-time students or non-resident students enrolling in the summer term.

Tuition rates for 1997–98 (subject to change without notice) are:

	Resident	**Non-Resident**
Arts & Sciences courses		
1 to 11 credit hours and more than 18 credit hours	$29 per credit hour	$80.50 per credit hour
12 to 18 credit hours	$348.	$966.
Occupational courses		
1 to 11 credit hours	none	$80.50 per credit hour
12 to 18 credit hours	none	$966.

Senior Citizen Discount: Senior citizens qualify for a reduced tuition rate of $5 per credit hour, up to six credit hours per term. The tuition discount applies only to Arts & Sciences courses. To qualify, the student must be age 65 or older prior to the beginning of the term and must be classified as a New Mexico resident for tuition purposes.

To receive the senior citizen discount, eligible students must go to the Records Office at Main Campus or the Admission Office at the Montoya Campus and complete a Senior

Citizens Tuition Discount form. The discount form must be approved by the tenth day of the term.

Note: The discount does not apply to Adult Education classes, workshops and other non-credit courses, or to occupational or developmental courses.

FEES

Some courses have required fees (see course descriptions). Audit students pay the same fees as students enrolled for credit. Other fees include:

Registration Fee: There is a $22.25 registration processing fee required each term (of that, $2 is collected on behalf of the Student Association of TVI.).

GED Exam fee: $10

Administrative Service Fee: This $10 fee is not paid by students; rather, it is charged to third-party agency agencies that sponsor students.

Educational Service Fee: This fee of $75 is charged on third-party agency contracts requiring additional services; it is not paid by students.

Transcript Fee: Students may request up to five TVI transcripts, free of charge, per academic year. Additional copies will be issued for a fee of $1 per copy.

Occupational Challenge Exam Fee: $15 (may vary)

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.

FINANCIAL AID

TVI is committed to helping 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, TVI, the U.S. government and the state of New Mexico all contribute to help students pursue a higher education. Students applying for financial aid should complete a Free Application for Federal Student Aid (FAFSA) available at all four TVI campuses.

Adult Education students are not eligible for financial aid.

The following is a summary of available financial aid programs and policies. Students should refer to the TVI Financial Aid Guide or contact the Financial Aid Office for details.

GENERAL ELIGIBILITY REQUIREMENTS

To receive financial aid a student must:

- ☐ Be a U.S. citizen or an eligible noncitizen.
- ☐ Enroll at least half time (as defined by federal regulation); this applies to most Title IV programs. Students should check each financial aid program for enrollment requirements.
- ☐ Enroll in an eligible major.
- ☐ Enroll in eligible courses. Some ineligible courses include GED, Health Unit Clerk and apprenticeship classes as well as those courses that apply to ineligible majors only. Financial aid does not pay for audited classes.
- ☐ Not have exceeded more than 30 credit hours of preparatory work.
- ☐ Have a high school diploma, GED or passing scores from an exam indicating ability to benefit from courses at TVI.
- ☐ Maintain satisfactory academic progress defined by federal regulations.
- ☐ Not be in default on any federal educational loans.
- ☐ Not owe a refund on a grant.
- ☐ Sign a statement of educational purpose, stating that the money will go toward educational purposes only.
- ☐ Sign, if male, a statement of registration with the Selective Service.

Students should refer to the TVI Student Financial Aid Guide for detailed information.

Awards

Congress limits Title IV funds each year; therefore, students who apply early are given priority. TVI's Financial Aid Office has established standard awards to provide funds for as many students as possible.

All awards are based on information provided by the student, on the availability of funds and on general eligibility requirements. Any award can be revised based on overawards, changes in enrollment, family contribution or failure to meet satisfactory academic progress. Withdrawals or reductions in enrollment may affect an award or any future awards. Regularly scheduled financial aid check releases for on-time applicants are based on enrollment on the 10th business day from the first scheduled day of instruction for the term. Later releases are based on current enrollment.

Grants

The Federal Pell Grant provides funds to undergraduate students without bachelor's degrees. Awards range between $400 and $2,700 per academic year, depending on a student's enrollment status, cost of attendance and family contribution.

Students who receive Federal Supplemental Educational Opportunity Grants (SEOG) must demonstrate financial need and the lowest expected family contribution.

State Student Incentive Grant (SSIG) recipients must demonstrate exceptional financial need, be New Mexico residents and be enrolled at least half time.

Eligible State Child Care Grant recipients must be New Mexico residents, enrolled at least half time, who have child care expenses.

Loans

Federal Subsidized and Unsubsidized Stafford Loans, Nursing Student Loans for Service and Federal Parent Loans for Undergraduate Students (PLUS) require separate applications. Before applying for a loan, a student must first complete the FAFSA. Loan applications are available from participating banks or at the Financial Aid Office at Main and Montoya campuses.

Students receiving a loan must be enrolled for six credit hours. Congress also establishes loan limits that may be prorated depending on a student's classification. All first-time borrowers must attend an entrance interview with a financial aid officer before loans are processed. Students who meet Subsidized Stafford Loan eligibility requirements may borrow up to $2,625 per year as first-year students and $3,500 per year as second-year students. Financial assistance is intended to supplement the contribution of the student and family—not replace it. However, Unsubsidized Stafford Loans and PLUS loans can replace the expected family contribution. Students may contact the Financial Aid Office for more information.

Work Study

Federal Work Study (FWS) and New Mexico Work Study are subsidized work programs. Work study jobs require separate applications, which are available after a student has completed a FAFSA. Available jobs are posted at Main and Montoya campuses. Work study students cannot work during regularly scheduled classes nor may they work more

than 40 hours per two-week period. Work study students are paid biweekly between $5.00 and $6.00 per hour, depending on the job. They must also carry six credit hours and maintain satisfactory academic progress while they are employed.

TVI also offers a Student Employment program for those enrolled in at least six credit hours. Further information is available at the Financial Aid Office at both Main and Montoya campuses.

Scholarships and Other Aid

There are state, institutional and federal scholarships. Amounts, deadlines and eligibility requirements vary. For more information, students should contact the Financial Aid Office.

Aid is also available through the Veterans Administration, the New Mexico Division of Vocational Rehabilitation and the Job Training Partnership Act. Students interested in obtaining aid from these organizations should contact the agencies or the Financial Aid Office.

Eligible TVI students with children between the ages of 3 and 5 may apply to Tres Manos Child Development Center for low-cost child care. Applications are available through the Financial Aid Office.

For further details regarding these or any other requirements, students may refer to the TVI Financial Aid Guide or contact the Financial Aid Office at Main or Montoya campus. Students interested in federal student aid must reapply for financial aid each academic year to maintain eligibility. Students are also required to notify the Financial Aid Office in writing regarding any changes in their financial or academic status while attending Albuquerque TVI.

Check Release

Financial aid checks may be picked up between 9:30 AM and 4:30 PM. Main Campus students go to the Cashier's Office in the Student Services Center; Montoya Campus students go to the Cashier's Office in Tom Wiley Hall. A valid picture ID must be presented. If a check is not picked up within 15 days of the release date, it may be canceled. Eligible students receive award letters through the mail, notifying them of scheduled check release dates. Checks are not released before the scheduled release date. Subsequent check releases are scheduled for students whose files were not complete by the regularly scheduled release dates. Non-compliance with federal regulations or TVI policy—such as unsatisfactory academic progress, insufficient enrollment or an ineligible major or class—will stop a check from being released.

Students who submit loan applications after the regular release date will receive their checks about six weeks after they submit the application. First-time borrowers, however, receive their first checks 30 days after the term begins. Also, Stafford loans may require two check releases within the same term. All loan recipients must have their loan check authorized for release by the Financial Aid Office before they can pick up their checks. To claim any amount due after charges have been paid, students must present a valid picture ID to the Cashiers Office.

Financial Aid Satisfactory Academic Progress

In order to receive financial aid, students must maintain satisfactory academic progress. Academic progress is checked at the end of each term. Students failing to meet qualitative or incremental requirements are placed on financial aid probation for the next term they attend. Students placed on financial aid probation may receive financial aid for that probationary term but will not receive a deferment for the next term they attend until grades are posted for the probationary term and satisfactory academic progress has been established. If a student fails to meet the requirements for two consecutive terms, the student will be suspended from receiving financial aid and is not eligible for a deferment. Students who meet or exceed the maximum allowable time frame at the time of review will be immediately suspended from receiving financial aid. Satisfactory Academic Progress requires meeting the following three criteria:

- ☐ Qualitative Progress: Students must maintain a minimum cumulative 2.0 grade point average.
- ☐ Incremental Progress: Students must complete a minimum of 70 percent of all attempted course work.
- ☐ Maximum Time Frame: Students must complete their program within 150 percent of the published program length.

All terms of attendance, including periods in which financial aid was not received, are included. If there are unusual circumstances, students suspended from financial aid may appeal. See the Financial Aid Guide or contact the Financial Aid Office for details.

Financial Aid recipients who intend to withdraw should do so by the 10th day of class. Withdrawals after the 10th day of class will be counted against recipients under the incremental progress and maximum time frame components of satisfactory academic progress.

Deferment Authorization

Students who sign the Deferment Authorization Agreement on the Financial Aid Questionnaire authorize TVI to charge their account for tuition, fees, bookstore expenditures and any other charges they incur. All charges are automatically deducted from financial aid. If financial aid is canceled for any reason or if it does not cover all charges, or if the charges are not deducted from their financial aid, students are responsible for paying in full any charges owed TVI. Students who fail to pay these charges by midterm of the term in which they were incurred may be dropped from their classes and have a hold placed on their registration and academic records. They must also pay all costs necessary for collections including legal costs and attorney fees plus interest on the balance at the statutory rate. Furthermore, students who do not authorize a deferment and do not pay their charges by the scheduled deadline may be dropped from their classes.

Students placed on financial aid probation may receive a deferment for that probationary term but will not receive a deferment for the next term they attend until grades are posted for the probationary term and satisfactory academic progress has been re-established. Students who are suspended are not eligible for deferments.

Refunds and Repayments

Refunds: TVI has a fair and equitable federal Title IV refund policy under which students or their parents can be refunded for a FPLUS loan, unearned tuition, fees, room and board and other charges for those periods of time the student did not register, withdrew or otherwise failed to complete a term.

Pro-Rata Refunds: Pro-rata refunds apply to students who received federal student aid, attended TVI for the first time and withdrew before they attended 60 percent of the enrollment period or term. The pro-rata refund is not less than that part of a student's tuition, fees, room and board and other charges equal to that portion of the student's enrollment period for which the student has been charged that remains on the student's last recorded day of attendance less any unpaid charges.

Other Refunds: All remaining refunds apply to federal aid recipients who do not meet the pro-rata refund definition. The Federal Refund Policy applies to all students who withdraw, not just to students who provide written notice of withdrawal. The policy mandates that the percentage of institutional charges* must be refunded. See the Financial Aid Guide for details.

Repayment of Cash Disbursements: If a student receives a federal cash disbursement for living expenses and withdraws from school, he or she must repay a portion of the amount received if the cash received is greater than the cost of living expenses at the time of withdrawal. See the Financial Aid Guide for details.

*When used in the Federal Refund Policy, the term "tuition charges" refers to all institutional charges.

ACADEMIC REGULATIONS

DEFINITION OF TERMS

Note: These regulations do not apply to students taking Adult Education classes. Additional information about academic regulations is contained in the Student Handbook.

Academic Year: The academic year is divided into three terms: fall, spring and summer.

Credit Hour: Credit in courses offered by TVI is awarded in terms of hours of credit hours. 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 1,875 minutes of instruction per term. For transfer purposes, one TVI credit hour generally equals one semester credit hour at other institutions.

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

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

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

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

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

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.

Students who miss the first three days of a scheduled occupational or Developmental Studies course may be dropped by the instructor. A student with excessive absences may be

dropped from a course. If a student is dropped from a course for non-attendance he or she is also dropped from corequisite courses. Students should not assume they will be dropped automatically.

A student who is dropped by an instructor for non-attendance is notified by mail. The instructor's decision is final, but if the student disagrees with the action he or she must contact the instructor within two working days of receipt of the notification.

Additional information about attendance is contained in the Health Occupations handbook and in individual course syllabi.

GRADES

Final grades are recorded on the student's TVI transcript and calculated in both a term grade point average (GPA) and a cumulative GPA. (See page 16 for information on the recording of course drops and withdrawals on the student's TVI transcript.)

The grades awarded in all courses represent the quality of work done. Their meaning in most courses is as follows:

- A Excellent; four points per credit hour.
- B Above average; three points per credit hour.
- C Average; two points per credit hour.
- D Below average; one point per credit hour.
- F Failure; zero points per credit hour.
- CR Credit; grade is equivalent of at least a grade of C but is not computed in the grade point average.
- NC No Credit; grade is not computed in the grade point average.
- PR In Progress; course work not completed; grade is not computed in the grade point average.
- AU Audit; recorded for completion of enrollment in an audited course; no credit is earned.
- I Incomplete; grade is not computed in the grade point average (see Incomplete Grade Assignment and Removal).
- W Withdrew; used for student, instructor and administrative withdrawals.
- TR Credit for transfer, non-traditional or examination; grade is not computed in the grade point average.

Grade Point Average

The grade point average (GPA) is computed by multiplying the number of credit hours of a course by the quality point value assigned to the letter grade: A=4, B=3, C=2, D=1, F=0. For example, a four-credit-hour course with a grade of A carries 16 quality points. Then the total number of quality points earned is divided by the total number of eligible credit hours attempted (GPA hours).

Grades of I, CR, PR, NC, W, AU and TR are not calculated in the GPA. Effective fall 1991, courses on the student's transcript or grade card which have an E in the repetition column are excluded from GPA calculation.

GRADE OPTIONS

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

Audit: Students may register in occupational or Arts & Sciences courses for audit if they have met the prerequisite(s) for the course. Students may not enroll in Adult & Developmental Education courses for audit.

Students who enroll for audit are expected to attend all class sessions but have no responsibilities for completing assignments.

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 verification and cannot be used to meet prerequisite or corequisite requirements.

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

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

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

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

Open-Entry, Open-Exit: Students may register for courses which have flexible entry and/or exit points with the open-entry, open-exit grading option. Depending on the course, the student may receive a traditional (A,B,C,D,F), credit/no credit (CR/NC) or an in progress (PR) grade.

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

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

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

Repeating Courses: A student may choose to repeat a course for a better grade. Each course enrollment and all grades will appear on the student's transcript. Only the higher grade will be used to calculate the GPA when letter grades (A,B,C,D,F) are recorded for both the original course and each course repetition. This policy applies to courses with identical course abbreviations and numbers, except topics, honors, internships and cooperative education courses. It does not affect any courses taken prior to fall 1991.

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

GRADE APPEALS

Students may formally appeal only final grades of NC or F.

Appeal to change an NC or F to W: Students who were unable to officially withdraw or drop a course due to circumstances beyond their control (for example, hospitalization or military service) may appeal in writing to the director of admissions and records. The appeal, along with supporting documentation, must be submitted by the end of the following term.

Appeal to change an NC or F to a better grade (using appeal forms available in department offices):

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 fourth week of the following term. The student and the instructor will hold an appeal conference to discuss the grade. If the matter is not satisfactorily resolved at this level, the student may appeal to the department dean.
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 who completed 12 or more credit hours with traditional grades during the term and who achieved a term GPA of 3.5 or higher.

Warning: A student whose cumulative GPA is between 1.75 and 1.99 in a given term will receive a warning. Notification of academic warning appears on the student's grade report at the end of each term.

Probation: A student whose cumulative GPA (based on at least 16 GPA credit hours attempted at TVI) falls below 1.75 in a given term will be placed on probation effective with the following term of enrollment. Students are continued on probation if they withdraw from TVI while on probation. Notification of academic probation appears on the student's grade report at the end of each term.

Note: Health Occupations programs may have specific requirements which affect a student's eligibility to continue in the program. Students should refer to the program handbook.

SUSPENSION

After two consecutive terms of probation a student will be suspended from TVI when both the term and cumulative GPA are below 1.75. The duration of the initial suspension is one term; for subsequent suspensions, one year. Notification of academic suspension appears on the student's grade report at the end of each term and in a notification letter sent to the student.

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

Suspension Appeals: A student who has been suspended may submit a written appeal, explaining the unusual circumstances justifying why he or she should be readmitted, to the director of Admissions and Records, who will approve or deny the appeal. If the director denies the appeal, the student may appeal in writing to the Student Academic Appeals Committee by filing the appeal with the director of Admissions and Records for transmittal to the committee. The student may present the case to the committee in person or ask that the written appeal be considered. If the committee decides to readmit a suspended student, his or her academic status will be probationary.

GRADUATION

TVI conducts one graduation ceremony each year at the end of the spring term. A student graduates in the term in which all graduation requirements are completed even if there is no graduation ceremony scheduled that term.

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

- ☐ an overall cumulative GPA of 2.0 or better;
- ☐ completion of the last term of course work in residence at TVI;
- ☐ enrollment in the major in which they plan to graduate (see page 16 for information on adding, changing and declaring majors);
- ☐ completion at TVI of at least one-quarter of the required program coursework and credit hours for a certificate and at least 15 credit hours of the required program coursework for a degree after the program becomes available;
- ☐ completion of all program and course requirements (occupational coursework which is at least ten years old must be validated by the instructional department in which the course was offered);
- ☐ demonstration of basic computer literacy skills (including practical computer operation, familiarity with keyboard functions and common word processing tasks) by passing CSCI 101, Computer Literacy, or its equivalent or a proficiency test available in TVI Testing Centers; and
- ☐ completion and submission of an Application for Graduation within two terms of last enrollment.

Note: A maximum of nine credit hours of CR may be counted toward certificates or

degrees in majors which allow the CR/NC option. Courses graded AU do not apply toward the graduation residence requirement.

All debts to TVI must be paid in full before graduation.

Application for Graduation: Students in degree or certificate programs must submit a Graduation Application Packet by midterm of the term in which all graduation requirements are completed.

Students requesting a certificate or degree in more than one major must submit an application for each major. Students completing more than one certificate or degree program may not wait until the final program has been completed to apply for graduation: Applications must be submitted as each program is completed; failure to do so may cause incremental certificates to be denied.

Students using transfer credit, examination credit and/or course waivers/substitutions to fulfill program requirements must have all credit established and all documentation on file in the TVI Records Office prior to submitting the graduation application.

On the Main Campus, application packets for vocational programs are available in instructional department offices; liberal arts packets are in the Advisement Center. At the Montoya, Rio Rancho and South Valley campuses, application packets are available in the Advisement/Counseling Offices.

Students who do not submit an application by the deadline must pay, in advance, a $20 late graduation processing fee for each application. No application will be processed after the tenth week of the term.

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. A student may choose to graduate under the catalog that was in effect when he or she officially entered the specific major or any subsequent catalog, provided that:

- ☐ the selected catalog is not more than five years old when the degree or certificate requirements are completed and the student has been in continuous enrollment; and
- ☐ the certificate/degree program does not have a specific requirement about choice of catalog.

Regardless of the catalog under which a student will graduate, pre- and corequisites must be met for each course at the time of registration. Those whose enrollment is discontinuous graduate under the catalog that is current upon their return.

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

Updating Occupational Certificates: A student who has received an occupational certificate may update his/her skills and earn a subsequent certificate in that program when:

- ☐ the previously earned certificate is ten years old or older, and
- ☐ 100% of the certificate coursework was completed within the past ten years; and
- ☐ the student has met all other graduation requirements as detailed in this section.

STUDENT ACADEMIC RECORDS

Official academic records are maintained by the Records Office. These records include, but are not limited to, the admissions application, high school and/or college transcripts, grades and academic standing.

TVI's policy for maintaining confidentiality of student academic records is in accordance with the Family Educational Rights and Privacy Act of 1974 (P.L. 93-380, 512). Copies of the Rights and Privacy Act are available for examination in the Records Office at the Main Campus and the Admissions Offices at the Montoya, Rio Rancho and South Valley campuses.

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

- ☐ TVI officials who have a legitimate educational interest in the records;
- ☐ officials of another school in which a student seeks to enroll, intends to enroll or is enrolled
- ☐ officials of the U.S. Department of Education, the Comptroller General, and state and local educational authorities;
- ☐ organizations providing the student's financial aid or determining financial aid decisions concerning eligibility, amount, condition and enforcement of terms of said aid;
- ☐ state and local officials or authorities if required by a state law
- ☐ organizations conducting certain studies for or on behalf of the Institute
- ☐ accrediting institutions
- ☐ parents or legal guardians of a dependent student under the age of 18, as defined in the Section 152 of the Internal Revenue Code
- ☐ individuals serving a judicial order or a lawfully issued subpoena, provided that a reasonable effort is made to notify the student prior to compliance
- ☐ honor societies and other chartered student organizations for determining membership
- ☐ any person with the written consent of the student or the parent or legal guardian of students under 18
- ☐ appropriate parties in a health or safety emergency

Public Directory Information: TVI has defined public directory information as:

- ☐ student's name
- ☐ major field of study
- ☐ classification
- ☐ dates of attendance
- ☐ awards and honors
- ☐ 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 in the Records Office.

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 the Records Office man-

ager or registrar. If such informal meetings are not satisfactory, the student has the right to a formal hearing before an appeals committee.

Release of Transcripts: Unofficial TVI transcripts are available from the "Touch TVI" kiosks at all campuses and from the Records Office at Main Campus. Official TVI transcripts are available from the Records Office and from the Admissions Offices at the Montoya, Rio Rancho and South Valley campuses. Students may request up to five official TVI transcripts, free of charge, per academic year. Additional transcripts cost $1 each. No transcript is issued until all institutional obligations are paid.

Transcripts from other institutions received by TVI are not copied or returned to students.

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 Offices at the Montoya, Rio Rancho or South Valley campuses. Examples of such documentation are: marriage certificate, birth certificate, driver's license, original social security card or court order for legal name change.

Change of Address: The student is expected to keep TVI informed of his or her current address. Address changes are processed only for currently enrolled students. Changes must be reported in writing to the Records Office on the Main Campus or the Admissions offices at the Montoya, Rio Rancho or South Valley campuses.

Student Right to Know and Campus Security Act: Student retention and completion data are available from TVI's Institutional Planning and Research Office. Campus security statistics and job placement reports are published annually in the Student Handbook.

STUDENT SERVICES

Students—prospective, new, continuing and former—are provided with a wide range of services at TVI. The following services are available at all four campuses:

- ☐ admission and registration information;
- ☐ new and continuing student orientation;
- ☐ academic advisement; and
- ☐ services or referrals for counseling, financial aid and testing.

Services at the Main and Montoya campuses include support for students with disabilities, financial aid, testing, career planning, job placement and (at Main only) health and fitness care.

Some services are available by appointment. The hub of TVI student services is the Student Services Center at 900 University Boulevard SE. At the Joseph M. Montoya Campus, services are available in Tom Wiley Hall and in H Building. Students may call the TVI admissions information line, 224-3160, for directions to Main and Montoya services. Student Services at Rio Rancho may be reached by calling 892-7113; the number at South Valley Campus is 224-5000.

Details about student services, as well as academic and conduct regulations, campus maps, a glossary of college terms and tips for student success, are published in the TVI Student Handbook, which is distributed free at all campuses. "Touch TVI" kiosks at all campuses offer self-service information and access to TVI's home page and students' files.

ADMISSIONS AND ADVISEMENT

Applications for admission to the Institute are accepted at all campuses. Professional advisors and staff in the Advisement Center in the Student Services Center provide:

- ☐ information about TVI programs and requirements;
- ☐ directions to campus and community services;
- ☐ help with decisions about academic goals;
- ☐ information about other New Mexico schools; and
- ☐ information about transfers, testing, pre- and corequisites, majors, residency, graduation and concurrent enrollment.

PERSONAL AND CAREER DEVELOPMENT COUNSELING

TVI's Counseling Center in the Student Services Center is staffed by professional licensed counselors, a Native American advisor and support staff who provide career, educational and personal counseling; workshops and special-interest groups; information for those preparing for the GED test; and crisis intervention. The center's Career Resource Room has books, videos, Internet access and other research tools for students.

SPECIAL SERVICES

Special Services assists students with physical, mental, learning, visual, speech or hearing disabilities. Career counseling, program planning, classroom accommodations, adaptive equipment, coordination with community support agencies and specialized learning plans are available. For students enrolled in developmental, certificate and associate degree courses, limited curriculum adjustments can be made to accommodate disabling conditions. Follow-up services such as counseling and job-seeking help are also provided.

TESTING SERVICES

TVI's Testing Centers, in the Student Services Center at Main Campus and Wiley Hall at Montoya Campus, offer a variety of tests, most of them free of charge. Study guides for most exams are available in the Testing Centers and in Admissions offices. Testing accommodations for individuals with disabilities are available upon request; documentation and prior notice are required.

Among the examinations administered at TVI are Accuplacer math, reading and English tests; computer literacy tests; the Healthcare Technician program entry exam; the Nursing Basic Math Test and Nursing Mobility Profile; the Spanish placement exam and typing tests.

The American College Test assessment tests for placement are not offered at TVI. Students wishing to take the tests must register for a national test date; information and registration packets are available in the Testing Centers. TVI accepts ACT scores from all students for placement in certain courses. TVI also honors SAT, AP and CLEP scores but does not administer these exams; for further information students may contact the Testing Centers.

GED EXAM

Anyone at least 17 years old who is not enrolled in high school may take the General Educational Development (GED) exam at TVI to earn a high school diploma. The exam contains sections on writing, reading, science, social studies and math. Effective July 1, 1997, a $10 fee is charged for the GED test.

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.

The Department of Adult & Developmental Education offers both a pre-test to determine readiness for the exam and free GED preparatory classes (see page 39).

STUDENT JOB PLACEMENT

Student Job Placement provides a variety of job search services, including job listings, a job hotline (224-3061), resumé assistance, mock interviews, on-campus interviews with employers, job market information, job fairs and workshops, videos and personalized assistance. Services vary according to eligibility.

For information concerning student internships and cooperative education courses, students may contact the Business Occupations, Technologies and Trades & Service Occupations departments.

HEALTH CARE

The Health Center, located in the Student Services Center on Main Campus, is open weekdays from 8 AM to 5 PM. First aid and basic primary care services are offered. Services are free except for complete physical exams and some immunizations. Details about private-provider student health insurance are available at the Student Activities Office in the Student Services Center at Main Campus and in Wiley Hall on the Montoya Campus.

CAMPUS LIFE

Albuquerque TVI offers its students a number of activities which are meant to enrich life on campus and to provide for a well-rounded education. Lists of activities and services are published in the Student Handbook.

Child care: TVI maintains affiliation with Tres Manos Child Development Center, 823 Buena Vista SE on the south side of Main Campus, to provide daytime care for children of low-income students. Neighborhood residents may also use Tres Manos. Cost of services is on a sliding scale and preference is given to single parents. (Also see pages 21 and 22.) The Family Education Project at Tres Manos also offers home visits, support groups, parent training, referrals, hot lunches, a lending library and classes in basic skills.

Parking: Parking stickers, required for parking in all TVI lots, are available free at the information counter in the Admissions Office at Main and Montoya and in the administrative offices at Rio Rancho and South Valley campuses. At Main Campus, parking permits may be purchased for the lot east of the Student Services Center. Parking violations may result in disciplinary action against car owners. Cars parked in fire lanes and in spaces reserved for the handicapped are subject to towing.

TVI students and employees may purchase parking permits for the University of New Mexico south lot on Stadium Boulevard. A shuttle bus stops at the Main Campus.

ACADEMIC SUPPORT SERVICES

These services are available free to students and, in some cases, to the public. Libraries and other facilities are generally open weekdays and, when classes are in session, evenings and Saturdays. Hours are listed in the Student Handbook.

Libraries: The libraries at the Main and Montoya campuses offer books, maps, pamphlets, newspapers, magazines, encyclopedias and dictionaries, as well as computerized information retrieval systems. Special collections are maintained in all TVI 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 in Jeannette Stromberg Hall; the Montoya Campus Library is in J Building.

Instructional Media Resources: This office maintains TVI's film and videotape collections and all audiovisual equipment. Materials are available for classroom and individual viewing. Instruction in the operation of AV equipment is available to students and staff. Other services include educational film location, preview arrangements and assistance in the design, preparation and application of audiovisual materials. The Main Campus office is in Stromberg Hall; a satellite office is in Salazar Hall. At Montoya, it is in K Building.

ASSISTANCE CENTERS FOR EDUCATION

Tutorial/Learning Centers: The T/LCs provide all TVI students with free individual tutoring services on a walk-in basis. Subjects covered are math, English, chemistry, physics and biology. Vocational tutors are available for Technologies (including computer programming), Health Occupations and accounting courses. The centers also offer audio and video tapes which support TVI's instructional programs as well as handouts for self-study. Self-paced programs are available in computer use, academic skills improvement and test preparation. Each center has computers for student and public use. The T/LCs are accredited by the College Reading and Learning Association. The Main Campus T/LC is in Stromberg Hall. At Montoya, the T/LC is in H Building.

Adult Education Learning Centers: The centers provide individualized instruction and independent study in reading, math, writing and English as a second language. A variety of instructional resources is available, such as audio cassette tapes, video tapes, textbooks and software. Instruction is provided on an open-entry basis by tutors. The Main Campus center is in Stromberg Hall. The Montoya center is in H Building.

Math Applications Learning Lab: The Adult & Developmental Education Department offers extra assistance in the Math Applications Learning Lab. For the many students who learn by doing, this lab provides the hands-on practice needed to understand principles and formulas commonly used in basic math and algebra classes. At Main Campus the lab is in the Prep Building. At Montoya the lab is in J Building.

Writing and Reading Assistance Center: Adult & Developmental Education students have access to one-on-one and small-group help with writing and reading projects in the WRAC. This help includes instruction in pre-writing techniques, outlining strategies, essay organization, summary writing, grammar, vocabulary building, reading comprehension, test preparation, study skills and other concepts covered in reading and writing courses. Resource materials and computers with writing and reading software are also available. This lab is located in the Prep Building on the Main Campus. At Montoya, the WRAC is in J Building.

Developmental Studies Math Tutoring: Instructional technicians provide one-to-one and small-group instruction to Developmental Studies students at both campuses. The math tutoring centers also offer weekly small-group workshops, computer-aided instruction, a resource library and a lending library of math videos and calculators. At Main Campus the center is in the P Building; at Montoya it is in J Building.

(Also see Business Occupations Learning Centers, page 75.)

ADULT & DEVELOPMENTAL EDUCATION

The Department of Adult & Developmental Education offers three kinds of instruction: non-credit courses in adult education, credit courses in developmental studies and learning assistance services. Descriptions for each of these are listed below. Students who wish additional information may call 224-3939.

ADULT EDUCATION

NON-CREDIT EDUCATIONAL COURSES

Our goal in Adult Education at TVI is to help students identify and achieve basic educational goals. To do that, we offer non-credit courses in basic reading, math and writing, English as a second language and job/life skills. These courses may help students prepare for higher education, job advancement or personal fulfillment.

Se Habla Español. Nuestro objetivo en el programa de Educación Para Adultos en TVI es ayudar a los estudiantes a identificar y realizar sus metas educacionales básicas. Para cumplir con ello, ofrecemos cursos, sin crédito, en Inglés como segunda idioma (ESL), cursos que tratan las destrezas académicas fundamentales, así también como el mundo del trabajo y de la vida cotidiana. Todas estas clases podrán conducir al estudiante hacia más educación, avence en el trabajo y/o realización personal.

Chúng tôi có nhân viên nói tiếng Việt

Mục tiêu của chúng tôi trong chương trình Giáo Dục Dành Cho Người Lớn ở trường TVI là giúp học viên xác định mục tiêu và đạt được kết quả tốt trong việc học vấn. Để thực hiện điều đó, chúng tôi mở các lớp học Ngoại Ngữ Tiếng Anh (ESL), các lớp căn bản, và rèn luyện kỹ năng, nhằm giúp học viên có cơ hội phát triển học vấn, thăng tiến nghề nghiệp, và đạt nhiều thành quả khác.

LOCATIONS

Adult Education classes are offered during the day and in the evening at each of the TVI campuses as well as at many sites throughout Bernalillo County:

TVI Campuses
TVI Main Campus: 901 Buena Vista SE
TVI Montoya Campus: 4700 Morris NE
TVI Rio Rancho Campus: State Road 528 and Sara Road
TVI South Valley Campus: 5816 Isleta SW

Southeast Sites
East Central Multi-Service Center: 7525 Zuni SE
Eugene Field Elementary School: 700 Edith Blvd. SE
Families in Partnership: 2200 University SE
Heights Community Center: 8203 Buena Vista SE
John Marshall Multi-Service Center: 1500 Walter SE
Kirtland Elementary School: 3530 Gibson SE
La Mesa Elementary: 7500 Copper Ave. NE
Loma Linda Community Center: 1700 Yale SE
Mesa Verde Community Center: 7900 Marquette NE
Mountain View Community Center: 4375 Williams SE
South Broadway Cultural Center: 1025 Broadway SE
Van Buren Middle School: 700 Louisiana Blvd. SE

Southwest Sites
Adobe Acres Elementary School: 1724 Camino del Valle SW
Alamosa Elementary School: 6500 Sunset Gardens Road SW
Armijo Elementary School: 1440 Gatewood Ave. SW
Isleta Pueblo Community Center: Tribal Rd. 60, Bldg. 16 (869-2597)
Kit Carson Elementary School: 1920 Byron Road SW
Los Padillas Community Center: 2117 Los Padillas Rd. SW
Valle Vista Elementary School: 1700 Mae Avenue SW

North Sites
Alameda Community Center: 9800 Fourth NW
Cox Estates: 4528 Carlisle NE
Del Norte High School: 5323 Montgomery NE
Los Vecinos Community Center: Old Highway 66, Tijeras Canyon
Los Griegos Family and Community Services Center: 1231 Candelaria NW
Tomasita Elementary School: 701 Tomasita NE

West Sites
Paradise Hills Community Center: 5901 Paradise Blvd. NW
Truman Middle School: 9400 Benavides SW
West Gate Community Center: 1400 Snow Vista Blvd. SW
West Mesa Community Center: 5500 Glenrio Road NW
West Mesa High School: 6701 Fortuna Road NW

Placebound/Downtown Sites
Bernalillo County Detention Center
Dolores Gonzales Elementary School: 900 Atlantic SW
Juvenile Detention Center
La Pasada Halfway House
Wells Park Community Center: 500 Rosemont Ave NW

Registration. Anyone interested in registering for an Adult Education course may do so in person at any of the TVI campuses or community sites where courses are offered.

Costs. Classes and textbooks are provided free to students.

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 class after four consecutive absences. Students who have missed or dropped classes are encouraged to go to the Adult Education Learning Centers at the Main and Montoya campuses to continue their studies.

Standards of Progress. Each student receives a certificate that indicates the total number of hours he or she attended in each course. No letter grades are given.

Classes. Course offerings reflect the needs of the community and may change from term to term. Generally, the Adult Education program offers courses in three areas of study: basic skills, English as a second language and job/life skills. Some courses are offered in full-term format, and others are offered in a shorter format. Courses are full term unless otherwise noted.

ADULT EDUCATION BASIC SKILLS COURSES

The Adult Education program offers a range of classes in reading, mathematics and writing. For example, adults who have had very little experience with reading and mathematics will find classes such as BSK 040, Basic Language Skills I, and BSK 060, Math Fundamentals, helpful. Adults who have some skill with reading, writing and math but do not yet have their high school equivalency diploma will find assistance in courses like BSK 051, Reading in Literature and the Arts, BSK 063, Basic Geometry, Measurement and Algebra Topics, and BSK 073, Essay Writing.

All the Basic Skills classes offered by Adult Education are listed below. Information is available at any TVI campus and at any off-campus site where Adult Education classes are offered.

BSK 040	Basic Language Skills I
BSK 041	Basic Language Skills II
BSK 042	Basic Language Skills III
BSK 050	Basic Skills Reading
BSK 051	Reading in Literature and the Arts (half term)
BSK 052	Reading in Social Studies (half term)
BSK 053	Reading in Science (half term)
BSK 060	Math Fundamentals
BSK 061	Whole Numbers, Decimals and Fractions (half term)
BSK 062	Ratios and Proportions, Percents and Understanding/Interpreting Data (half term)
BSK 063	Basic Geometry, Measurement and Algebra Topics (half term)
BSK 070	General Composition
BSK 071	Spelling and Grammar
BSK 072	Sentence and Paragraph Writing (half term)
BSK 073	Essay Writing (half term)
BSK 081	Basic Skills Integrated
BSK 082	BSK Special Topics: Spanish GED

Note: Students may also study on an individual basis any basics skills subject at the Main Campus or Montoya Campus Adult Education Learning Centers.

ADULT EDUCATION ENGLISH AS A SECOND LANGUAGE COURSES

The TVI Adult Education Program also offers a wide range of classes for people for whom English is a second language—from Beginning ESL for adults who speak little or no English to Transition ESL for those students with a solid command of the English language who are looking to transition into a community college credit curriculum.

The ESL classes offered by Adult Education are listed below. Information is available at any TVI campus and at any off-campus site where Adult Education classes are offered.

ESL 040	ESL Literacy
ESL 050	Beginning ESL, Level I
ESL 051	Beginning ESL, Level II
ESL 060	Intermediate ESL
ESL 070	Advanced ESL
ESL 071	Transition ESL
ESL 081	ESL Integrated
ESL 082	ESL Special Topics: ESL through Theater or Film
ESL 082	ESL Special Topics: Citizenship

Note: Students may also study on an individual basis any ESL subject at the Main Campus or Montoya Campus Adult Education Learning Centers.

ADULT EDUCATION JOB/LIFE SKILLS COURSES

The job/life skills courses offered by the Adult Education program are primarily intended to provide adults with training that will make them more effective both at home and in the workplace. These classes include skills such as time management, resume writing, and computer skills.

The job/life skills classes offered by Adult Education are listed below. More information can be picked up at any TVI campus and at any off-campus site where Adult Education classes are offered.

JLS 040	Job/Life Skills
JLS 041	Computer Literacy for Adult Education

Note: Students may also study on an individual basis any job/life skills subject at the Main Campus or Montoya Campus Adult Education Learning Centers.

DEVELOPMENTAL STUDIES

CREDIT COLLEGE-PREPARATORY COURSES

There are many reasons why students are not ready for college-level studies. Some did not enroll in the right courses in high school; others once had the skills but now need to brush up; and some students' lives were full of responsibilities, circumstances or priorities that made it difficult for them to be successful.

Faculty and staff in TVI Developmental Studies work with students to develop the basic academic, study and life skills necessary for college success, whether those students choose to follow a liberal arts or a vocational path. Credit courses in reading, writing, math and science are offered as are introductory courses to some vocational programs. The department also offers credit courses to help students develop useful strategies and skills such as time management, stress management, calculator use and test preparation. Students are placed in the appropriate courses based on their needs, interests, academic abilities and test scores.

Developmental Studies courses are graded CR (credit) and NC (no credit). This helps students build their skills without the added pressure of the traditional grading system (A,B,C,D,F). While credit from Developmental Studies courses is not transferable to other degree-granting institutions, these courses typically help students meet admissions requirements and program prerequisites.

Eligible students may receive financial aid for up to 30 credit hours in Developmental Studies courses. Students using veterans' benefits should check with VA certification advisors (in the Financial Aid Office) as some Developmental Studies courses are not eligible for benefits.

ENGLISH

ENG 096 Special Topics 1–3 credit hours
Presents various topics in developmental English (see descriptions at end of Developmental Studies section).

ENG 098 Basic Writing and Reading Skills 3 credit hours
(Prerequisite: appropriate placement exam score) Focuses on reading and writing in everyday life. Students practice study-read strategies, write paragraph-length compositions, pay special attention to the construction of powerful sentences and review English grammar, usage and punctuation. (3 theory hours + 2 lab hour a week)

ENG 099 Practical Writing 3 credit hours
(Prerequisite: ENG 098, ESL 098 or equivalent skills as demonstrated by exam) Provides the opportunity to focus on writing tasks related to daily life, school and the workplace. Student writers polish skills in writing effective paragraphs and review English grammar, usage and punctuation. (3 theory hours + 1 lab hour a week)

ENG 100 Writing the Academic Essay 3 credit hours
(Prerequisite: ENG 099, ESL 099 or equivalent skills as demonstrated by exam) Presents ways to organize, support logically, revise, and edit effective academic essays. Students review English grammar, usage and punctuation. Satisfactory completion of ENG 100 meets prerequisite for ENG 101. (3 theory hours + 1 lab hour a week)

ENGLISH AS A SECOND LANGUAGE

ESL 096 Special Topics 1–3 credit hours
Presents various topics for students learning English as a second language (See descriptions at end of Developmental Studies section).

ESL 098 Basic Writing and Reading for ESL Students 3 credit hours
(Prerequisite: appropriate placement exam score) For students for whom American English is a second language. Covers same reading and writing tasks as its equivalent, ENG 098. Encourages students to use common English phrases and to recognize and edit grammatical errors often made by non-native speakers. (3 theory hours + 2 lab hour a week)

ESL 099 Practical Writing for ESL Students 3 credit hours
(Prerequisite: ENG 098, ESL 098 or equivalent skills as demonstrated by exam; corequisite: RDG 099) Course for students for whom American English is a second language. Covers same writing tasks as its equivalent, ENG 099. Provides opportunities to correctly use common English phrases and to recognize and edit grammatical errors often made by non-native speakers. (3 theory hours + 1 lab hour a week)

ESL 100 Writing the Academic Essay for ESL Students 3 credit hours
(Prerequisite: ENG 099, ESL 099 or equivalent skills as demonstrated by exam; corequisite: RDG 100) Course for students for whom American English is a second language. Course

covers same writing tasks as its equivalent, ENG 100. Encourages students to use common English phrases and to recognize and edit grammatical errors often made by non-native speakers. Satisfactory completion of ENG 100 meets the prerequisite for ENG 101. (3 theory hours + 1 lab hour a week)

MATHEMATICS

MATH 096 Special Topics **1–3 credit hours**
Presents various topics in developmental math.

MATH 097 Introductory Mathematics **6 credit hours**
Provides individualized and small-group instruction in basic mathematics. Topics include whole numbers, fractions, decimals, percents and ratios and proportion. Course satisfies prerequisite for MATH 099. (5 theory hours + 3 lab hours a week)

MATH 099 Basic College Mathematics **3 credit hours**
(Prerequisite: MATH 097 or appropriate placement exam score) Integrates topics from basic mathematics, geometry and algebra. Helps prepare students to enter programs in Business Occupations, Technologies, Trades & Service Occupations, Health Occupations or MATH 100A. (3 theory hours + 1 lab hour a week)

MATH 099H Basic Math for Health Occupations **3 credit hours**
(Prerequisite: MATH 097 or appropriate placement exam score) Covers material necessary for the Nursing/Medical Laboratory Technician basic math test. Topics include basic arithmetic, the metric system and other measuring systems. Meets prerequisite requirement for MATH 100A. (3 theory hours a week)

MATH 100A Algebraic Problem Solving I **3 credit hours**
(Prerequisite: MATH 099 or equivalent skills as demonstrated by exam) First of a two-course series in elementary algebra. Topics include signed numbers, solving linear equations, formulas, graphing, solving systems of equations and applications. Course satisfies prerequisite for MATH 100B, MATH 111 and MATH 119. (3 theory hours + 1 lab hour a week)

MATH 100B Algebraic Problem Solving II **3 credit hours**
(Prerequisite: MATH 100A or equivalent skills as demonstrated by exam) Second of a two-course series in elementary algebra. Topics include exponents and polynomials, rational expressions, factoring, roots and radicals, and quadratics. Course satisfies prerequisite for MATH 120 and is recommended for MATH 111. (3 theory hours + 1 lab hour a week)

MATH 100 Algebraic Problem Solving **3 credit hours**
(Prerequisite: appropriate placement exam score) Course covers same material as MATH 100A and MATH 100B at a fast pace. A one-term course designed for students with demonstrated ability in basic algebra. Satisfies prerequisite for MATH 111, MATH 119 and MATH 120. (3 theory hours + 1 lab hour a week)

READING

RDG 096 Special Topics **1–3 credit hours**
Presents various topics for reading instruction.

ENG 098 Basic Writing and Reading Skills **3 credit hours**
(Prerequisite: appropriate placement exam score) Focuses on reading and writing in everyday life. Students practice study-read strategies, write paragraph-length compositions, pay special attention to the construction of powerful sentences and review English grammar, usage and punctuation. (3 theory hours + 2 lab hour a week)

RDG 099 Reading for the Workplace **3 credit hours**
(Prerequisite: ENG 098 or equivalent skills) Introduces reading required for success in occupational majors and the workplace. Students work on comprehending and applying critical thinking to occupational and workplace literature. (3 theory hours + 1 hour lab a week)

RDG 100 Reading and Critical Thinking **3 credit hours**
(Prerequisite: RDG 099 or equivalent skills) Introduces reading required for success in college. Students work on comprehension, problem solving, note-taking, summarizing and computer-assisted research skills. (3 theory hours + 1 lab hour a week)

SCIENCE

SCIE 096 Special Topics **1–3 credit hours**
Presents various topics in developmental science.

BIO 100 Introduction to Biology **3 credit hours**
(Prerequisite: MATH 099 and RDG 099 or equivalent skills) Explores basic concepts through taxonomy, anatomy, cells and tissues, and genetics while developing a sense of scale, microscope skill, observation and diagramming. Course complements but does not replace CHEM 100. Course fee: $10. (3 theory hours + 1 lab hour a week)

CHEM 100 Basics of Chemistry **3 credit hours**
(Recommended pre- or corequisite: MATH 100A or equivalent) For students who did not take high-school chemistry, course provides essential background for next level success, in particular BIO 123, BIO 136 and CHEM 111. Includes applied math skills, reading and science study habits. (3 theory hours + 1 lab hour a week)

OCCUPATIONAL SUPPORT COURSES

OCC 096 Special Topics **1–3 credit hours**
Presents various occupational topics (see description at end of Developmental Studies section).

ACCT 100 Introduction to Accounting 3 credit hours
Designed to provide students with information about basic accounting cycle. Additional topics such as payroll and taxes covered as time permits. Class helps students prepare for entry-level accounting-related courses. (3 theory hours + 1 lab hour a week)

BA 100 Business Careers/Technology Awareness 3 credit hours
Explores various business careers and business technologies. Emphasis on developing listening, speaking and employability skills. Course recommended for students interested in business studies. (3 theory hours + 1 lab hour a week)

CP 100 Introduction to Computer Programming 3 credit hours
(Prerequisite: MATH 099) Course provides preparation for first-term Computing Technology and gives overview of computer systems. Includes flow-charting, logic, data processing concepts and programming in QBASIC. Provides preparation for entry-level programming courses. (3 theory hours + 1 lab hour a week)

CSCI 100 Basic Keyboarding/Computer Skills 3 credit hours
Keyboarding emphasized as well as computer concepts and basic word processing. Course recommended for beginning keyboarding students. (3 theory hours + 1 lab hour a week)

DRFT 100 Introduction to Drafting 3 credit hours
Introduces concepts of drafting, including line weights, orthographic projections, dimensioning, pictorials and applied drafting skills. Free-hand sketching, geometric constructions, lettering, drafting math and occupational information are also presented. Course helps students prepare for Architectural/Engineering Drafting Technology, Construction Technology, Design Drafting Engineering Technology and related programs. (3 theory hours + 1 lab hour a week)

ELEC 100 Introduction to Electronics for Technologies/Trades 3 credit hours
Includes Ohm's, Kirchoff's and Power laws; circuit analysis; magnetism and generators. Additional topics such as motors, inductance and capacitance covered as time permits. Reasoning skills and applied mathematics emphasized. Course recommended for Trades majors that require principles of electricity. (3 theory hours + 1 lab hour a week)

HLTH 100 Introduction to Health Occupations 3 credit hours
Explores various medical careers and an introduction to medical terminology and selected body systems. Course concepts integrated with the study of anatomy, physiology and pathophysiology. (3 theory hours + 1 lab hour a week)

SKILLS IMPROVEMENT COURSES

SSKL 092 Introduction to the Scientific Calculator (half term) 1 credit hour
Students introduced to functions on the calculator keyboard. Includes statistics, programming and graphing functions. Course useful for math, science and Technologies courses. Calculators provided. Course fee: $5. (2 theory hours + 1 lab hour a week)

SSKL 094 Reducing Math Anxiety (half term) 1 credit hour
Offers students a chance to gain understanding of math anxiety and modify related behaviors through the use of group discussion, journal entries and math study skills. (2 theory hours a week)

SSKL 095 Study Skills (half term) 1 credit hour
Students identify and apply a variety of study skills by completing an inventory and implementing time-management strategies. Methods presented for taking effective notes, using memory techniques, test taking strategies and setting realistic goals. (2 theory hours a week)

SSKL 096 Special Topics 1–3 credit hours
Presents various topics in study skills (see descriptions at end of Developmental Studies section.)

SSKL 100 Student Success 2 credit hours
Course provides students with theory and practice in learning how to learn. Students determine strengths and weaknesses, and develop and implement plans to improve skills. Topics include study reading, test taking and time management. (2 theory hours a week)

SPECIAL TOPICS COURSES

A variety of courses are offered under special topics. In Developmental Studies, some topics courses are offered regularly; others are offered only occasionally. Students should check the Schedule of Classes each term. Listed below are topics courses regularly offered.

ENG 096 Spelling Strategies (half term) 1 credit hour
Focuses on essential spelling skills. Includes faulty pronunciation, consonant and vowel spellings, dictionary use, proofreading and spelling rules. May be taken concurrently with other English or ESL courses. (2 theory hours + 1 lab hour a week)

ENG 096A Intensive English Grammar: Sentence Combining 1 credit hour (half term)
For students who would like to add style and variety to their sentences. Students have opportunities to apply grammar concepts to their own writing. Includes sentence fragments, run-on sentences, coordination and subordination, and punctuation. May be taken concurrently with other English or ESL courses. (2 theory hours + 1 lab hour a week)

ENG 096B Intensive English Grammar: Sentence Effectiveness 1 credit hour (half term)
For students struggling with English grammar who would like to focus on writing effective sentences. Attention paid to sentence revision and applying grammatical principles to writing. Includes sentence coordination and subordination, punctuation, subject-verb agreement, pronoun usage and modifier usage. May be taken concurrently with other English or ESL courses. (2 theory hours + 1 lab hour a week)

ESL 096 **Conversations in English as a Second Language** **1 credit hour (half term)**

For students who would like practice in reading and expressing themselves verbally in English. Focuses on identifying main and supporting ideas from reading selections and communicating those ideas in a small-group setting. Class members choose topics to explore; topics typically include American culture and customs, current events and social issues. May be taken concurrently with other ESL courses. (2 theory hours + 1 lab hour a week)

OCC 096 **Basic Computer Literacy (one-third term)** **1 credit hour**

Provides students with opportunity to develop beginning computer literacy skills. Includes keyboarding and mouse usage, common word processing tasks and understanding computer system components. Introduces students to computer concepts used in many Adult & Developmental Education courses. (1 theory hour + 1 lab hour a week)

SSKL 096 **Individual Learning Skills (self-paced)** **1 credit hour**

Through diagnostic testing and/or self-analysis students identify individual learning skills for improvement. Topics include vocabulary building, writing improvement and time management. Students complete a minimum of 15 hours of course work in the Writing and Reading Assistance Center (WRAC). Students must be enrolled in other courses. (1 theory hour a week)

ASSISTANCE CENTERS FOR EDUCATION (ACE)

ACE is an organization of learning assistance centers which provide instructional support to students in pursuit of their educational goals. The Assistance Centers for Education include Tutorial/Learning Centers, Adult Education Learning Centers and the Developmental Studies Learning Assistance Programs which include math tutoring, the Writing Reading Assistance Centers and the Math Applications Learning Labs. These centers are described in detail on page 36. Each center within ACE has a different academic focus but all operate as open-entry, open-exit programs providing one-on-one and group tutoring. Also available are self-paced video and computer-aided instructional programs. All services are free.

ARTS & SCIENCES

Arts & Sciences provides liberal arts courses to support vocational degree and certificate programs and offers the associate of arts in liberal arts degree. All courses are transferable to other degree-granting institutions as freshman and sophomore electives or requirements. All courses in Arts & Sciences have tuition charges. In addition, science, computer science and art courses have course fees (see course descriptions).

GENERAL HONORS PROGRAM

Offering intensive interdisciplinary study, the General Honors Program increases opportunities for liberal arts education. Taught in a small-group seminar format, Honors courses emphasize discussion, student participation and self-expression. Students interested in these courses must have completed nine hours in Arts & Sciences, have a 3.2 or higher cumulative GPA and have received a B or better in ENG 101. For information and registration, interested students should see an advisor.

LIBERAL ARTS

The associate of arts in liberal arts degree is designed to meet diverse educational interests. The degree provides the general curriculum of the first two years of baccalaureate study for transfer purposes or as an end in itself. This degree includes a general education curriculum of 35 credit hours accepted by New Mexico's colleges and universities as the general education core for degree completion.

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

COURSE SELECTION

Students seeking TVI associate degrees in fields other than liberal arts should consult individual program requirements for liberal arts courses. Course prefixes for each discipline are listed below.

Courses numbered 101 or above are considered college freshman level work; courses numbered 200 and above are sophomore level and may require substantial reading, writing

and research skills in addition to the prerequisites. Students should observe prerequisites: see page 14.

If a student wishes to audit either a lecture or laboratory, the corequisite lecture or laboratory must also be taken for audit.

Students should consult an academic advisor for help with course selections.

ASSOCIATE OF ARTS IN LIBERAL ARTS

Discipline	Course Prefix	Credit Hours
Communications		
English	ENG (writing): 101, 102, 119, 212, 219, 220, 221, 222	
Journalism	JOUR	
Must include ENG 102		6
Communication Studies	COMM 221 or 130	3
Computer Science	CSCI	
CSCI 101		3–4
Social and Behavioral Sciences		
Anthropology	ANTH	
Economics	ECON	
Geography	GEOG	
Political Science	PSCI	
Psychology	PSY	
Sociology	SOC	
Must include at least two disciplines		9
Biological and Physical Sciences		
Astronomy	ASTR	
Biology	BIO	
Chemistry	CHEM	
Physics	PHYS	
Must include one lab course		7–8
Humanities		
Cultural Studies	CST	
History	HIST	
Humanities	HUM	
Literature	ENG (literature)	
Philosophy	PHIL	
Religious Studies	RLGN	
Must include at least two disciplines		9

Mathematics MATH

One course numbered above 120 (Except MATH 215) 3

Fine Arts and Foreign Languages

Art	ART
Music	MUS
French	FREN
Spanish	SPAN
Theater	THEA

Must include at least two disciplines.

(No more than three credit hours of applied or studio arts allowed.) 9

Electives

Any Arts & Sciences course, including General Honors

(No more than one credit hour of physical education allowed.) 13–15

Total 64

ANTH 110 Language, Culture and the Human Animal 3 credit hours

(*Prerequisite: RDG 100*) Introduction to linguistics and anthropology. Study of the systematic nature of language: phonology, morphology, syntax, semantics and pragmatics.

ANTH 120 Archaeology: Discovering Our Past 3 credit hours

(*Prerequisite: RDG 100*) Overview of archaeological theory and methods including data from archaeological sites in various geographical areas and from different time periods.

ANTH 130 Cultures of the World 3 credit hours

(*Prerequisite: RDG 100*) Basic concepts of cultural anthropology. Survey of cultural characteristics illustrated by a variety of existing cultures in their native environments with societal examples in cross-cultural comparisons.

ANTH 150 Evolutionary Anthropology 3 credit hours

(Prerequisite: RDG 100) Introduction to biological anthropology and concepts of organic evolution. Emphasis on fossil history of primates, prehistory of man and human genetics within a paleoecological context, modern primate behavior and its relevance to human evolution.

ANTH 222 Ancient Mesoamerica 3 credit hours

(*Prerequisite: RDG 100*) Mesoamerican archaeology traced from earliest inhabitants through the Aztec period. Emphasis on cultural processes and dynamics of cultural evolution.

ANTH 231 North American Indians 3 credit hours

(*Prerequisite: RDG 100*) Comparative ethnology of North American Indian tribes on geographic, ecologic and cultural bases. Exploration of life as a North American Indian before European influence and the diversity of cultures existing on the North American continent.

ANTH 238 Cultures of the Southwest **3 credit hours**
(*Prerequisite: RDG 100*) Basic concepts related to cultural patterns of the American Southwest from 1600 A.D. to the present. Interactions of the ethnic groups that populate the Southwest.

ANTH 255 Southwestern Anthropology **3 credit hours**
(*Prerequisite: RDG 100*) Interpretations and dynamics of southwestern archaeology from the time of the earliest inhabitants until European contact.

ANTH 296 Topics in Anthropology **1–3 credit hours**
(*Prerequisite: RDG 100*) Various topics. See Schedule of Classes.

ART 101 Introduction to Art **3 credit hours**
Fundamental concepts of visual arts: the language of form and media of artistic expression. Possible museum exhibition attendance.

ART 106 Drawing I **3 credit hours**
(*Recommended: ART 101*) Exploring basic drawing concepts with dry and wet media: still life, landscape, portraiture or the figure. Course fee: $20

ART 121 Two-Dimensional Design **3 credit hours**
(*Recommended: ART 101*) Visual awareness through direct experience with visual form: elements of line, shape, value, texture, color theory, space and volume, painting principles and visual vocabulary. Course fee: $20

ART 122 Three-Dimensional Design **3 credit hours**
(*Recommended: ART 101 and ART 106*) Concepts, techniques, processes and vocabulary involved in working in the third dimension. A variety of media and issues of space, form, mass and volume, line, texture, scale, proportion and the making of objects and spatial contexts. Course fee: $20

ART 151 Art of the American Southwest **3 credit hours**
Interrelationships of three southwestern cultures emphasizing major forms of expression in pottery, textiles, jewelry, architecture, painting and photography.

ART 201 History of Art I **3 credit hours**
Survey of Near Eastern, Egyptian, Greek, Roman, early Christian, Byzantine, early Medieval, Romanesque and Gothic art and architecture. *Fall, summer only*

ART 202 History of Art II **3 credit hours**
Survey of Italian and Northern Renaissance, Baroque, Rococo and 19th century Western European painting, sculpture and architecture. *Spring, summer only*

ART 250 Modern Art **3 credit hours**
Major figures, movements and stylistic developments in western art from 1850 to the present.

ART 260 Architectural History: Ancient through Modern **3 credit hours**
Survey of the history of Western architecture from the pyramid to the post-modernist house; technological, stylistic and functional characteristics of monuments within their cultural contexts.

ASTR 101 Introduction to Astronomy I **3 credit hours**
(*Prerequisite: RDG 100. Recommended: MATH 100B*) Descriptive and historical introduction to the science of astronomy focusing on the solar system including the sun, planets, comets and meteors.

ASTR 102 Introduction to Astronomy II **3 credit hours**
(*Prerequisites: RDG 100 and MATH 100B*) Exploration of life cycles of stars and stellar systems and the structure of the universe. Study of the births, lives and deaths of stars; the nature of the Milky Way galaxy: and current concepts on cosmology and the large-scale structure of the universe.

ASTR 111L Astronomy Laboratory **1 credit hour**
(*Pre - or corequisite: ASTR 102*) Optional lab for investigation of the principles discussed in ASTR 102. Course fee: $20

ASTR 296 Topics in Astronomy **1–3 credit hours**
(*Prerequisite: RDG 100*) Various topics. See Schedule of Classes.

BIO 110 Biology for Non-Majors **3 credit hours**
(*Prerequisite: RDG 100*) Biological principles and current topics for non-biologists or liberal arts students: cellular and molecular biology, microbiology, human genetics, ecology, complexity theory and animal behavior.

BIO 111 Environmental Science **3 credit hours**
(*Prerequisite: RDG 100*) Study of the environment, including basic ecology, a comparison of scientific approaches and world views with respect to ecology and the environment, relationship of humans to the environment, and solutions to local, regional and global environmental problems.

BIO 111L Environmental Science Laboratory **1 credit hours**
(*Prerequisite: RDG 100*) Optional lab for investigation of the principles discussed in BIO 111; analysis of water, soil and air pollutants. Moderately strenuous field trips to special interest sites. Course fee: $20

BIO 112L Biology for Non-Majors Laboratory **1 credit hour**
(*Prerequisite: RDG 100. Pre- or corequisite: BIO 110*) Optional lab which includes use of microscopes, culturing bacteria, chemical analysis of biomolecules, plant and animal behavior. Course fee: $20

BIO 121/121L Principles of Biology I **4 credit hours**

(*Prerequisite: RDG 100. Recommended: MATH 100B and CHEM 111*) Basic principles for students wishing to major in the sciences. Cellular level processes including biological chemistry, cell metabolism, photosynthesis, control and transmission of hereditary materials and nucleic acid structure and function. Emphasis on critical thinking and scientific methodology. Required enrollment in 3-hour lecture and 3-hour lab. Course fee: $20

BIO 122/122L Principles of Biology II **4 credit hours**

(*Prerequisite: BIO 121/121L*) Continuation of BIO 121/121L. Organism-level processes: taxonomy, comparative anatomy and physiology of plants and animals with emphases on evolutionary trends, embryology, behavior and ecology, and the development of scientific reasoning. Required enrollment in a 3-hour lecture and a 3-hour lab. Course fee: $20

BIO 123 Biology for Health Sciences **3 credit hours**

(*Prerequisite: RDG 100. Recommended: MATH 100B and either CHEM 111, BIO 100 or SCIE 100*) Principles of cell biology, cell chemistry, genetics and organismic biology with an emphasis on human systems.

BIO 124L Biology for Health Sciences Laboratory **1 credit hour**

(*Pre - or corequisite: BIO 123*) Exercises and demonstrations related to cell biology, biochemical processes and genetics.

BIO 136 Human Anatomy and Physiology for Non-Majors **3 credit hours**

(*Prerequisite: RDG 100. Recommended: BIO 100 or SCIE 100*) Examination of the structure (anatomy) and function (physiology) of the human body. Investigating molecular, cellular, tissue and organ levels and study of organ systems.

BIO 139L Human Anatomy and Physiology for Non Majors Laboratory **1 credit hour**

(*Pre - or corequisite: BIO 136*) Lab exercises which complement concepts presented in BIO 136, including histological study, biochemical processes, mammal organ dissections and use of models to illustrate anatomical arrangement. Course fee: $20

BIO 219 Principles of Cell Biology **3 credit hours**

(*Prerequisites: BIO 121/121L and 122/122L and either CHEM 111/112L or 121/121L*) Cell structure and cellular processes, including structure and function of membranes, the cytoskeleton, the nucleus, DNA replication, gene expression, energy usage and production, metabolism, cell receptors, intercellular communication and cancer biology. *Fall only*

BIO 221 Introductory Genetics **3 credit hours**

(*Prerequisite: BIO 123/124L or 121/121L or permission of instructor. Corequisite: BIO 222*) Structure, function and transmission of hereditary factors. *Fall, spring only*

BIO 222 Introductory Genetics Problems 1 credit hour
(*Corequisite: BIO 221*) Recitation and problem-solving techniques in genetic analysis related to BIO 221. *CR/NC only. Fall, spring only*

BIO 223L Introductory Genetics Laboratory 1 credit hour
(*Pre- or corequisites: BIO 221 and 222*) Lab exercises using fruit flies and lower organisms to illustrate the principles introduced in BIO 221. Course fee: $20. *Fall, spring only*

BIO 224/224L Southwestern Natural History 4 credit hours
(*Prerequisite: RDG 100*) Lecture and labs or field trips (one or more overnight) presenting the natural history and identification of southwestern flora and fauna. Required enrollment in a 3-hour lecture and a 3-hour lab. Course fee: $20. *Summer, fall only*

BIO 237 Human Anatomy and Physiology I 3 credit hours
(*Prerequisites: Either BIO 123/124L or 121/121L and either CHEM 111/112L or 121/121L*) Integrated study of human structure and function that covers the integumentary, skeletal, muscular and nervous systems.

BIO 238 Human Anatomy and Physiology II 3 credit hours
(*Prerequisite: BIO 237*) Continuation of BIO 237, covering structure and function of the cardiovascular, respiratory, digestive, urinary, reproductive and endocrine systems.

BIO 239 Microbiology 3 credit hours
(*Prerequisites: Either BIO 123/124L or BIO 121/121L and either CHEM 111/112L or 121/121L. Corequisite: BIO 239L*) Concepts of microbiology, host-parasite relationships, infection and immunity.

BIO 239L Microbiology Laboratory 1 credit hour
(*Prerequisites: BIO 115L taken prior to Summer 1993 or either BIO 123/124L or 121/121L and either CHEM 111/112L or 121/121L. Corequisite: BIO 239*) Investigation of a variety of techniques designed to facilitate the growth, identification and control of microorganisms. Course fee: $20

BIO 247L Human Anatomy and Physiology I Laboratory 1 credit hour
(*Prerequisites: Either BIO 123/124L or 121/121L and either CHEM 111/112L or 121/121L. Pre- or corequisite: BIO 237*) Lab exercises in anatomy and physiology which complement topics covered in BIO 237, including specimen dissection and cadaver study. Course fee: $20

BIO 248L Human Anatomy and Physiology II Laboratory 1 credit hour
(*Prerequisites: Either BIO 123/124L or 121/121L and either CHEM 111/112L or 121/121L. Pre- or corequisite: BIO 238*) Lab exercises in anatomy and physiology which complement BIO 238, including specimen dissection and cadaver study. Course fee: $20

BIO 260/260L Botany **4 credit hours**
(*Prerequisite: BIO 122/122L*) Introduction to the diversity of the plant kingdom: Algae, Bryophyta, Pterophyta, Gymnosperms and Angiosperms; covering plant morphology, anatomy, sexual and asexual reproduction. Required enrollment in a 3-hour lecture and a 3-hour lab. Course fee: $20

BIO 282 Parasites of the Southwest **3 credit hours**
(*Prerequisites: RDG 100 and one previous college-level course in biology*) Basic animal parasitology focusing on organisms likely to be encountered by health workers in the southwestern United States.

BIO 290 Biology of HIV **3 credit hours**
(*Prerequisites: RDG 100 and one previous college-level course in biology*) Focuses on HIV, the causative agent of AIDS, history and origin of the virus, basic immunology, epidemiology and viral biology; in-depth study of the AIDS virus, biological and social ramifications of AIDS epidemic. *Spring only*

BIO 296 Topics in Biology **1–3 credit hours**
(*Prerequisite: RDG 100*) Various topics. See Schedule of Classes.

CHEM 101 Concepts of Chemistry **3 credit hours**
(*Prerequisite: ENG 100 or RDG 100*) Non-mathematical introduction to chemistry as it applies to the world, covering qualitative treatment of chemical and physical properties of matter and topics of special interest. Not a preparatory class for other chemistry classes.

CHEM 111 Introduction to Chemistry **3 credit hours**
(*Prerequisites: RDG 100 and MATH 100A*) Qualitative and quantitative aspects of general chemistry: atomic and molecular structure, periodic table, acids and bases, mass relationships, solutions and brief introduction to organic chemistry.

CHEM 112L Introduction to Chemistry Laboratory **1 credit hour**
(*Pre- or corequisite: CHEM 111*) Three-hour lab. Experiments complementing CHEM 111. Course fee: $20

CHEM 121/121L General Chemistry I **4 credit hours**
(*Prerequisites: RDG 100 and MATH 121 or 150*) First of a two-term sequence for students in sciences, engineering or pre-med. Atomic and molecular structure, chemical periodicity, mass and energy relationships and chemical reactions. Required enrollment in a 3-hour lecture and a 3-hour lab. Course fee: $20

CHEM 122/122L General Chemistry II **4 credit hours**
(*Prerequisite: CHEM 121/121L within three years*) Acids and bases, equilibrium, kinetics, thermodynamics, solubility, electro- and nuclear chemistry. Introduction to coordination and organic chemistry. Required enrollment in a 3-hour lecture and a 3-hour lab. Course fee: $20

CHEM 212 Organic Chemistry and Biochemistry 4 credit hours
(*Prerequisite: CHEM 111/112L or 121/121L*) Introduction to organic and biochemistry for students in health or environmental occupations: survey of organic functional groups including chemistry of living organisms. Emphasis on medical aspects.

CHEM 296 Topics in Chemistry 1–3 credit hours
(*Prerequisite: RDG 100*) Various topics. See Schedule of Classes.

COMM 110 Mass Media and Society 3 credit hours
(*Prerequisite: RDG 100. Recommended: ENG 101*) Examination of the roles media have in American society and their effects on other forms of communication.

COMM 130 Public Speaking 3 credit hours
(*Prerequisite: RDG 100. Recommended: ENG 101*) A blend of theory and practical application. Focus on organizing and delivering, listening and responding to various types of presentations.

COMM 221 Interpersonal Communication Studies 3 credit hours
(*Prerequisite: RDG 100. Recommended: ENG 101*) Overview of perception, emotions, nonverbal communication, language, listening, defensiveness and relational conflict. Emphasis on developing communication styles and skills to enhance effectiveness in professional and personal relationships.

COMM 223 Intro to Nonverbal Communication Studies 3 credit hours
(*Prerequisite: RDG 100. Recommended: ENG 101*) Examination of how the face and eyes, gestures, touch, voice, physical appearance, space, time and environment communicate in personal and professional interactions.

COMM 225 Small-Group Communication Studies 3 credit hours
(*Prerequisite: RDG 100. Recommended: ENG 101*) Examination of group types, characteristics, dynamics, conflicts, norms, roles, leadership, problem solving and decision making in small group processes.

COMM 232 Business and Professional Communication Studies 3 credit hours
(*Prerequisite: RDG 100. Recommended: ENG 101*) Emphasis on developing, organizing and supporting ideas in interpersonal business encounters, groups, teams, meetings, interviews and platform presentations.

COMM 240: Organizational Communication Studies 3 credit hours
(*Prerequisite: RDG 100. Recommended: ENG 101*) Communication networks, power and authority, manager/employee relationships, leadership and interviewing in organizational contexts.

COMM 270 Communication Studies for Teachers 3 credit hours
(*Prerequisite: RDG 100. Recommended: ENG 101*) Systems approach to classroom communication at any level, providing a means to analyze, develop and facilitate effective communication.

COMM 289 Listening 3 credit hours
(*Prerequisite: RDG 100. Recommended: ENG 101 and COMM 221*) Investigation and application of current research in listening theory. Analysis of the appropriateness and applicability of five types of listening in academic, business, media and interpersonal contexts.

COMM 290 Gender Communication Studies 3 credit hours
(*Prerequisite: RDG 100. Recommended: ENG 101 and COMM 221*) Focus on communication differences between men and women; implications and consequences of these differences and discussion of various strategies for change in business, media, educational and intimate contexts.

COMM 291 Intercultural Communication Studies 3 credit hours
(*Prerequisite: RDG 100. Recommended: ENG 101 and COMM 221*) Focus on culture and the differences in communication values and styles, both verbal and nonverbal. Analysis of intercultural encounters and development of skills for more effective intercultural communication.

COMM 292 Family Communication Studies 3 credit hours
(*Prerequisite: RDG 100. Recommended: ENG 101 and COMM 221*) Examination of family systems theory, communication patterns, rules, roles, themes, power, intimacy, ethnicity and conflict in families.

COMM 293 Topics in Communication Studies 3 credit hours
(*Prerequisite: RDG 100. Recommended: ENG 101 and COMM 221*) Various topics. See Schedule of Classes.

CSCI 101 Computer Literacy 4 credit hours
Introduces computer hardware and software topics with a mixture of lecture and hands-on instruction: common user applications (word processing, spreadsheets, data bases), operating systems (Windows 3.1, Windows 95) and the basics of using networked computers (e-mail and the Web). Typing proficiency useful but not required. Course fee: $10

CSCI 155 Introduction to Computer Programming 4 credit hours
(*Prerequisite: MATH 121 with a minimum grade of B or MATH 139 or 150*) Introduction to programming designed for those interested in programming as a career or as a useful problem-solving skill; the relationship between programming and problem solving, using programs written in C and C++. Course fee: $10

CSCI 163 Intermediate Computer Literacy **3 credit hours**
(*Prerequisite: CSCI 101 or permission of instructor*) Creating graphics and Web documents; research using the Internet. Course fee: $10

CSCI 296 Topics in Computer Science **1–3 credit hours**
Various topics. See Schedule of Classes.

CST 150 Introduction to Cultural Studies **3 credit hours**
(*Prerequisite: RDG 100*) Survey of a range of contemporary topics in global perspective, including gender, race, class and ethnicity. Exploration of non-dominant cultures and non-traditional social issues.

CST 250 A, H, N, S Ethnic Studies **3 credit hours**
(*Prerequisite: RDG 100*) Investigation of present perspectives and historical and social conditions which have affected the lives of a specific group of Americans. Emphasis on how groups create mosaic of philosophy, art and identity. A: African American Studies, H: Chicano Studies, N: Native American Studies, S: Asian American Studies. See Schedule of Classes.

CST 296 Topics in Cultural Studies **1–3 credit hours**
(*Prerequisite: RDG 100*) Various topics. See Schedule of Classes.

ECON 101 Introduction to Economics **3 credit hours**
(*Prerequisite: RDG 100*) Broad survey of the theories, history and relationships of economics.

ECON 200 Macroeconomics **3 credit hours**
(*Prerequisite: RDG 100*) Theories and problems of economic policy, including the contrast of the Classical and Keynesian models, money and banking, inflation, unemployment and economic growth.

ECON 201 Microeconomics **3 credit hours**
(*Prerequisite: RDG 100*) Laws of demand and supply and the workings of the price systems in a free market. Basic economic theory applied to problems of production, monopoly, taxation, consumer welfare and the environment.

ECON 296 Topics in Economics **1–3 credit hours**
(*Prerequisite: RDG 100*) Various topics. See Schedule of Classes.

ENG 101 College Writing **3 credit hours**
(*Prerequisites: ENG 100 or appropriate placement test score and entrance exam*) Text-based essay composition, including critical reading, summary writing and synthesis.

ENG 102 Analytic and Argumentative Writing **3 credit hours**
(*Prerequisite: ENG 101*) Analytic and argumentative writing with readings and research in exposition and literature.

ENG 119 Technical Communications **3 credit hours**
(*Prerequisite: ENG 101*) Introductory study of written and verbal communication in business and industry.

ENG 150 Study of Literature **3 credit hours**
(*Prerequisite: ENG 101 or permission of instructor*) Introduction to the study of literature. *Fall only*

ENG 206 D, F, S, W Popular Literature **3 credit hours**
(*Prerequisite: ENG 101 or permission of instructor*) Analysis of a popular literary form. D: Detective Novel; F: Science Fiction; S: Spy Novel; W: Western. See Schedule of Classes.

ENG 210 Film as Literature **3 credit hours**
(*Prerequisite: ENG 101 or permission of instructor*) Study of film as visual literature, surveying major trends in the history of film.

ENG 211 Topics in Literature **3 credit hours**
(*Prerequisite: ENG 101 or permission of instructor*) Various topics. See Schedule of Classes.

ENG 212 Topics in Language and Writing **3 credit hours**
(*Prerequisite: ENG 101 or permission of instructor*) Various topics. See Schedule of Classes.

ENG 213 D, F, W Film Genres **3 credit hours**
(*Prerequisite: ENG 101 or permission of instructor*) Survey of film genre or national cinema. D: Comedy; F: Film Noir; W: Western. See Schedule of Classes.

ENG 219 Technical Writing **3 credit hours**
(*Prerequisite: ENG 102*) Writing in industry, research laboratories, business and other professional settings.

ENG 220 Expository Writing **3 credit hours**
(*Prerequisite: ENG 102*) Advanced composition, concentrating on critical reading of prose, writing expository and argumentative essays. *Fall only*

ENG 221 Creative Writing: Fiction **3 credit hours**
(*Prerequisite: ENG 101 or permission of instructor*) Fiction writing as a creative process.

ENG 222 Creative Writing: Poetry **3 credit hours**
(*Prerequisite: ENG 101 or permission of instructor*) Poetry writing as a creative process.

ENG 240 Traditional Grammar **3 credit hours**
Survey of traditional grammar, introducing linguistic terminology and methods for identifying and understanding parts of speech, parts of sentences and basic sentence patterns.

* No CR Sub Needed for Eng 119 when Sub Eng 213 Tech Writing is per June

ENG 251 Introduction to Dramatic Literature 3 credit hours
(*Prerequisite: ENG 101 or permission of instructor*) Introduction to structure and nature of drama as a literary form: Greek, Renaissance, Enlightenment and Modern. *Spring only*

ENG 252 Introduction to Shakespeare 3 credit hours
(*Prerequisite: ENG 101 or permission of instructor*) Study of Shakespeares work: sonnets, tragedies, comedies and histories. *Fall only*

ENG 262 Survey of Earlier World Literature 3 credit hours
(*Prerequisite: ENG 101 or permission of instructor*) Poetry, fiction and drama from primarily non-English cultures: ca. 1500 B.C. - 1650 A.D. *Fall only*

ENG 263 Survey of Later World Literature 3 credit hours
(*Prerequisite: ENG 101 or permission of instructor*) Poetry, fiction and drama from primarily non-English cultures: ca. 1650 to present.

ENG 270 Modern Literature 3 credit hours
(*Prerequisite: ENG 101 or permission of instructor*) American and European literature of the 20th century.

ENG 282 Modern Latin American Literature 3 credit hours
(*Prerequisite: ENG 101 or permission of instructor*) Chronicles, diaries, drama, poetry, essays and fiction of Latin America.

ENG 294 Survey of Earlier English Literature 3 credit hours
(*Prerequisite: ENG 101 or permission of instructor*) British literature from Old English to 1798.

ENG 295 Survey of Later English Literature 3 credit hours
(*Prerequisite: ENG 101 or permission of instructor*) English literature from the late 18th century to the present. *Spring only*

ENG 296 American Literature 3 credit hours
(*Prerequisite: ENG 101 or permission of instructor*) Short stories, poetry, drama and nonfiction from colonial U.S. to the present. *Spring only*

FREN 101 Beginning French I 4 credit hours
Beginning course to develop French language skills, emphasizing listening, comprehension and speaking.

FREN 102 Beginning French II 4 credit hours
(*Prerequisite: FREN 101 or permission of instructor*) Further development of FREN 101 skills.

FREN 103 Beginning French I Conversation **3 credit hours**
(*Pre- or corequisite: FREN 101 or permission of instructor*) Basic conversational skills and practice speaking French at the beginning level.

FREN 201 Intermediate French **3 credit hours**
(*Prerequisite: FREN 102 or permission of instructor*) Enhancement of skills from FREN 102 and further knowledge of the language and culture of France.

FREN 202 Intermediate French II **3 credit hours**
(*Prerequisite: FREN 201 or permission of instructor*) Continuation of FREN 201.

FREN 203 Intermediate French II Conversation **3 credit hours**
(*Pre- or corequisite: FREN 201 or permission of instructor*) Use, development and strengthening of conversation skills.

FREN 296 Topics in French **1–4 credit hours**
(*Prerequisite: varies*) Various topics. See Schedule of Classes.

GEOG 101 Physical Geography **3 credit hours**
(*Prerequisite: RDG 100*) Introduction to the geography of the natural environment: weather systems, climate regions, vegetation, soils, water resources, plate tectonics and volcanic, structural, erosional, fluvial, coastal, desert and glacial landforms.

GEOG 102 Human Geography **3 credit hours**
(*Prerequisite: RDG 100*) Introduction to the cultural landscape: population, migration, languages, religions, folk customs, political units, economic development, agriculture, industry, urbanization and systematic analysis of global environmental issues.

GEOG 201 World Regional Geography **3 credit hours**
(*Prerequisite: RDG 100*) Global geography with emphasis on regional characteristics, similarities and differences: landforms, climates, history, cultures and current economic and political problems.

GEOG 296 Topics in Geography **1–3 credit hours**
(*Prerequisite: RDG 100*) Various topics. See Schedule of Classes.

GNHN 121A General Honors: The Ancient Legacy **3 credit hours**
(*Prerequisites: See page 48 and permission of instructor*) Analysis of classic texts of the Greek, Hebrew, Roman and Christian traditions: ideas about virtue, knowledge, politics, religious faith and education. *Fall only*

GNHN 121M General Honors: The Modern Legacy **3 credit hours**
(*Prerequisites: See page 48 and permission of instructor*) Analysis of classic texts of Western culture from the Renaissance through the early 20th century: ideas about the individual, society, state, history, nature, progress and religion. *Spring only*

GNHN 221 Topics in General Honors 1–3 credit hours
(*Prerequisites: See page 48 and permission of instructor*) Various topics. See Schedule of Classes.

HIST 101 Western Civilization I 3 credit hours
(*Prerequisite: RDG 100. Recommended: ENG 101*) Events, personalities, issues, rises and falls, covering ancient times through 1648.

HIST 102 Western Civilization II 3 credit hours
(*Prerequisite: RDG 100. Recommended: ENG 101*) Exploration of 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 credit hours
(*Prerequisite: RDG 100. Recommended: ENG 101*) Survey of economic, political, intellectual and social development of the U.S. from 1492 to 1877.

HIST 162 History of the United States II 3 credit hours
(*Prerequisite: RDG 100. Recommended: ENG 101*) Continuation of HIST 161, covering 1865 to the present.

HIST 230 Twentieth-century Russia 3 credit hours
(*Prerequisite: RDG 100. Recommended: ENG 101*) Survey of Russian history from czarist absolutism through communist totalitarianism to the introduction of a pluralist society.

HIST 240 Vietnam: War, Politics and Culture 3 credit hours
(*Prerequisite: RDG 100. Recommended: ENG 101*) Causes of the war, military and political aspects, conduct and consequences of years of conflict in Vietnam; issues surrounding U.S. involvement in Vietnam and changes in the culture, institutions and political thought of the U.S. during and after the war.

HIST 260 History of New Mexico 3 credit hours
(*Prerequisite: RDG 100. Recommended: ENG 101*) New Mexico's history from 1500 to the present; contributions of and interactions among Native Americans, Hispanics, Anglos and others.

HIST 270 The American West 3 credit hours
(*Prerequisite: RDG 100. Recommended: ENG 101*) American settlement west of the Mississippi River: exploration, fur trade, overland trails, ranching, mining, contacts with Native Americans, frontier violence and environmental issues.

HIST 282 Modern Latin American History 3 credit hours
(*Prerequisite: RDG 100. Recommended: ENG 101*) Latin American history from the beginning of the revolutionary period in 1810 to the present.

HIST 296 Topics in History **1–3 credit hours**
(*Prerequisite: RDG 100. Recommended: ENG 101*) Various topics. See Schedule of Classes.

HUM 111 Comparative Civilizations **3 credit hours**
(*Prerequisite: RDG 100*) History, art, literature, religion and ideas of early world civilizations: Egypt, Mesopotamia, India, China, Greece, Rome, Europe, Africa and pre-columbian America.

HUM 121 Western Culture from the Renaissance **3 credit hours**
(*Prerequisite: RDG 100*) History, art, literature, music and ideas of western culture from the Renaissance to present.

HUM 247 Topics in Humanities **1–3 credit hours**
(*Prerequisite: RDG 100*) Various topics. See Schedule of Classes.

JOUR 151 Writing for the Media I **3 credit hours**
(*Prerequisite: ENG 101 or permission of instructor*) Practical introduction to journalism which emphasizes journalistic conventions, gathering and writing news for print and broadcast media.

JOUR 251 Writing for the Media II **3 credit hours**
(*Prerequisite: JOUR 151 or permission of instructor*) Advanced study in journalistic conventions, gathering and writing news for print and broadcast media, including a variety of types of stories and legal and ethical topics.

JOUR 253 Writing and Editing for the Media **3 credit hours**
(*Pre- or corequisite: JOUR 151*) Reviews and critiques of journalistic efforts and techniques for improving and strengthening writing style. Open to anyone but targeted for students working in the mass media.

MATH 111 Mathematics for Elementary and Middle School Teachers I **3 credit hours**
(*Prerequisite: MATH 100A*) Introduction to the intuitive and logical background of arithmetic, sets, arithmetic algorithms, bases, integer properties, number theory and problem solving.

MATH 112 Mathematics for Elementary and Middle School Teachers II **3 credit hours**
(*Prerequisite: MATH 111*) Properties of rational and irrational numbers, real numbers as fractions and decimals, intuitive geometry and measurement.

MATH 119 Methods of Problem Solving **4 credit hours**
(*Prerequisite: MATH 100A*) Strategies for solving mathematical problems relying heavily on data patterns; sequences, set theory, combinatorics, probability, descriptive statistics, linear and quadratic modeling.

MATH 120 Intermediate Algebra **4 credit hours**
(*Prerequisite: MATH 100B*) Linear equations and inequalities, polynomials, exponents, rational expressions and equations, radical expressions and equations, quadratic equations; introduction to graphing and functions.

MATH 121 College Algebra **3 credit hours**
(*Prerequisite: MATH 120*) Focus on functions and their graphs; investigation of linear, quadratic, polynomial, rational, exponential and logarithmic functions.

MATH 123 Trigonometry **3 credit hours**
(*Prerequisite: MATH 121 or 150*) Use of graphing calculators to study trigonometric and inverse trigonometric functions; radian and degree measure, basic trigonometric identities, polar coordinates, solving triangles and other applications.

MATH 129 The Art of Mathematics **3 credit hours**
(*Prerequisite: MATH 119 or 120*) Illustration of the creative nature of mathematics through problems, readings, discussions of topics such as set theory, logic, number theory, basic geometry and probability.

MATH 139 Introduction to Finite Math **3 credit hours**
(*Prerequisite: MATH 119 or 120*) Logic; set, probability, vector and matrix theories; descriptive statistics and linear programming.

MATH 145 Introduction to Probability and Statistics **3 credit hours**
(*Prerequisite: MATH 119 or 120*) Introduction to basic concepts in probability and statistics—simple data analysis and descriptive statistics, probability and probability models, sampling and statistical inference—with applications from varied fields.

MATH 150 Advanced Algebra **4 credit hours**
(*Prerequisite: MATH 121*) Exploration of polynomial, rational, exponential and logarithmic functions using graphing calculators.

MATH 162 Calculus I **4 credit hours**
(*Prerequisites: MATH 123 and 150*) Introduction to derivatives and definite integrals using graphing calculators: differentiation, antidifferentiation, limits, extrema, curve sketching and applications.

MATH 163 Calculus II **4 credit hours**
(*Prerequisite: MATH 162*) Continuation of MATH 162. Use of graphing calculators to cover integration techniques, numerical integration, improper integrals, some differential equations, series and applications.

MATH 180 Elements of Calculus I **3 credit hours**
(*Prerequisite: MATH 121 or 150*) Introduction to limits, derivatives, applications to graphing, extrema, antiderivatives, definite integrals. Emphasis on business and biological applications.

MATH 181 Elements of Calculus II **3 credit hours**
(*Prerequisite: MATH 180*) Continuation of MATH 180. Substitution, integration by parts, numerical integration; introduction to multivariate calculus and some differential equations.

MATH 215 Mathematics for Elementary and Middle School Teachers III **3 credit hours**
(*Prerequisite: MATH 112*) Continuation of MATH 112. Topics from later elementary and middle school curricula: probability, descriptive statistics, algebra, coordinate geometry, logic and LOGO software.

MATH 245 Fundamentals of Probability and Statistics **3 credit hours**
(*Prerequisite: MATH 180*) Basic ideas in probability and statistics: descriptive statistics, sample spaces, random variables, probability densities, expectation, variance, confidence intervals, hypothesis testing, correlation, simple regression analysis. Emphasis on business applications.

MATH 264 Calculus III **4 credit hours**
(*Prerequisite: MATH 163*) Continuation of MATH 163. Multivariate and vector calculus: level curves and surfaces, partial derivatives, gradients, tangent planes, directional derivatives, multiple integrals, cylindrical and spherical coordinates, applications.

MATH 296 Topics in Mathematics **1–3 credit hours**
(*Prerequisite: varies*) Various topics. See Schedule of Classes.

MUS 103 Fundamentals of Music **4 credit hours**
(*Recommended: Experience with voice or instrument*) Beginning course in fundamentals of music: notation, scales, key signatures and intervals. Introduction to aural comprehension through singing intervals, scales, triads, dictating simple rhythmic and melodic patterns.

MUS 139 Music Appreciation I **3 credit hours**
Basic musical elements and their development from early Greece to the Classical period. Nontechnical; required attendance at live musical performances.

MUS 140 Music Appreciation II **3 credit hours**
Study of symphonic music, chamber music and vocal literature from the Romantic period to the 20th century. Nontechnical; required attendance at live musical performances.

MUS 296 Topics in Music **1–3 credit hours**
Various topics. See Schedule of Classes.

NUTR 120 Personal and Practical Nutrition **3 credit hours**
Personal, practical view of topics in nutrition of concern to the consumer: individual nutrient needs, fitness, disease prevention and weight control. Emphasis on changes of nutritional needs through the life cycle.

NUTR 244 Human Nutrition 3 credit hours
(*Prerequisite: CHEM 111/112L, 121/121L, BIO 121/121L or 123/124L*) Nutrition as it affects normal body function and total health. Designed for health majors who will use this information in various professions.

NUTR 293 Topics in Nutrition 1–3 credit hours
Various topics. See Schedule of Classes.

PHIL 110 Introduction to Philosophical Thought . 3 credit hours
(*Prerequisite: RDG 100. Recommended: ENG 101*) Survey of the philosophical issues addressed by great thinkers of the western tradition. Questions about knowledge, reality, goodness, the idea of God, government and society and the self.

PHIL 156 Logic and Critical Thinking 3 credit hours
(*Prerequisite: RDG 100*) Introduction to the tools of reason helpful in everyday decision-making, skills for argument analyses and effective communication of ideas. Survey of informal fallacies and formal deductive systems.

PHIL 241 Topics in Philosophy 1–3 credit hours
(*Prerequisite: RDG 100*) Various topics. See Schedule of Classes.

PHIL 245 B, M, T Ethics 3 credit hours
(*Prerequisite: RDG 100*) Discussion of ethical problems that may arise in specific fields. B: Business; M: Biomedical; T: Technology. See Schedule of Classes.

PHIL 250 Philosophy of Education 3 credit hours
(*Prerequisite: RDG 100*) Critical examination of classical and contemporary educational theories and philosophical movements in education. Emphasis on the relationship of philosophical theory and educational practice.

PHIL 257 Formal Logic 3 credit hours
(*Prerequisite: RDG 100*) Introduction to formal deductive logic: propositional logic, truth tables, argument forms and fallacies, predicate (symbolic) logic and method of proof.

PHYS 102 Introduction to Physics 3 credit hours
(*Prerequisite: RDG 100; recommended: MATH 100B)* Survey of basic concepts and phenomena of physics.

PHYS 151 Physics I 4 credit hours
(*Prerequisites: RDG 100 and MATH 121, 150 or 180. Corequisite: PHYS 153L. Recommended: Working knowledge of trigonometry*) Non-calculus treatment of mechanics, sound and heat. Satisfies premedical, predental, preoptometry and certain Technologies requirements.

PHYS 152 Physics II **4 credit hours**
(*Prerequisites: RDG 100 and PHYS 151. Corequisite: PHYS 154L*) Non-calculus treatment of electricity, magnetism and optics.

PHYS 153L Physics in Laboratory **1 credit hour**
(*Prerequisite: RDG 100. Corequisite: PHYS 151*) Real-time experiments in mechanics, heat and sound. Computer data collection and analysis. Course fee: $20

PHYS 154L Physics II Laboratory **1 credit hour**
(*Prerequisite: RDG 100. Corequisite: PHYS 152*) Experiments in electricity, magnetism and optics. Some computer simulations and data collection. Course fee: $20

PHYS 160 General Physics I **4 credit hours**
(*Prerequisite: RDG 100. Pre- or corequisite: MATH 162; Recommended: Coenrollment in PHYS 163L and PHYS 167*) Calculus-based study of mechanics and sound waves for science and engineering students.

PHYS 161 General Physics II **4 credit hours**
(*Prerequisite: PHYS 160. Pre- or corequisite: MATH 163*) Calculus-based treatment of heat, electricity and magnetism for science and engineering students.

PHYS 163L General Physics Laboratory **1 credit hour**
(*Pre- or corequisite: PHYS 160*) Real-time experiments in mechanics and waves. Computer data collection and analysis. Course fee: $20

PHYS 167 Problems in General Physics I **1 credit hour**
(*Corequisite: PHYS 160*) Recitation and problem solving related to PHYS 160. *CR/NC only*

PHYS 168 Problems in General Physics II **1 credit hour**
(*Corequisite: PHYS 161*) Recitation and problem solving related to PHYS 161. *CR/NC only*

PHYS 262 General Physics III **4 credit hours**
(*Prerequisite: PHYS 161. Pre- or corequisite: MATH 264*) Calculus-based treatment of optics and topics in modern physics for science and engineering students.

PSCI 110 The Political World **3 credit hours**
Introduction to politics emphasizing how people can understand their own political systems and those of others.

PSCI 200 U.S. Politics **3 credit hours**
Survey of American politics: theory of democracy and political institutions, governmental branches and their bureaucracies.

PSCI 210 State and Local Politics 3 credit hours
Analysis of state and local politics, using New Mexico and other states as examples. *Fall and spring only*

PSCI 220 Comparative Government and Politics 3 credit hours
Comparison of the roles of public opinion, electoral systems, political parties, interest groups, governmental institutions and policy performance in European democracies, developing third world nations and communist political systems.

PSCI 240 International Politics 3 credit hours
Various significant factors in international politics; nationalism, ideology, deterrence, balance of power, international law and international conflict and collaboration.

PSCI 260 Political Ideas 3 credit hours
Classical and contemporary political ideas and ideologies; introduction to many of the enduring political issues which are presented in descriptive, analytical and normative terms. *Fall only*

PSCI 296 Topics in Political Science 1–3 credit hours
Various topics. See Schedule of Classes.

PSY 105 Introduction to Psychology 3 credit hours
(*Prerequisite: RDG 100*) Psychology as scientific study of behavior and mental processes: methodology, psychobiology, learning, memory, personality, psychological disorders, therapy, personality and social psychology.

PSY 106L Introduction to Psychology Laboratory 3 credit hours
(*Pre- or corequisite: PSY 105*) Lab projects relevant to PSY 105, showing research methods in psychology. Three hours each week.

PSY 200 Statistical Principles 3 credit hours
(*Prerequisite: PSY 105. Recommended: MATH 119 or 120*) Basic statistics for description and interpretation of psychological data: frequency distributions, graphing, measures of central tendency, variability, regression, correlation, hypothesis testing and analysis of variance. *Fall, spring only*

PSY 220 Developmental Psychology 3 credit hours
(*Prerequisite: PSY 105*) Physical, social, emotional and intellectual development across the life span. Emphasis on research and applications.

PSY 230 Psychology of Adjustment 3 credit hours
(*Prerequisite: PSY 105*) Normal human adjustment and coping in personal and interpersonal arenas: to stress and mood management, self-esteem, social adjustment, communication and relationships.

PSY 231 Human Sexuality **3 credit hours**
(*Recommended: ENG 101*) Physiological, cultural, social and individual factors that influence sexual behavior, sex roles and sex identity.

PSY 232 Clinical Psychology **3 credit hours**
(*Prerequisite: PSY 105*) Clinical psychology as a profession and research area: psychometrics and assessment, systems of prevention and therapy, forensic psychology, program evaluation, professional and ethical issues.

PSY 233 Psychology and Film **3 credit hours**
(*Prerequisite: RDG 100*) Psychiatric disorders as portrayed in films, offering an opportunity to see realistic manifestations of "madness" and cinema's ability to reflect and to affect perceptions of mental illness and treatment.

PSY 240 Brain and Behavior **3 credit hours**
(*Prerequisite: PSY 105 or BIO 121/121L*) Survey of the role of the nervous system in the control of behavior and mental processes. *Fall only*

PSY 260 Psychology of Learning and Memory **3 credit hours**
(*Prerequisite: PSY 105*) Study of learning in the laboratory, ranging from simple processes such as conditioning to complex ones such as transfer, memory and concept formulation. *Fall only*

PSY 265 Cognitive Psychology **3 credit hours**
(*Prerequisite: PSY 105*) Theories and research on various mental processes: memory (encoding, storage and retrieval), attention, comprehension, categorization, reasoning, problem solving, language and motor skills. *Spring only*

PSY 271 Social Psychology **3 credit hours**
(*Prerequisite: PSY 105 or SOC 101*) Social interaction: communication, perception of the self and others, attitudes and leadership. *Spring only*

PSY 296 Topics in Psychology **3 credit hours**
(*Prerequisite: RDG 100*) Various topics. See Schedule of Classes.

PSY 299 Death and Dying **3 credit hours**
(*Prerequisite: RDG 100*) Psychological, emotional and sociological aspects of death in American culture.

RLGN 107 Living World Religions **3 credit hours**
(*Prerequisite: RDG 100*) Introduction to the academic study of religion, focusing on major world religions: religions of antiquity, Hinduism, Buddhism, Taoism, Judaism, Christianity, Islam and religion in primal cultures.

RLGN 247 Topics in Religious Studies 3 credit hours
(*Prerequisite: RDG 100*) Various topics. See Schedule of Classes.

SOC 101 Introduction to Sociology 3 credit hours
(*Prerequisite: RDG 100*) Basic concepts and theories of contemporary sociology: culture, socialization, social groups, deviance, sexuality, race and ethnicity, gender, age, family, medicine and religion.

SOC 111 Criminal Justice System 3 credit hours
(*Prerequisites: RDG 100 and SOC 101*) Overview of criminal justice processes. Exploration of law, law enforcement, prosecution, defense, trial and sentencing.

SOC 211 Social Problems 3 credit hours
(*Prerequisite: SOC 101*) 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 credit hours
(*Prerequisite: SOC 101*) Theories of juvenile delinquency, child abuse, the juvenile justice system, probation, treatment and corrections for juveniles.

SOC 213 Deviant Behavior 3 credit hours
(*Prerequisite: SOC 101*) Theories of deviance and examination of behaviors such as rape, murder, theft, drug use, alcoholism, prostitution, mental disorders and suicide.

SOC 214 Sociology of Corrections 3 credit hours
(*Prerequisite: SOC 101*) Theory, practice and legal basis for investigation, treatment and supervision of offenders in custody, on probation or parole; history of penology and its relationship to various penal philosophies.

SOC 215 Criminology 3 credit hours
(*Prerequisite: SOC 101*) Causes of crime with emphasis on sociological factors, the various faces of crime, the criminal past and present and criminology theory.

SOC 216 Ethnic and Minority Groups 3 credit hours
(*Prerequisite: SOC 101*) Relationships among majority and minority and ethnic groups: prejudice, discrimination, stereotyping, pluralism and social mobility.

SOC 225 Sociology of the Family 3 credit hours
(*Prerequisite: SOC 101*) 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 credit hours**
(*Prerequisite: SOC 101 or PSY 105)* Introduction of 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 credit hours**
(*Prerequisite: SOC 101 or PSY 105*) Focus on the nature and content of gender in the U.S.; theoretical viewpoints from the social sciences applied to issues of socialization, family, culture, media, education, work, politics and economics; the impact of gender differentiation on personality development and social interaction.

SOC 280 Social Science Research **3 credit hours**
(*Prerequisite: SOC 101*) Methodology of experimental science applied to social sciences, including the study of methodologies of data collection and analysis using library resources, including legal citations.

SOC 296 Topics in Sociology **1–3 credit hours**
(*Prerequisite: RDG 100*) Various topics. See Schedule of Classes.

SPAN 101 Beginning Spanish I **4 credit hours**
(*Prerequisite: RDG 100*) For students with no previous exposure to Spanish. Listening, speaking and grammatical skills.

SPAN 102 Beginning Spanish II **4 credit hours**
(*Prerequisite: SPAN 101*) Continuation of SPAN 101: listening, speaking, grammatical skills.

SPAN 103 Beginning Spanish I Conversation **3 credit hours**
(*Pre- or corequisite: SPAN 102 or permission of instructor*) Basic conversational skills and practice speaking Spanish at the beginning level.

SPAN 111 Beginning Spanish I for Bilinguals **4 credit hours**
(*Prerequisite: RDG 100*) Designed for students with some native listening and speaking knowledge of Spanish to enrich and expand the skills that exist within the student's dialect. Language arts approach: listening, speaking, reading, writing and culture.

SPAN 112 Beginning Spanish II for Bilinguals **4 credit hours**
(*Prerequisite: SPAN 101 or 111*) Continuation of SPAN 111, expanding the language and culture skills by means of a total language arts approach. Emphasis on reading and writing.

SPAN 201 Intermediate Spanish I **3 credit hours**
(*Prerequisite: SPAN 102*) Review of grammar and expansion of conversational skills while developing reading proficiency.

SPAN 202 Intermediate Spanish II **3 credit hours**
(*Prerequisite: SPAN 201*) Continuation of SPAN 201, providing conversational activities and emphasis on writing skills.

SPAN 203 Intermediate Spanish II Conversation **3 credit hours**
(*Pre- or corequisite: SPAN 202 or permission of instructor*) Designed to increase skills in speaking Spanish.

SPAN 275 Accelerated Beginning Spanish **4 credit hours**
(*Prerequisite: RDG 100 or permission of instructor*) SPAN 101 and 102 in one term; recommended for language enthusiasts or those who have had exposure to Spanish either in the home or from previous study.

SPAN 276 Accelerated Intermediate Spanish **3 credit hours**
(*Prerequisite: SPAN 102 or SPAN 275 or permission of instructor*) SPAN 201 or 202 in one term; recommended for language enthusiasts or those who have had exposure to Spanish either in the home or from previous study.

SPAN 280 Reading in Spanish Literature **3 credit hours**
(*Prerequisite: SPAN 202 or SPAN 276 or permission of instructor*) Selected readings from literature written in Spanish by Spanish and Spanish-American authors.

SPAN 296 Topics in Spanish **1–3 credit hours**
(*Prerequisite: varies*) Various topics. See Schedule of Classes.

THEA 122 Introduction to Theater **3 credit hours**
(*Recommended: ENG 101*) Study of the history and role of theater, past and present: the nature of theater art, theater traditions ranging from the Ancient Greeks to the Epic Theater, the elements that make up a production.

THEA 296 Topics in Theater **1–3 credit hours**
Various topics. See Schedule of Classes.

TLS 296 Topics in Liberal Arts and Sciences **1–4 credit hours**
Various topics. See Schedule of Classes.

AEROSPACE STUDIES

Students may register at TVI for the University of New Mexico Aerospace Studies (Air Force) program. Uniforms and textbooks are provided. Because these courses are offered at the main campus of UNM, students should contact UNM before enrolling:

Patrick R. Daly, Lt. Col., USAF
Commander, Aerospace Studies
University of New Mexico
AFROTC Detachment 510
Aerospace Studies Building
1901 Las Lomas NE
277-4502

Credits in Aerospace Studies may not be applied to any associate degree or certificate at TVI.

AFAS 010 Leadership Laboratory **0 credit hours**
Progressively challenging leadership and management experiences: physical fitness activities; lectures on military policies, ethics, customs and courtesies, military drill and ceremonies. Required enrollment for admission into cadet corps.

AFAS 120 Air Force Today **1 credit hour**
Introduction to Air Force environment; organization and missions of the Air Force units, officership and military professionalism. *Fall term only*

AFAS 121 Air Force Today **1 credit hour**
Introduction to Air Force environment; organization and missions of the Air Force units, officership and military professionalism. *Spring term only*

BUSINESS OCCUPATIONS

The Business Occupations Department provides opportunities for *"Education, training and skills you can use for business."* The Business Occupations Department focuses on superior customer service, technology and distance learning as it serves a diverse student population who will participate in business strategies for the next century. It offers department certificates, certificate programs, associate of applied science degrees and an associate of arts degree as follows:

Accounting	Certificate and Associate of Applied Science Degree
Administrative Assistant	Certificate and Associate of Applied Science Degree
Banking	Certificate and Associate of Applied Science Degree
Business Administration	Certificate and Associate of Applied Science Degree
Business Graphics and Communication	Certificate and Associate of Applied Science Degree
Court Reporting	Certificate and Associate of Applied Science Degree
International Business	Certificate and Associate of Applied Science Degree
Legal Assistant Studies	Associate of Applied Science Degree
Microcomputer Management	Certificate and Associate of Applied Science Degree
Network Management	Certificate and Associate of Applied Science Degree
Pre-Management	Associate of Arts Degree
Bookkeeping	Certificate
Continuous Quality Improvement	Department Certificate
Customer Service Representative	Department Certificate
Data Entry	Business Occupations Learning Center
Entrepreneurship	Certificate
Judicial Studies	Certificate

Real Estate	Department Certificate
Sales and Cashiering	Certificate
Stenotranscription	Certificate
Business Occupations Learning Center	Self-paced, non-credit, open-entry courses
Business Department Resource Center	Enhanced learning opportunities

Business Occupations classes may be taught day, evening and/or Saturday at all four TVI campuses, at arranged on-site locations and through distance learning delivery methods. Some programs, courses and elective courses are not offered every term. A student who registers for a Business Occupations program may be required to take English, reading and/or math placement tests. Advanced students may earn credit for on-the-job- training through cooperative education and internship courses.

The New Mexico Two-Year/Four-Year Business Articulation Matrix, as well as articulation agreements with several New Mexico postsecondary institutions, offers course transfer opportunities; students should see the program director for details.

All occupational courses must be passed with a minimum grade of C to meet prerequisite requirements and certificate and degree requirements. Business Occupations students do not have the option of taking occupational courses on a credit/no credit basis except the following Court Reporting courses: CR 104, CR 210, CR 220, CR 230 and CR 233. Students in those courses should communicate with the program director or a Financial Aid advisor before selecting a grading option.

A keyboarding skill of 25 words per minute is required before students can enroll in some business courses and is required for entry into the Microcomputer Management and Business Graphics and Communication programs. Keyboarding courses are available in the Business Occupations Department and the Business Occupations Learning Center (BOLC) at Main and Montoya campuses. The BOLCs also administer typing tests for prerequisites and minimum speed requirements.

BUSINESS OCCUPATIONS LEARNING CENTERS

The Business Occupations Learning Centers (BOLCs) serve adult members of the public and TVI students who want to learn or review a particular subject or skill on a self-paced, non-credit or open-entry course basis.

Individuals may begin a course in these centers at any time during a term and stop when course requirements have been met. The student is allowed 15 consecutive weeks to complete a course. If the student does not complete the course within 15 weeks, he/she may re-enroll for an additional $40 (a book is not issued when a student re-enrolls). Although college credit is not given, a certificate is granted upon completion of a course. Instruction

is offered on up-to-date equipment including computers, electronic calculators, transcribing machines and audiovisual training aids. Hours may be arranged to suit individual needs. For certain courses, scheduled hours are dependent upon equipment availability. The $40 fee per course includes textbooks or materials.

The Main Campus BOLC is located in Room 210 of Smith Brasher Hall (224-3840). The Montoya Campus center is in Room H-127 (224-5596). The South Valley BOLC is in Room SV 117 (873-8347). Please call for hours of operation. All BOLCs are closed during TVI term breaks.

BOLC SUBJECT/SKILL AREAS

Accounting Fundamentals
Business Mathematics Fundamentals
Computer Courses:
- dBase
- Fundamentals of DOS
- Lotus 1-2-3*
- Microsoft Excel for Windows*
- Microsoft Windows*
- Microsoft Word for Windows*
- WordPerfect for DOS*
- WordPerfect for the PowerMacintosh* (Main Campus only)
- WordPerfect for Windows*

Data Entry
Electronic Calculators
English Review Courses:
- Basic English Review
- Comprehensive English Review

Filing
Keyboarding
Keyboard Skill-building*
Machine Transcription*
Medical Terminology
Medical Terminology and Transcription*
Proofreading
Shorthand Courses:
- Alphabetic Shorthand
- Gregg Shorthand
- Shorthand Review (ABC and Gregg)*

Spelling
Typing (see keyboarding courses listed under computer courses)

*See course descriptions below for prerequisites.

Accounting Fundamentals
Basic accounting cycle, payroll accounting, internal control, voucher system, inventory and subsidiary ledgers.

Alphabetic Shorthand I
Method uses alphabetic characters with emphasis on reading, writing and transcribing shorthand notes. A 50 wpm writing speed must be reached upon completion.

Basic English Review
English grammar, punctuation, capitalization and word usage.

Business Mathematics Fundamentals
Addition, subtraction, multiplication, division, fractions, decimals, estimating, percentages, business formulas, commissions and bank reconciliations.

Comprehensive English Review
Grammar, punctuation, spelling, capitalization, abbreviations and number usage.

Data Entry
(Prerequisite: 40 wpm) Data entry concepts, topics and practical business applications.

dBase
(Prerequisite: 25 wpm keyboarding speed) Create, edit and search database files, query information, link databases, create custom reports, produce labels and forms.

Electronic Calculators
Mathematical applications using ten-key touch methods.

Filing
Fundamentals of filing using a variety of business documents and filing systems.

Fundamentals of DOS
Internal and external commands, directories, file management and batch files.

Gregg Shorthand I
Theory, brief forms and transcription of Gregg shorthand. A 50 wpm writing speed must be reached upon completion.

Keyboard Skill-building
(Prerequisite: BOLC Keyboarding or 30 wpm keyboarding speed) Diagnostic approach is used to improve keyboarding accuracy and speed.

Keyboarding
Develop basic keyboarding skill through correct technique and accuracy.

Lotus 1-2-3
Basic concepts, worksheet formatting, formulas, charts, databases and macros.

Machine Transcription
(Prerequisites: demonstrated English proficiency and 50 net wpm typing skill) Transcription of business correspondence in mailable form.

Medical Terminology
Audio exercises are used to build a working medical vocabulary.

Medical Terminology and Transcription
(Prerequisites: machine transcription skill and 50 net wpm typing skill) Medical terminology and transcription of medical forms and documents.

Microsoft Excel for Windows
(Suggested prerequisite: Microsoft Windows or related experience) Basic concepts, worksheet formatting, formulas, charts and linking.

Microsoft Windows
Computer terminology and concepts used in the Windows environment.

Microsoft Word for Windows
(Prerequisite: 25 wpm keyboarding speed; suggested Microsoft Windows or related experience) Beginning through advanced features.

Proofreading
Provides rules, instruction and practice for improving proofreading skills.

Shorthand Review
Review and speed-building in ABC and Gregg shorthand.

Spelling
Audio cassette tapes are used to improve spelling skills.

WordPerfect for DOS
(Prerequisite: 25 wpm keyboarding speed) Basic through advanced features.

WordPerfect for the PowerMacintosh (Main Campus only) *(Prerequisite: 25 wpm keyboarding speed)* Basic through advanced features.

WordPerfect for Windows
(Prerequisite: 25 wpm keyboarding speed; suggested Microsoft Windows or related experience) Beginning through advanced features.

CONTINUOUS QUALITY IMPROVEMENT (CQI)

Continuous Quality Improvement (CQI) courses are designed to help improve processes and change the culture within organizations. The courses highlight quality improvement concepts and theories, fundamentals of continuous quality improvement (CQI), techniques for data gathering, quality tools, team building, action plans for process improvement and quality leadership.

The quality courses are also offered as a concentration option for the associate of applied science degree in Business Administration.

Application for a department certificate may be made with a program director upon completion of the six CQI courses.

BA 101 Introduction to Quality Management **1 credit hour**
Concepts and theories of quality improvement. (5 weeks)

BA 102 Fundamentals of Continuous Quality Improvement (CQI) 1 credit hour
Data gathering for process improvements and organizational culture change. (5 weeks)

BA 103 Quality Tools 1 credit hour
Tools and techniques such as the cause and effect diagram, brainstorming, control charts and Pareto diagrams. (5 weeks)

BA 104 Team Building for Quality 1 credit hour
Group process as it applies to team building. (5 weeks)

BA 105 Re-engineering for Quality 1 credit hour
Tools and techniques to formulate action plans for process improvements. (5 weeks)

BA 106 Quality Leadership 1 credit hour
Mission statement, goals and strategies to implement quality leadership throughout an organization. (5 weeks)

CUSTOMER SERVICE REPRESENTATIVE

BA 115 Customer Service Representative 8 credit hours
Customer service in a customer call center environment, basic word processing, computer skills, software applications to review math and English and human relations skills. Proficiency is demonstrated in the classroom and workplace. (6 theory + 6 lab hours a week)

ENTREPRENEURSHIP

The Entrepreneurship course is for persons who plan to open a small business or who own or manage a business and want further training in principles, operations and/or expansion.

Students enrolled in this program may not be eligible to receive financial aid or Veterans Administration benefits.

ENTR 101 Entrepreneurship 6 credit hours
Tasks and activities are accomplished through lecture, group activities and completion of a business plan.

ENTR 102 Entrepreneurship in a Global Setting 3 credit hours
(Prerequisite: RDG 099 or equivalent) Small business exporting and importing, market analysis, pricing, financing, marketing, insurance, transportation and distribution of exports/imports and North American Free Trade Agreement (NAFTA) are covered.

REAL ESTATE

The real estate courses are for persons seeking New Mexico state 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 re-

quirements for the real estate concentration for the associate of applied science degree in Business Administration. Course descriptions are in the Business Administration section.

Students enrolled in this program may not be eligible to receive financial aid or Veterans Administration benefits. Credit courses which meet New Mexico Real Estate Commission requirements are:

		TVI 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 279	Uniform Standards of Professional Appraisal Practice	2	0	15*
BA 280	Fair Housing Law	1	8	n/a
BA 281	Americans with Disabilities Act and Related Handicap Discrimination Law	1	8	n/a
BA 282	Appraising the Single Family Residence	3	20	30
BA 283	Rules and Regulations of the New Mexico Real Estate Commission	1	8	n/a *37.5

* Pre-licensing for Appraisal Credit
# Pre-licensing for New Mexico Real Estate Sales Agent

SALES AND CASHIERING

The Sales and Cashiering certificate program prepares students for entry-level careers in retail and service occupations.

The sales-cashier laboratory provides opportunities for learning the skills of sales, the cash register touch system and human relations. Students work with various makes and models of electronic cash registers.

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.

			Credit Hours
SALE	101L	Sales-Cashier Lab	9
SALE	299	Cooperative Education	4
		Total	**13**

SALE 101L Sales-Cashier Lab **9 credit hours**

(Prerequisite: placement test) Fundamentals of merchandising math, cashiering, retail salesmanship, human relations and customer service. Students demonstrate computer literacy skills of keyboarding, hardware and basic word processing by taking the TVI computer literacy test. Tutorials and self-paced modules are also available. Offered fall term. (5 theory + 10 lab hours a week)

SALE 299 Cooperative Education **4 credit hours**

Students work a minimum of 150 hours at retailing-related, instructor-approved work stations. Student trainee is paid by the cooperating employer and supervised jointly by TVI and the employer. There are times when it is impossible to place all students in work stations because of local employment requirements. Offered fall term. (1 theory + 9 lab hours a week)

ACCOUNTING

Accounting is an excellent field for persons looking for a challenging career that has good potential for advancement. This program is accredited by the Association of Collegiate Business Schools and Programs.

Many of the Business Occupations Department's accounting courses are accepted for fulfillment of the education requirement for the Certified Public Accountant (CPA) and Certified Management Accounting (CMA) exams. However, a bachelor's degree is a requirement for both exams and must be obtained from an accredited four-year postsecondary educational institution.

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

Term 1: ACCT 101, ACCT 111, BA 113, BA 121, BA 131
Term 2: ACCT 102, BA 122, BA 133, CSCI 101
Term 3: ACCT 201, ACCT 240, ACCT 260, ACCT 254, general elective (required for certificate only)
Term 4: ACCT 202, ACCT 255, ACCT 280, ACCT elective, BA 211

			Credit Hours
ACCT	101	Financial Accounting I	
	or ACCT 101A and ACCT 101B		6
ACCT	102	Financial Accounting II	
	or ACCT 102A and ACCT 102B		6
ACCT	111	Accounting Math	3
ACCT	201	Intermediate Accounting I	4
ACCT	202	Intermediate Accounting II	4
ACCT	240	Tax Accounting I	3
ACCT	254	Electronic Spreadsheets	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 (7.5 weeks)	2
BA	133	Principles of Management	3
BA	211	Business Law	3
*CSCI	101	Computer Literacy	4
One general elective (required for certificate only)			3–4
One ACCT elective			3
		Total required for certificate	**65–66**
		Degree (Occupational Component)	62

*Previously offered as BA 150.

ARTS & SCIENCES COURSES REQUIRED FOR DEGREE

ENG	101	College Writing	3
COMM	130 or 221 or 232 or 240		3
MATH	120	Intermediate Algebra	4
MATH	145	Introduction to Probability and Statistics	3
Social Science/Humanities Elective			3
		Total required for degree	**78**

ACCOUNTING ELECTIVES

ACCT	241	Tax Accounting II	3
ACCT	270	Governmental Accounting	3
ACCT	271	Auditing	3
ACCT	272	Accounting Systems Design	3
ACCT	296	Accounting Topics	1–3

GENERAL ELECTIVES

ACCT	298	Internship	4
ACCT	299	Cooperative Education	4
BA	215	Money and Banking	3
ECON	200	Macroeconomics	3
MMS Course(s)			1–3

ACCT 101 Financial Accounting I **6 credit hours**
(Prerequisites: MATH 099, RDG 099 or equivalent; pre- or corequisite: ACCT 111 or MATH 162 or MATH 180) Principles of the double-entry accounting system, recording transactions, adjusting entries, preparing statements and closing accounts, accounting for cash, accounts receivable, inventories and tangible and intangible assets are studied. ACCT 101A plus ACCT 101B are equivalent to this course

ACCT 101A Financial Accounting IA **3 credit hours**
(Prerequisites: MATH 099 or equivalent; RDG 099 or equivalent) This course is the first half of ACCT 101. Principles of the double-entry accounting system including recording transactions, adjusting entries, preparing statements and closing accounts are covered. ACCT 101A plus ACCT 101B are equivalent to ACCT 101.

ACCT 101B Financial Accounting IB **3 credit hours**
(Prerequisites: ACCT 101A and ACCT 111 or MATH 162 or MATH 180) This course is the second half of ACCT 101 and includes cash, accounts receivable, inventories and tangible and intangible assets. ACCT 101A and ACCT 101B are equivalent to ACCT 101.

ACCT 102 Financial Accounting II **6 credit hours**
(Prerequisite: ACCT 101; pre- or corequisite: CSCI 101) Accounting for current liabilities, payroll, partnerships, corporations, long-term liabilities, investments, statement of cash flows and financial statement analysis. ACCT 102A plus ACCT 102B are equivalent to this course.

ACCT 102A Financial Accounting IIA **3 credit hours**
(Prerequisite: ACCT 101 or 101B; pre- or corequisite: CSCI 101) This course is the first half of ACCT 102 and includes current liabilities, payroll, partnerships and corporations. ACCT 102A plus ACCT 102B are equivalent to ACCT 102.

ACCT 102B Financial Accounting IIB **3 credit hours**
(Prerequisites: ACCT 102A, CSCI 101) This course is the second half of ACCT 102 and includes long-term liabilities, investments, statement of cash flows and financial statement analysis. ACCT 102A plus ACCT 102B are equivalent to ACCT 102.

ACCT 103 Survey of Accounting for Non-Business Majors **3 credit hours**
An overview of accounting for non-business majors. Both manual and spreadsheet techniques are employed. Data flow and programming examples of accounting systems are discussed. (2 theory + 3 lab hours a week)

ACCT 111 Accounting Math **3 credit hours**
(Prerequisite: MATH 099 or equivalent; this course is a pre- or corequisite for ACCT 101) Basic arithmetic operations related to business applications and accounting. 10-key touch method skills using electronic calculators.

ACCT 201 Intermediate Accounting I **4 credit hours**
(Prerequisite: ACCT 102 or ACCT 102B) Accounting theory, concepts, practical application, use of accounting data as a basis for decisions by management, stockholders, creditors and other users of financial statements and accounting reports. Emphasis is on the asset side of the balance sheet.

ACCT 202 Intermediate Accounting II **4 credit hours**
(Prerequisite: ACCT 201) Accounting for current and long-term liabilities, capital stock transactions, dividends, retained earnings and cash flow statements and analysis.

ACCT 240 Tax Accounting I **3 credit hours**
(Prerequisite: ACCT 101 or ACCT 101B) Fundamental characteristics of individual federal income taxes.

ACCT 241 Tax Accounting II **3 credit hours**
(Prerequisite: ACCT 240 or permission of the program director) Income tax aspects of corporations, partnerships, sub-chapter S corporations, fiduciaries, advanced concepts related to individual income taxes, tax planning and estate and gift taxation.

ACCT 254 Electronic Spreadsheets **3 credit hours**
(Prerequisites: ACCT 102 or ACCT 102B, CSCI 101 or permission of the program director) Computer spreadsheets for accounting and business applications. (2 theory + 3 lab hours a week) Course fee: $15

ACCT 255 Computerized Accounting **3 credit hours**
(Prerequisites: ACCT 102 or ACCT 102B, CSCI 101 or permission of the program director) Payroll, inventory control, accounts payable, accounts receivable and general ledger using computerized integrated business software. (2 theory + 3 lab hours a week) Course fee: $15

ACCT 260 Cost Accounting **3 credit hours**
(Prerequisite: ACCT 102 or ACCT 102B) Job order and process costing systems for construction and manufacturing.

ACCT 270 Governmental Accounting **3 credit hours**
(Prerequisite: ACCT 102 or ACCT 102B) Fund accounting for governmental and other nonprofit entities.

ACCT 271 Auditing **3 credit hours**
(Prerequisite: ACCT 102 or ACCT 102B) 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 credit hours**
(Prerequisite: ACCT 102 or ACCT 102B) Students design a manual accounting system which includes a chart of accounts, accounting manual, flow charts, control and support systems and reports to management.

ACCT 280 Managerial Accounting **3 credit hours**
(Pre- or corequisite: ACCT 260) Interpretation of accounting information for decision making by management in planning and controlling business activities.

ACCT 296 Accounting Topics **1-3 credit hours**
Current topics in accounting.

ACCT 298 Internship **4 credit hours**
(Prerequisites: ACCT 102 or ACCT 102B and permission of the program director) Students work a minimum of 150 hours in a new job experience in accounting or training-related supervised work stations. Students are not paid for their work but are supervised jointly by TVI and the company. (1 theory + 9 lab hours a week)

ACCT 299 Cooperative Education **4 credit hours**
(Prerequisites: ACCT 102 or ACCT 102B and permission of the program director) Students work a minimum of 150 hours in a new job experience in accounting or training-related supervised work stations. Student trainees are paid by the cooperating firm and supervised jointly by TVI and the employer. (1 theory + 9 lab hours a week)

ADMINISTRATIVE ASSISTANT

CAREER IN OFFICE TECHNOLOGY

The Administrative Assistant program offers training in organizational and interpersonal skills, as well as office technology and written communication. This program is accredited by the Association of Collegiate Business Schools and Programs.

Individuals who have already attained a Certified Professional Secretary (CPS) rating may receive credit hours toward the Administrative Assistant associate of applied science degree. Students may contact the program director 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 Organizational Learning and Instructional Technology.

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

Term 1: AA 101, AA 102, AA 111, AA 121, CSCI 101
Term 2: AA 143, AA 107, AA 112, AA 122, BA 131, MMS 150
Term 3: AA 200, AA 202, AA 230, AA 205, BA 113
Term 4: AA 250, AA 260, BA 133, MMS 157

CERTIFICATE AND DEGREE REQUIREMENTS

			Credit Hours
AA	101	Beginning Keyboarding	3
AA	102	Keyboard Applications	3
AA	107	Intermediate Keyboard Skill-building	2
AA	111	Business Math/Calculators	3
	or		
ACCT	111	Accounting Math	3
AA	112	Office Accounting Procedures	4
AA	121	Office Communications I	3
	or		
BA	121	Business Communications I	3
AA	122	Office Communications II	3
AA	143	Word Processing	4
AA	200	Advanced Word Processing	3
AA	202	Information Processing	3
AA	205	Advanced Keyboard Skill-building	2
AA	230	Office Communications III	3
	or		
BA	122	Business Communications II	3
AA	250	Machine Transcription	3
AA	260	Business Procedures	3
BA	113	Introduction to Business	3
[1] BA	131	Human Relations (7.5 weeks)	2
BA	133	Principles of Management	3
*CSCI	101	Computer Literacy	4
MMS	150	Microsoft Windows (5 weeks)	1
MMS	257	Presentation Graphics	3
		Total required for certificate	**58–59**

ARTS & SCIENCES COURSES REQUIRED FOR DEGREE

COMM	221	Interpersonal Communications	3
ENG	101	College Writing	3
Biological and Physical Science Elective or			
MATH	120	Intermediate Algebra or higher	3–4
Social Science/Humanities Elective			3
Arts & Sciences Elective except Military Studies			3
		Total required for degree	**73–75**

OPTIONAL COURSES#

AA	105	Keyboard Skill-building	2
AA	207	Law Office Technology	4
BA	211	Business Law	3
CR	132	Medical Terminology and Anatomy	5
CR	240	Legal Terminology	3
SSKL	211	Employment Skills—General (15 hours)	1
MMS	134	WordPerfect for Windows	3
MMS	151	DOS Fundamentals (5 weeks)	1
MMS	154	Desktop Publishing Using WordPerfect (5 weeks)	1
MMS	156	Office Management Software (5 weeks)	1
MMS	160	Introduction to Internet (5 weeks)	1
MMS	255	Desktop Publishing	3

[1] COMM 221 may substitute for BA 131.
* Previously offered as BA 150.
# May be taken at any time when prerequisites are met.

AA 101 Beginning Keyboarding **3 credit hours**
Keyboarding by touch method and developing speed and accuracy. A minimum average of 25 wpm on five-minute timings should be attained. (2 theory + 3 lab hours a week) Course fee: $10

AA 102 Keyboard Applications **3 credit hours**
(Prerequisite: AA 101) Production of business letters, reports and tables and continued development of speed and accuracy. A minimum average speed of 35 wpm on five-minute timings should be attained. (2 theory + 3 lab hours a week) Course fee: $15

AA 105 Keyboard Skill-building **2 credit hours**
(Prerequisite: AA 101 or 25 wpm typing speed on a five-minute timing) For students with various levels of keyboarding skills. Evaluation is based on lessons completed and on individual speed and accuracy improvement. (5 lab hours a week) Course fee: $10

AA 107 Intermediate Keyboard Skill-building **2 credit hours**
(Prerequisite: AA 102 or 35 wpm typing speed on a five-minute timing) Building speed and accuracy. A minimum keyboarding speed of 45 wpm on five-minute timed writings is required to pass this course. (5 lab hours a week) Course fee: $10

AA 111 Business Mathematics/Calculators **3 credit hours**
(Prerequisite: MATH 099 or equivalent) Review of math fundamentals and their applications in solving business problems and calculator speed development using the touch method. Course fee: $5

AA 112 Office Accounting Procedures **4 credit hours**
(Prerequisite: AA 111 or ACCT 111) Complete bookkeeping cycle, financial statements and payroll. A computerized practice set is completed in this course.

AA 121 Office Communications I **3 credit hours**
(Prerequisites: RDG 099 or equivalent and ENG 099 or equivalent) Introduction to oral and written communications with emphasis on vocabulary building, spelling, grammar, punctuation, sentence structure, oral expression and listening skills.

AA 122 Office Communications II **3 credit hours**
(Prerequisite: AA 121 or BA 121; pre- or corequisite: AA 102 or permission of the program director) Continuation of AA 121 with greater emphasis on oral communication, punctuation, sentence and paragraph construction and telephone techniques.

AA 143 Word Processing **4 credit hours**
(Prerequisites: AA 101 and AA 102 or a minimum typing speed of 35 words a minute on a five-minute timing and CR 133 or CSCI 101 or permission of the program director) Basic and intermediate features for preparing business documents. (3 theory + 3 lab hours a week) Course fee: $15

AA 200 Advanced Word Processing **3 credit hours**
(Prerequisites: AA 143 and minimum typing speed of 45 words a minute on a five-minute timing or permission of the program director) Advanced applications for preparing business documents. (2 theory + 3 lab hours a week) Course fee: $15

AA 202 Information Processing **3 credit hours**
(Prerequisite: AA 143, MMS 257 or permission of the program director) Computerized office applications, electronic spreadsheets, database management and integration. (2 theory + 3 lab hours a week) Course fee: $15

AA 205 Advanced Keyboard Skill-building **2 credit hours**
(Prerequisite: AA 107 or 45 wpm typing speed on a five-minute timing) Building speed and accuracy. Final evaluation is based on an average of three five-minute timings that average 55 wpm. (5 lab hours a week) Course fee: $10

AA 207 Law Office Technology **4 credit hours**
(Prerequisites: AA 143, CR 240) Preparation of legal correspondence and forms from audio tape, typed copy and preprinted forms. Offered fall term. (3 theory + 3 lab hours a week) Course fee: $15

AA 230 Office Communications III **3 credit hours**
(Prerequisites: AA 102, AA 122) Principles of writing and composition of business correspondence and continued emphasis on grammar, punctuation, spelling, oral communication and listening skills.

AA 250 Machine Transcription **3 credit hours**

(Prerequisites: AA 107, AA 122, AA 143 or permission of the program director) Development of speed and accuracy in transcribing mailable copy. (2 theory + 3 lab hours a week) Course fee: $15

AA 260 Business Procedures **3 credit hours**

(Prerequisites: AA 107, AA 122) Office procedures, technology, records management, human relations and job portfolio preparation. Course should be taken in the student's final term.

AA 296 Topics Course **1-3 credit hours**

Current topics in office technology.

AA 298 Internship **4 credit hours**

(Prerequisites: AA 143, AA 122 and a typing skill of 55 wpm on a five-minute timed writing and permission of the program director) Students work a minimum of 150 hours at office-related supervised work stations. Students are not paid for their work but are supervised jointly by TVI and the employer. The student and employer determine the weekly contact hours. (1 theory + 9 lab hours a week)

AA 299 Cooperative Education **4 credit hours**

(Prerequisites: AA 143, AA 122 and a typing skill of 55 wpm on a five-minute timed writing and permission of the program director) Students work a minimum of 150 hours in a new office-related position. Student trainees are paid by the cooperating firm and supervised jointly by TVI and the employer. The student and employer determine the weekly contact hours. (1 theory + 9 lab hours a week)

BANKING

The Banking program combines general education and banking skills. The program prepares students for entry-level positions and job advancement as tellers, operations supervisors, customer assistants, financial service representatives and banking support staff.

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

Term 1: ACCT 111, BA 113, BA 121, BANK 101, CSCI 101
Term 2: ACCT 101, BA 131, BANK 103 or BA 211, BA 222
Term 3: ACCT 102, BANK 105, BA 133, BA 252
Term 4: BANK 109, BANK 111, Banking elective, BA 284

CERTIFICATE AND DEGREE REQUIREMENTS

			Credit Hours
ACCT	101	Financial Accounting I	
	or ACCT 101A and ACCT 101B		6
ACCT	102	Financial Accounting II	
	or ACCT 102A and ACCT 102B		6
ACCT	111	Accounting Math	3
BA	113	Introduction to Business	3
BA	121	Business Communications I	3
BA	131	Human Relations (7.5 weeks)	2
BA	133	Principles of Management	3
BA	222	Principles of Marketing	3
BA	252	Customer Relations	3
BA	284	Sales	3
BANK	101	Principles of Banking	3
BANK	103	Law and Banking Principles	3
	or		
BA	211	Business Law	3
BANK	105	Consumer Lending	3
BANK	109	Bank Accounting	1
BANK	111	Budgeting and Planning	1
Banking Elective			3
*CSCI	101	Computer Literacy	4
		Total required for certificate	**53**

*Previously offered as BA 150.

ADDITIONAL DEGREE REQUIREMENTS

Banking Elective(s)	3

ARTS & SCIENCES COURSES REQUIRED FOR DEGREE

COMM	130 or 221 or 232 or 240		3
ECON	200	Macroeconomics	3
ENG	101	College Writing	3
ENG	119	Technical Communications	3
MATH	145	Introduction to Probability and Statistics	3
		Total required for degree	**71**

BANKING ELECTIVES

ACCT	254	Electronic Spreadsheets	3
ACCT	240	Tax Accounting I	3
BA	101	Introduction to Quality Management	1

BA	102	Fundamentals of Continuous Quality Improvement (CQI)	1
BA	103	Quality Tools	1
BA	104	Team Building for Quality	1
BA	105	Re-engineering for Quality	1
BA	106	Quality Leadership	1
BA	271	Real Estate Practice	3
BA	270	Real Estate Law	3
BA	215	Money and Banking	3
BANK	107	Analyzing Financial Statements	3
BANK	113	Bank Simulator	1–3
BANK	115	Commercial Lending	3
BANK	299	Cooperative Education	4
PHIL	245B	Business Ethics	3

BANK 101 Principles of Banking **3 credit hours**
Survey of major aspects of banking from the fundamentals of negotiable instruments to contemporary issues.

BANK 103 Law and Banking Principles **3 credit hours**
Banker's guide to law and legal issues with emphasis on the Uniform Commercial Code.

BANK 105 Consumer Lending **3 credit hours**
Regulations governing credit practices, loan processing, cross-selling and collections.

BANK 107 Analyzing Financial Statements **3 credit hours**
Financial analysis and skills needed to assess a borrower's ability to repay loans.

BANK 109 Bank Accounting **1 credit hour**
Current banking environment, players involved, current changes within the industry using financial data in a variety of formats, cost containment, productivity and financial efficiencies.

BANK 111 Budgeting and Planning **1 credit hour**
Budgeting and planning for bank operations.

BANK 113 Bank Simulator **1 credit hour**
Computer simulation to devise and implement management goals for a commercial bank in a competitive environment.

BANK 115 Commercial Lending **3 credit hours**
Covers the technical side of commercial lending and important human relations skills.

BANK 299 Cooperative Education **4 credit hours**
(Prerequisites: ACCT 102 or ACCT 102B and permission of the program director) Students work a minimum of 150 hours in a new job experience in banking or training-related super-

vised work stations. Student trainees are paid by the cooperating firm and supervised jointly by TVI and the employer. (1 theory + 9 lab hours a week)

BOOKKEEPING

The Bookkeeping program provides occupational certification for entry-level employment. The courses in this program may integrate into other Business Occupations programs.

Each student receives an introduction to broad business operations as well as the basics of bookkeeping, written and verbal communication, introductory computer and accounting skills.

A suggested schedule per term for the Bookkeeping certificate includes:

Term 1: ACCT 101, ACCT 111, BA 113, BA 131

Term 2: ACCT 102, BA 121, CSCI 101

Term 3: ACCT 254, BA 133, ACCT 298 or 299, approved elective

			Credit Hours
ACCT	101	Financial Accounting I	
	or ACCT 101A and ACCT 101B		6
ACCT	102	Financial Accounting II	
	or ACCT 102A and ACCT 102B		6
ACCT	111	Accounting Math	3
ACCT	254	Electronic Spreadsheets	3
ACCT	298	Internship	4
	or		
ACCT	299	Cooperative Education	4
BA	121	Business Communications I	3
BA	113	Introduction to Business	3
BA	131	Human Relations (7.5 weeks)	2
BA	133	Principles of Management	3
*CSCI	101	Computer Literacy	4
Approved elective(s)			3
		Total	**40**

*Previously offered as BA 150.

APPROVED ELECTIVES

ACCT	240	Tax Accounting I	3
ACCT	241	Tax Accounting II	3
ACCT	255	Computerized Accounting	3
ACCT	260	Cost Accounting	3
ACCT	270	Governmental Accounting	3

ACCT	271	Auditing	3
ACCT	272	Accounting Systems Design	3
ACCT	280	Managerial Accounting	3
ACCT	296	Accounting Topics	1–3
MMS Course(s)			1–3

See the Accounting and Business Administration programs for course descriptions.

BUSINESS ADMINISTRATION

The Business Administration program provides students with the skills, knowledge and experience required for today's business as well as the business of the next century.

This program is accredited by the Association of Collegiate Business Schools and Programs.

An associate of applied science degree in Business Administration is awarded to students who complete the occupational requirements, Arts & Sciences components and a concentration in one of nine areas: continuous quality improvement (CQI), customer service representative, general business, health systems management, international business, merchandising, real estate, small business management or tourism/hospitality.

Structured sequences for the tourism/hospitality and real estate concentrations are necessary early in the programs. One or two specialty courses should be taken each term. The tourism/hospitality concentration includes elective courses sponsored by the Educational Institute (EI), an educational foundation of the American Hotel and Motel Association (AH&MA). 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 (NMREC) for either pre-licensing or continuing education requirements. All courses offered in real estate appraisal are approved by the New Mexico Real Estate Appraisers Board (NMREAB).

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

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

Term 1: ACCT 101 or ACCT 101A and ACCT 101B, ACCT 111, BA 113, BA 121, BA 131

Term 2: ACCT 102 or ACCT 102A and ACCT 102B, BA 122, BA 133, CSCI 101

Term 3: BA 211, BA 222, BA 284, ACCT 254, BA 157, elective

Term 4: Concentrations

			Credit Hours
ACCT	101	Financial Accounting I	
	or ACCT 101A and ACCT 101B		6
ACCT	102	Financial Accounting II	
	or ACCT 102A and ACCT 102B		6
ACCT	111	Accounting Math	3
ACCT	254	Electronic Spreadsheets	3
BA	113	Introduction to Business	3
BA	121	Business Communications I	3
BA	122	Business Communications II	3
BA	131	Human Relations (7.5 weeks)	2
BA	133	Principles of Management	3
BA	157	Computer Accounting for Small Business (5 weeks)	1
BA	211	Business Law	3
BA	222	Principles of Marketing	3
BA	284	Sales	3
*CSCI	101	Computer Literacy	4
Approved elective (see concentrations)			3–4
		Total required for certificate	**49–50**

* Previously offered as BA 150.

ARTS AND SCIENCES COURSES REQUIRED FOR DEGREE

COMM	130 or 221 or 232 or 240		3
ECON	200	Macroeconomics or higher level	3
ENG	101	College Writing	3
MATH	120	Intermediate Algebra or higher level math	3–4
PHIL	245B	Business Ethics	3
		Subtotal required for degree	**64–66**

CONCENTRATIONS FOR DEGREE (ONE CONCENTRATION REQUIRED)

Continuous Quality Improvement (CQI)

BA	101	Introduction to Quality Management (5 weeks)	1
BA	102	Fundamentals of Continuous Quality Improvement (5 weeks)	1
BA	103	Quality Tools (5 weeks)	1
BA	104	Team Building for Quality (5 weeks)	1
BA	105	Re-engineering for Quality (5 weeks)	1
BA	106	Quality Leadership (5 weeks)	1
Approved Elective			3–4
		Total required for degree	**73–76**

Customer Service Representative

BA	115	Customer Service Representative	8
Approved Elective			3
		Total required for degree	**75–77**

General Business

BA	299	Cooperative Education	4
Two Approved Electives			6
		Total required for degree	**74–76**

Health Systems Management

BA	241	Decision Models for Health Risk Assessment	3
BA	244	Survey of Health Systems Intervention	3
Approved Elective			3–4
		Total required for degree	**73–76**

International Business

IB	101	Introduction to International Business	3
IB	202	International Management	3
Approved International Business Elective			3
		Total required for degree	**73–75**

Merchandising

BA	252	Customer Relations	3
BA	253	Retailing	3
	or		
BA	286	Advertising	3
Approved Elective			3–4
		Total required for degree	**73–76**

Real Estate (also see page 79)

BA	270	Real Estate Law	3
BA	271	Real Estate Practice	3
Approved Real Estate Elective			3
		Total required for degree	**73–75**

Small Business Management

BA	252	Customer Relations	3
BA	286	Advertising	3
ENTR	101	Entrepreneurship	6
		Total required for degree	**76–78**

BA	252	Customer Relations	3
BA	263	Tourism and the Hospitality Industry	3
BA	267	Hospitality Supervision	3
		Total required for degree	**73–75**

ELECTIVES

ACCT	240	Tax Accounting I	3
ACCT	255	Computerized Accounting	3
ACCT	260	Cost Accounting	3
ACCT	272	Accounting System Design	3
ACCT	280	Managerial Accounting	3
BA	101	Introduction to Quality Management (5 weeks)	1
BA	102	Fundamentals of Continuous Quality Improvement (5 weeks)	1
BA	103	Quality Tools (5 weeks)	1
BA	104	Team Building for Quality (5 weeks)	1
BA	105	Re-engineering for Quality (5 weeks)	1
BA	106	Quality Leadership (5 weeks)	1
BA	115	Customer Service Representative	8
BA	215	Money and Banking	3
BA	241	Decision Models for Health Risk Assessment	3
BA	242	CPT Coding	3
BA	243	ICD-9-CM Coding	3
BA	244	Survey of Health Systems Intervention	3
BA	245	Introduction to Hospitality Today	3
BA	246	Hotel/Motel Facilities Management	3
BA	247	Hotel/Motel Housekeeping Management	3
BA	251	Retail Merchandising	3
BA	252	Customer Relations	3
BA	253	Retailing	3
BA	258	Hotel/Motel Organization and Administration	3
BA	259	Hotel/Motel Food and Beverage Management	3
BA	260	Purchasing	3
BA	263	Tourism and the Hospitality Industry	3
BA	264	Front Office Procedures	3
BA	265	Marketing of Hospitality Services	3
BA	266	Hotel/Motel Law	3
BA	267	Hospitality Supervision	3
BA	268	Resort Management	3
BA	269	Hotel/Motel Security Management	3
BA	270	Real Estate Law	3
BA	271	Real Estate Practice	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	276	NMREC Mandatory Course (5 weeks)	1
BA	279	Uniform Standards of Professional Appraisal Practice (7.5 weeks)	2
BA	280	Fair Housing Law (5 weeks)	1
BA	281	Americans with Disabilities Act and Related Handicap Discrimination Law (5 weeks)	1
BA	282	Appraising the Single Family Residence	3
BA	283	Rules & Regulations of the New Mexico Real Estate Commission (5 weeks)	1
BA	286	Advertising	3
BA	287	Delta Epsilon Chi Competition	1
BA	289	Strategic Planning	3
BA	290	Hotel/Motel Food and Beverage	3
BA	291	Hotel/Motel Human Resources Management	3
BA	292	Hospitality Energy and Water Management	3
BA	293	Hospitality Purchasing Management	3
BA	294	Convention Management and Service	3
BA	295	Hospitality Industry Engineering Systems	3
BA	296	Business Topics	1–3
BA	298	Internship	4
BA	299	Cooperative Education	4
BA	299A	Cooperative Education I	1
BA	299B	Cooperative Education II	1
BA	299C	Cooperative Education III	1
BA	299D	Cooperative Education IV	1
ENTR	101	Entrepreneurship	6
ENTR	102	Entrepreneurship in a Global Setting	3
IB	101	Introduction to International Business	3
IB	201	International Marketing	3
IB	202	International Management	3
IB	203	International Finance and Trade	3
IB	205	Fundamentals of Exporting/Importing	3
MMS	134	WordPerfect for Windows	3
MMS	135	Microsoft Word for Windows	3
MMS	151	DOS Fundamentals (5 weeks)	1
MMS	152	Lotus Fundamentals (5 weeks)	1
MMS	153	dBase Fundamentals (5 weeks)	1
MMS	154	Desktop Publishing Using WordPerfect (5 weeks)	1
MMS	156	Office Management Software (5 weeks)	1
MMS	255	Desktop Publishing	3
MMS	257	Presentation Graphics	3
MMS	258	Local Area Network (LAN) Systems Manager (10 weeks)	2
FSMG	101	Operations Management	3

[1]FSMG	102	Human Resource Management	3
[1]FSMG	103	Product Management	3
[1]FSMG	104L	Computers and Food Service	3
[1]FSMG	299	Cooperative Education	4
SSKL	211	Employment Skills—General (15 hours)	1

[1] Food Service Management course (see Trades & Service Occupations Department)

BA 111 Communications **2 credit hours**
Fundamentals of grammar, punctuation, oral communications and basic technical writing. (7.5 weeks)

BA 113 Introduction to Business **3 credit hours**
(Prerequisite: RDG 099 or equivalent) Structure of business, business activities, business opportunities and an understanding of the nature of the business world.

BA 121 Business Communications I **3 credit hours**
(Prerequisites: RDG 099 or equivalent and ENG 099 or equivalent) Writing fundamentals, spelling, grammar, punctuation, sentence structure, and oral and listening skills.

BA 122 Business Communications II **3 credit hours**
(Prerequisites: BA 121 and 25 wpm typing skill) Writing effective business letters, reports, memoranda, oral communication and listening skills.

BA 131 Human Relations **2 credit hours**
Interpersonal relationships, work ethics, self-awareness, time management, stress management, communications, goal setting, working in groups, personal management and study skills. (7.5 weeks)

BA 133 Principles of Management **3 credit hours**
(Prerequisites: RDG 099 or equivalent, BA 113 or permission of the program director) Management functions of planning, organizing, staffing, directing and controlling, human relations, group process, problem solving, team building and leadership skills.

BA 157 Computer Accounting for Small Business **1 credit hour**
(Prerequisite: AA 112 or ACCT 101 or ACCT 101B or ENTR 101 or permission of the program director) Accounting software program for a small business, set up the records for a business, open accounts, enter transactions and print end-of-period reports. (5 weeks; 2 theory + 3 lab hours a week) Course fee: $5

BA 211 Business Law **3 credit hours**
(Prerequisites: RDG 099 or equivalent and ENG 099 or equivalent) Basic knowledge of law including contract law, Uniform Commercial Code, negotiable instruments and alternative dispute resolutions.

BA 215 Money and Banking **3 credit hours**
(Prerequisite: ACCT 102 or ACCT 102B) History, nature and function of money, methods of institutional control and theories of monetary policy.

BA 222 Principles of Marketing **3 credit hours**
(Prerequisite: BA 113 or permission of the program director) Total marketing concepts from product creation, pricing, promotion and distribution.

BA 241 Decision Models for Health Risk Assessment **3 credit hours**
Students work in teams to explore health care as a system including technology, group processes and community involvement.

BA 242 Current Procedural Terminology (CPT) **3 credit hours**
(Prerequisite: CR 132) Fundamentals of medical office coding using CPT codes. CPT book setup and appropriate codes for office visits, procedures, exams and diagnoses.

BA 243 ICD-9-CM Coding **3 credit hours**
(Prerequisite: CR 132) Hospital coding using International Classification of Diseases (ICD), Clinical Modification codes, the coding book setup and the appropriate codes for diseases and procedures.

BA 244 Survey of Health Systems Intervention **3 credit hours**
Historical perspective and current survey of health maintenance organizations.

BA 245 Introduction to Hospitality Today **3 credit hours**
Organization and structure of hotels, restaurants and clubs, business ethics, franchising, management contracts and areas of management responsibility. Course equivalency AH&MA EI 103.

BA 246 Hotel/Motel Facilities Management **3 credit hours**
Physical plant management of a hotel or restaurant that includes the engineering and maintenance department. Course equivalency AH&MA EI 280.

BA 247 Hotel/Motel Housekeeping Management **3 credit hours**
Systematic approach to managing housekeeping operations in the hospitality industry. Course equivalency AH&MA EI 339.

BA 251 Retail Merchandising **3 credit hours**
(Pre- or corequisite: BA 222 or permission of program director) Methods and practice of retail merchandising including target market decisions, pricing, considering inventories, displaying layout and buying functions.

BA 252 Customer Relations **3 credit hours**
Relationship of self to customers, problem solving and communicating with customers, understanding customers, anticipating customers' needs and offering assistance.

BA 253 Retailing **3 credit hours**
(Prerequisite: RDG 099 or equivalent) Overview of the retail industry including target market decisions, pricing, store locations, store organization, scheduling of work, loss prevention and safety and strategic planning.

BA 258 Hotel/Motel Organization and Administration **3 credit hours**
Management functions and responsibilities in hotel/motel administration, organization, communications, accounting, marketing and human relations. Course equivalency AH&MA EI 207.

BA 259 Hotel/Motel Food and Beverage Management **3 credit hours**
Challenges and responsibilities involved in managing a food and beverage operation. Course equivalency AH&MA EI 240.

BA 260 Purchasing **3 credit hours**
(Prerequisite: ACCT 101, ACCT 101B or permission of the program director) Public and private sector purchasing, value analysis, solicitation process, negotiation techniques, vendor selection, purchasing law, transportation considerations and inventory control practices.

BA 263 Tourism and the Hospitality Industry **3 credit hours**
How and why people travel, how travel acts as a satisfier of needs and wants and how marketing efforts can influence travel decisions. Course equivalency AH&MA EI 321.

BA 264 Front Office Procedures **3 credit hours**
Management concepts to front office functions and how front office activities affect other departments. The computer is used throughout every phase of the guest cycle. Course equivalency AH&MA EI 333.

BA 265 Marketing of Hospitality Services **3 credit hours**
Develop, implement and evaluate a marketing plan to identify and reach prospective customers using marketing tactics specific to hospitality services. Course equivalency AH&MA EI 371.

BA 266 Hotel/Motel Law **3 credit hours**
Legal problems associated with the hospitality industry and how important legal considerations can affect the industry. Course equivalency AH&MA EI 391.

BA 267 Hospitality Supervision **3 credit hours**
Managing people from a supervisor viewpoint, controlling labor costs, time management, increasing productivity and managing change. Course equivalency AH&MA EI 251.

BA 268 Resort Management **3 credit hours**
Principles and practices for successful resort management, resort history, planning and development, major recreational activities, food and beverage, housekeeping and risk management. Course equivalency AH&MA EI 424.

BA 269 Hotel/Motel Security Management **3 credit hours**
Security program, security staffing, responsibilities in guest and asset protection, the accounting function and internal control, computer security and emergency procedures. Course equivalency AH&MA EI 386.

BA 270 Real Estate Law **3 credit hours**
The fiduciary relationship between the real estate agent and the client, ownership rights, law of agency and law of contracts. This course has been certified to earn 30 hours of credit toward the New Mexico Real Estate License Exam.

BA 271 Real Estate Practice **3 credit hours**
Review of general real estate practice providing basic knowledge of the real estate business. This course has been certified to earn 30 hours of credit toward the New Mexico Real Estate License Exam.

BA 272 Real Estate Appraisal **3 credit hours**
(Prerequisite: BA 271 or permission of instructor or program director) Methods for estimating the value of real property that includes real estate appraisal techniques of both land and improved residential property.

BA 273 Real Estate Finance **3 credit hours**
(Prerequisite: BA 271) Financing real property, money markets, sources of mortgage money, financial leverage, value of existing mortgage in the current market and purchaser qualification.

BA 274 Real Estate Investment **3 credit hours**
(Prerequisites: BA 270, BA 271) Principles for investment decisions, assessment of property potential, and an awareness of the marketplace and the needs of the public.

BA 275 Property Management **3 credit hours**
Residential and commercial property management, marketing of services, market analysis, record-keeping, related laws, legal documents, property maintenance, employee relations, insurance, security and administration.

BA 276 New Mexico Real Estate Commission Mandatory Course **1 credit hour**
Real estate licensees are updated about new legislation, NMREC problem areas, disciplinary hearings, rules and regulations, trust accounts, property management review, risk management, selected court cases, fiduciary responsibility, Real Estate Settlement Procedures Act, Americans with Disabilities Act and the Fair Housing Act. (5 weeks)

BA 279 Uniform Standards of Professional Appraisal Practice **2 credit hours**
Requirements for ethical behavior and competent performance by appraisers. (7.5 weeks)

BA 280 Fair Housing Law **1 credit hour**
Issues, regulations, practices and court cases related to fair housing. (5 weeks)

BA 281 Americans with Disabilities Act and Related Handicap Discrimination Law **1 credit hour**

Issues and guidelines affecting employment, construction and operation of business. (5 weeks)

BA 282 Appraising the Single Family Residence **3 credit hours**

(Prerequisite: BA 272) Techniques used to estimate the market value of single-family residential property.

BA 283 Rules & Regulations of the New Mexico Real Estate Commission **1 credit hour**

Current rules and regulations including the intent and the Real Estate Commission's interpretations. (5 weeks)

BA 284 Sales **3 credit hours**

(Prerequisite: RDG 099 or equivalent) Sales principles, demonstrating selling skills and promoting goods and services.

BA 286 Advertising **3 credit hours**

(Prerequisite: BA 222 or permission of the program director) Develop an advertising plan, select and schedule media, create budgets, design and produce advertisements and evaluate advertising effectiveness.

BA 287 Delta Epsilon Chi Competition **1 credit hour**

Skills to compete at state and national career development conferences by using sample written tests, role-playing case problems and classroom assignments involving salesmanship, marketing, problem solving and human relations. (3 lab hours a week)

BA 289 Strategic Planning **3 credit hours**

Strategic planning as a tool for management to provide overall direction for organizations, interpretation of plans, gap analysis, organizational culture, value classification and strategic management in a global environment adapting to cultural differences.

BA 290 Hotel/Motel Food and Beverage **3 credit hours**

Management of food and beverage service outlets, cafeterias, coffee shops, room service, banquet areas, dining rooms and basic service principles with emphasis on the special needs of guests. Course equivalency AH&MA EI 348.

BA 291 Hotel/Motel Human Resources Management **3 credit hours**

A systematic approach to human resources management in the hospitality industry, analyze contemporary issues, practices, and trends within the hospitality industry. Course equivalency AH&MA EI 357.

BA 292 Hospitality Energy and Water Management **3 credit hours**
Energy and water problems facing the hospitality industry and the development and implementation of an energy and water management program. Course equivalency AH&MA EI 383.

BA 293 Hospitality Purchasing Management **3 credit hours**
Development and implementation of an effective purchasing program involving issues such as supplier relations, supplier selection, negotiation and evaluation. Course equivalency AH&MA EI 446.

BA 294 Convention Management and Service **3 credit hours**
Convention and group business market, marketing and sales strategies and techniques. Course equivalency AH&MA EI 478.

BA 295 Hospitality Industry Engineering Systems **3 credit hours**
Managerial and technical functioning of the engineering/maintenance departments and the knowledge needed by managers at all levels to make appropriate and cost effective decisions. Course equivalency AH&MA EI 488.

BA 296 Business Topics **1-3 credit hours**
Current topics in business.

BA 298 Internship **4 credit hours**
(Prerequisites: ACCT 102 or ACCT 102B and permission of the program director) 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 TVI and the company. (1 theory + 9 lab hours a week)

BA 299 Cooperative Education **4 credit hours**
(Prerequisites: ACCT 102 or ACCT 102B and permission of the program director) 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 TVI and the employer. (1 theory + 9 lab hours a week)

BA 299A Cooperative Education I **1 credit hour**
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 TVI and the employer. (3 lab hours a week)

BA 299B Cooperative Education II **1 credit hour**
(Prerequisite: BA 299A) This course is a continuation of BA 299A for students in their second term of cooperative education. (3 lab hours a week)

BA 299C Cooperative Education III **1 credit hour**
(Prerequisite: BA 299B) This course is a continuation of BA 299A and BA 299B for students in their third term of cooperative education. (3 lab hours a week)

BA 299D Cooperative Education IV **1 credit hour**
(Prerequisite: BA 299C) This course is a continuation of BA 299A, BA 299B and BA 299C for students in their fourth term of cooperative education. (3 lab hours a week)

SSKL 211 Employment Skills—General **1 credit hour**
Skills necessary for obtaining employment include a cover letter, resume, follow-up letter, employer expectations, interview techniques, communication with business and industry and employability and job retention skills. (15 hours)

BUSINESS GRAPHICS AND COMMUNICATION

The Business Graphics and Communication program combines creative design, language skills and production training. Students are prepared to create documents for marketing, advertising, presentation, multimedia and print. There is a strong focus on practical production and troubleshooting techniques.

The early courses emphasize training in language skills and creativity. Training is also begun very early in drawing, creative writing and illustration.

A suggested schedule per term for the Business Graphics and Communication certificate/associate of applied science degree includes:

Term 1: ART 121, BA 113, BA 121, CSCI 101
Term 2: ACCT 101A, ART 106, BA 133 COMM 221, ENG 101
Term 3: BA 222, ENG 221, MATH 119 or MATH 120, MMS 170, MMS 255
Term 4: MMS 256, MMS 280, MMS 281, MMS 282, Art Elective
Term 5: ECON 101, MMS 257, MMS 271, Electives

CERTIFICATE AND DEGREE REQUIREMENTS

			Credit Hours
ACCT	101A	Financial Accounting IA	3
ART	121	Two Dimensional Design	3
BA	113	Introduction to Business	3
BA	121	Business Communications I	3
BA	133	Principles of Management	3
BA	222	Principles of Marketing	3
*CSCI	101	Computer Literacy	4
ENG	101	College Writing	3
MMS	170	Introduction to Multimedia (10 weeks)	2
MMS	255	Desktop Publishing	3
MMS	256	Advanced Desktop Publishing	3

MMS	257	Presentation Graphics	3
MMS	271	Macromedia Director	3
MMS	280	PostScript Illustration	3
MMS	281	Image Manipulation	3
MMS	282	Digital Prepress	3
Approved Elective			3

*Previously offered as BA 150.

Total required for certificate 51

ARTS & SCIENCES COURSES REQUIRED FOR DEGREE

ART	106	Basic Drawing	3
COMM	221	Interpersonal Communication Studies	3
ECON	101	Introduction to Economics	3
ENG	221	Creative Writing: Fiction	3
MATH	119	Methods of Problem Solving	4
	or		
MATH	120	Intermediate Algebra	4
Approved Art Elective			3
Approved Elective			3–4

Total required for degree 73–74

ART ELECTIVES

ART	201	History of Art I	3
ART	202	History of Art II	3
ART	250	Modern Art	3

ELECTIVES

ART	101	Introduction to Art	3
ART	122	Three-dimensional Design	3
ART	151	Art of the American Southwest	3
BA	122	Business Communications II	3
BA	251	Retail Merchandising	3
BA	252	Customer Relations	3
BA	253	Retailing	3
BA	284	Sales	3
BA	286	Advertising	3
BA	298	Internship	4
CP	177	Computer Graphics	3
CP	178	Computer Animation	3
MMS	154	Desktop Publishing Using WordPerfect (5 weeks)	1
MMS	156	Office Management Software (5 weeks)	1
MMS	157	PowerPoint Fundamentals (5 weeks)	1

MMS	160	Introduction to the Internet (5 weeks)	1
MMS	171	Hypertext Markup Language (HTML) (5 weeks)	1
MMS	201	Hardware/Software Administration (10 weeks)	2
MMS	220	Desktop Publishing on a Mac	3
MMS	270	Multimedia Authoring	3

See the Accounting and Business Administration programs for course descriptions.

COURT REPORTING

The Court Reporting program, approved by the National Court Reporters Association (NCRA), 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.

This program is approved by the Board on Approved Student Education of the National Court Reporters Association.

Court reporters are skilled professionals with machine shorthand and transcription skills who produce verbatim transcripts of trials, hearings and depositions. Reporters are employed in court proceedings, depositions, corporate meetings, arbitration hearings, conventions and legislative sessions. Court reporters also provide real-time and closed-captioning services.

Any person wishing to enroll in the Court Reporting program must have completed high school or have a General Education Development (GED) diploma.

Students enrolled in machine shorthand courses are responsible for having a stenotype machine (manual or electric). Purchase arrangements for an educational stenotype machine are available through the TVI Bookstore. Students must own a stenotype machine prior to enrolling in CR 103, Machine Shorthand I.

CR 104 is an open-exit course; CR 210, CR 220, CR 230 and CR 233 are open-entry, open-exit courses. Students may advance to the next course upon reaching the required speed level.

CR 104, CR 210, CR 220, CR 230 and CR 233 may be taken on a credit/no credit basis. Students in these courses should check with the program director or the Financial Aid Office before selecting a grading option. Students who are unable to complete the certificate program should see the program director for information regarding a departmental certificate in text processor/scopist or rapid text writer.

One of the goals of the Court Reporting certificate and degree program is to prepare students to pass the New Mexico Court Reporting certification test.

To graduate from the Court Reporting program, students must pass two five-minute tests on literary material dictated at 190 wpm with 95% accuracy, three five-minute tests on jury charge dictated at 200 wpm with 95% accuracy, and three five-minute tests on testimony at 235 wpm with 95% accuracy. Students must also keyboard at the rate of 60 net wpm with no more than five errors on two five-minute timed writings from unfamiliar

material. Students must also complete a Court Reporting internship with a minimum of 75 clock hours of practical experience under the supervision of a certified shorthand reporter. A minimum of 40 of those hours shall be spent in actual writing time.

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

Term 1: BA 121, CR 121, CR 103, CSCI 101, AA 107
Term 2: CR 132, BA 131[1], CR 105, CR 104
Term 3: CR 210, CR 240, AA 111[1], AA 143,
Term 4: CR 123, CR 124, CR 220, CR 250, BA 211
Term 5: CR 230, CR 260, CR 298

[1] Required for certificate only.

CERTIFICATE AND DEGREE REQUIREMENTS

			Credit Hours
BA	121	Business Communications I	3
BA[1]	131	Human Relations (7.5 weeks)	2
BA	211	Business Law	3
CR	103	Machine Shorthand I	7
CR	104	Machine Shorthand II	7
CR	105	Keyboard Skill-building	2
CR	121	Introduction to Court Reporting (7.5 weeks)	2
CR	123	Punctuation for Court Reporters	3
CR	132	Medical Terminology/Anatomy	5
CR	210	Machine Shorthand III	8
CR	220	Machine Shorthand IV	8
CR	230	Machine Shorthand V	8
CR	240	Legal Terminology	3
CR	250	Computer-aided Transcription	3
CR	260	Court Reporting Procedures	3
CR	298	Internship	2
*CSCI	101	Computer Literacy	4
AA	101	Beginning Keyboarding	3
AA	102	Keyboard Applications	3
AA	107	Intermediate Keyboard Skill-building	2
AA[1]	111	Business Math/Calculators	3
AA	143	Word Processing	4
	or		
MMS	134	WordPerfect for Windows	3
	or		
MMS	135	Microsoft Word for Windows	3

*Previously offered as BA 150.

Total required for certificate 87–88

ARTS & SCIENCES COURSES REQUIRED FOR DEGREE

COMM	221	Interpersonal Communications	3
ENG	101	College Writing	3
MATH	120	or higher or biological and physical science elective	3–4
Social science or behavioral science elective			3
Arts & Sciences elective			3
		Total required for degree	**97–99**

[1] Required for certificate only

OPTIONAL COURSES[#]

AA	207	Law Office Technology	4
BA	252	Customer Relations	3
BOLC course		Medical Transcription	
CR	122	Word Power	1
CR	233	Machine Shorthand Speed-building	3
CR	270	Speedbuilding/Test Preparation	1
CR	296	Topics Course	1–3
CR	299	Cooperative Education	4
ENG	240	Traditional Grammar	3
ENTR	101	Entrepreneurship	6
MMS	150	Microsoft Windows	1
MMS	151	DOS Fundamentals	1
MMS	160	Introduction to Internet	1
MMS	296	Topics Course	2

[#] May be taken at any time when prerequisites are met.

CR 103 Machine Shorthand I **7 credit hours**

(Prerequisites: RDG 099 or equivalent and AA 101 and AA 102 or equivalent; pre- or corequisite: CR 121) Keyboarding and computer-compatible, conflict-free machine shorthand theory are presented. (5 theory + 5 lab hours a week)

CR 104 Machine Shorthand II **7 credit hours**

(Prerequisites: CR 103, CR 121, BA 121) Computer-compatible, conflict-free machine shorthand theory and vocabulary building are presented. Open-exit course. Students may advance to CR 210 after reaching 100 wpm. Enrollment limited to 45 weeks or three terms. (5 theory + 5 lab hours a week)

CR 105 Keyboard Skill-building **2 credit hours**

(Prerequisite: AA 107) Fulfills NCRA's keyboarding requirement of 60 net wpm with no more than five errors on two five-minute timed writings. (5 lab hours a week) Course fee: $10

CR 121 Introduction to Court Reporting **2 credit hours**
Overview of court reporting profession includes real-time writing in the courtroom, deposition, classroom, conventions and broadcasting and certification process, testing requirements and the NCRA organization. (7.5 weeks)

CR 122 Word Power **1 credit hour**
Strengthen vocabulary, study of the dictionary, pronunciation, word origins, prefixes and suffixes, root elements, dissecting words, and vocabulary words. (7.5 weeks)

CR 123 Punctuation for Court Reporters **3 credit hour**
Fundamental rules for punctuating syntax, presents verbatim English as found in courtroom transcripts and modifies the rules to accommodate this English.

CR 132 Medical Terminology and Anatomy **5 credit hours**
(Prerequisite: RDG 099 or equivalent) A study of medical terminology, using 350 Greek and Latin prefixes, suffixes, word roots, combining forms and human anatomy is presented through video and text.

CR 210 Machine Shorthand III **8 credit hours**
(Prerequisite: CR 104) This course covers vocabulary building, machine shorthand theory, on-the-job considerations, legal procedures, speed-building using testimony, literary and jury charge materials. Open-entry, open-exit course. Students may advance to CR 220 after reaching 140 wpm, literary, and 150 wpm testimony. Enrollment limited to 45 weeks or three terms. (5 theory + 10 lab hours a week)

CR 220 Machine Shorthand IV **8 credit hours**
(Prerequisites: CR 210, CR 132) Medical terminology and dictation, vocabulary building and speed-building are emphasized in this open-entry, open-exit course. Court Reporting students may advance to CR 230 after reaching 160 wpm, literary; 170 wpm, jury charge; and 190 wpm, testimony. Students enrolled in the stenotranscription program will enroll in CR 220 for 15 weeks. Enrollment limited to 45 weeks or three terms. (5 theory + 10 lab hours a week)

CR 230 Machine Shorthand V **8 credit hours**
(Prerequisite: CR 220) Speed-building and vocabulary building are emphasized. Open-entry, open-exit course. Students must pass at least two 5-minute takes of literary at 190 wpm, two of jury charge at 220 wpm and two of testimony at 235 wpm with a minimum of 95% accuracy and a transcription rate of at least 20 wpm. Enrollment limited to 45 weeks or three terms. (5 theory + 10 lab hours a week)

CR 233 Machine Shorthand Speed-building **3 credit hours**
(Prerequisite: CR 230 or approval of the program director) Self-paced, elective course designed for students who reach a minimum speed of 180 wpm literary and 225 wpm testimony and wish to increase speed in preparation for the state certification exam. Students take two-, three- and four-voice testimony and literary dictation. Open-entry, open-exit course. (9 lab hours a week)

CR 240 Legal Terminology **3 credit hours**
Civil law, criminal law, the judicial system and Latin/legal terminologies.

CR 250 Computer-aided Transcription (CAT) **3 credit hours**
(Prerequisites: CR 104, AA 133) Production of transcripts on computer-aided transcription software. (2 theory + 3 lab hours a week) Course fee: $10

CR 251 Stenotranscription **3 credit hours**
(Prerequisites: CR 104 and AA 133 or approval of the program director) Hands-on application using the computer, stenomachine and rapid-data entry software to produce a variety of medical, legal, corporate and police documents. (2 theory + 3 lab hours per week) Course fee: $10

CR 260 Court Reporting Procedures **3 credit hours**
(Prerequisites: CR 220, CR 250) Depositions, administering oaths, handling exhibits, storing notes and applying ethics. (3 hours a week for 15 weeks)

CR 270 Speed-building/Test Preparation **3 credit hours**
Students need a minimum speed of 180 wpm literary and 225 wpm testimony. Preparation course for the state certification exam. Students speed-build and take two-, three- and four-voice testimony.

CR 296 Topics Course **1-3 credit hours**
Current topics in court reporting and stenotranscription.

CR 298 Internship **2 credit hours**
(Prerequisites: CR 250, passage of two five-minute dictation takes at 200 wpm on testimony material and approval of the program director) Arranged by program director in student's final term. Students acquire a minimum of 75 clock hours of practical experience under the supervision of a certified shorthand reporter; a minimum of 40 hours spent in actual writing time. Intern is required to record and transcribe a 40-page salable transcript.

CR 298A Internship **2 credit hours**
(Prerequisite: CR 251) Arranged by program director in student's final term. Students acquire a minimum of 75 supervised clock hours of practical experience in a medical office, hospital, legal office, corporate word processing department, police department or publishing firm.

CR 299 Cooperative Education **4 credit hours**
(Prerequisite: CR 210) Students work a minimum of 150 hours in a paid training-related position. Student trainees are paid by the cooperating firm and are supervised jointly by TVI and the employer. (1 theory + 9 lab hours a week)

INTERNATIONAL BUSINESS

The International Business program combines general business skills with contemporary international business skills. Students are prepared for the constantly changing international business environment. Graduates of this program will be able to work effectively in firms and government agencies whose operations center around international trade and will be prepared to engage in international entrepreneurial activities.

The program provides a foundation in written and verbal communications, accounting principles, basic computer skills and international business.

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

Term 1: ACCT 101, ACCT 111, BA 121, IB 101, foreign language
Term 2: ACCT 102, CSCI 101, ENTR 102, GEOG 102, IB 201, foreign language
Term 3: GEOG 201, IB 202, IB 203, IB 205, foreign language

CERTIFICATE AND DEGREE REQUIREMENTS

			Credit Hours
ACCT	101	Financial Accounting I	
	or ACCT 101A and ACCT 101B		6
ACCT	102	Financial Accounting II	
	or ACCT 102A and ACCT 102B		6
ACCT	111	Accounting Math	3
BA	121	Business Communications I	3
*CSCI	101	Computer Literacy	4
ENTR	102	Entrepreneurship in a Global Setting	3
GEOG	102	Human Geography	3
	or		
COMM	291	Intercultural Communication Studies	3
GEOG	201	World Regional Geography	3
IB	101	Introduction to International Business	3
IB	201	International Marketing	3
IB	202	International Management	3
IB	203	International Finance and Trade	3
IB	205	Fundamentals of Exporting/Importing	3
Foreign Language#			3–4
Foreign Language#			3–4
Foreign Language#			3–4
		Total required for certificate	**55–58**

* Previously offered as BA 150.
# Various languages are acceptable.

ARTS & SCIENCES COURSES REQUIRED FOR DEGREE

ENG	101	College Writing	3
ENG	119	Technical Writing	3
MATH	119	Methods of Problem Solving	3
	or		
MATH	120	Intermediate Algebra	4
MATH	145	Probability and Statistics	3
PHIL	245B	Business Ethics	3
		Total required for degree	**69–74**

OPTIONAL COURSES#

BA	211	Business Law	3
BA	299	Cooperative Education	4

May be taken at any time when prerequisites are met.

IB 101 Introduction to International Business **3 credit hours**
(Prerequisite: RDG 099 or equivalent) Objectives, opportunities and challenges facing those who engage in business in foreign countries, foreign organizations, cultural dynamics, trade channels, the legal environment and political considerations.

IB 201 International Marketing **3 credit hours**
(Prerequisite: RDG 099 or equivalent) A conceptual framework for analyzing marketing opportunities abroad and development and implementation of marketing mixes in different cultures and nations.

IB 202 International Management **3 credit hours**
(Prerequisite: RDG 099 or equivalent) Management practices within diverse international operations and understanding how to conduct business with people of different cultures.

IB 203 International Finance and Trade **3 credit hours**
(Prerequisites: RDG 099 or equivalent, ACCT 101 and ACCT 102) Overview of international finance with emphasis on the multinational corporation, foreign exchange risk management, investment analysis, capital asset management, working capital management, comparative advantage, trade restrictions, and a global overview of demographic, technical, social, political and business relationships.

IB 205 Fundamentals of Exporting/Importing **3 credit hours**
(Prerequisite: RDG 099 or equivalent) Forms, country regulations, methods of shipment, rates, documents, quotations, orders, banking, shipping and customs are covered.

JUDICIAL STUDIES

The Judicial Studies certificate program provides educational and professional development courses for court personnel and individuals interested in a career with New Mexico courts.

The program familiarizes students with the operations of the New Mexico municipal, magistrate, metropolitan, district, appellate and supreme courts, as well as federal and tribal courts. Ethical issues are also addressed. Students are introduced to substantive and procedural law, basic legal skills, fundamental legal theory and legal analysis skills.

To earn a certificate in Judicial Studies, students must complete core courses in computer literacy, introduction to the judicial system, interpersonal communication, business communication, basic English, basic math and an internship. In addition, students are required to complete three credits of elective coursework in each of the following categories: legal, government and cultural, and management. Not all elective courses are offered each term.

A suggested schedule per term for the certificate in Judicial Studies includes:

Term 1: COMM 221 or COMM 225, CSCI 101, ENG 101, JUD 101, JUD 102, elective

Term 2: ACCT 111 or MATH 119 or MATH 120, BA 121 or COMM 232, two electives, JUD 298 or JUD 299

			Credit Hours
ACCT	111	Accounting Math	3
	or		
MATH	119	Methods of Problem Solving	4
	or		
MATH	120	Intermediate Algebra (or higher)	3–4
BA	121	Business Communications I	3
	or		
COMM	232	Business and Professional Communication Studies	3
COMM	221	Interpersonal Communication Studies	3
	or		
COMM	225	Small Group Communication Studies	3
CSCI	101	Computer Literacy (or higher)	3–4
ENG	101	College Writing	3
JUD	101	Introduction to Judicial Studies	3
JUD	102	Introduction to Court Operations and Ethics	1
JUD	298	Internship	4
	or		
JUD	299	Cooperative Education	4
Electives			9
		Subtotal	**32–34**

Students complete three credits from each of the following three categories:

Legal Electives

BA	211	Business Law	3
	or		
LAS	102	Business Organizations	3
CJ	107	Criminal Procedure	3
	or		
*LAS	206	Criminal Litigation	3
LAS	101	Introduction to Legal Assistant Studies	3
*LAS	124	Legal Research and Writing I	3
*LAS	201	Contract Law	3
*LAS	203	Civil Litigation	3
SOC	111	Criminal Justice System	3
#SOC	212	Juvenile Delinquency	3

Government and Cultural Electives

COMM	291	Intercultural Communication Studies	3
CST	250	Introduction to Native American Studies	3
CST	296	Topics in Cultural Studies	1–3
HIST	260	History of New Mexico	3
PSCI	200	U.S. Politics	3
PSCI	210	State and Local Politics	3

Management Electives

*ACCT	270	Governmental Accounting	3
BA	131	Human Relations (7.5 weeks)	2
BA	133	Principles of Management	3
*LAS	236	Employment Discrimination Law	3
#PSY	271	Social Psychology	3
SPAN	296	Topics in Spanish	1–3

* Due to prerequisites, prior approval of appropriate program director is required.
# Prerequisites must be met.

JUD 101 Introduction to Judicial Studies **3 credit hours**
(Prerequisites: ENG 100 or equivalent, RDG 100 or equivalent or approval of program director) Designed for court personnel. Presents an overview of the New Mexico judiciaries. Includes tracking of a civil and criminal case in each court. Familiarizes the student with the definition and use of legal terms.

JUD 102 Introduction to Court Operations and Ethics **1 credit hour**
(Prerequisites: ENG 100 or equivalent, RDG 100 or equivalent or approval of program director) Presented jointly by Judicial Education Center and TVI faculty. Focuses on ethical and specific court operation issues. Composed of seminars offered throughout the state. Open entry and open exit. Training may be provided to individuals other than court employees; those individuals contact Judicial Education Center to arrange payment of fees.

JUD 298 Internship **4 credit hours**

(Prerequisites: JUD 101, JUD 102, COMM 221 or COMM 225, CSCI 101, ENG 101, elective and approval of program director) Students work a minimum of 150 hours at court sites. The student is jointly supervised by TVI and the employer. (1 theory + 9 lab hours a week)

JUD 299 Cooperative Education **4 credit hours**

(Prerequisites: JUD 101, JUD 102, COMM 221 or COMM 225, CSCI 101, ENG 101, elective and approval of program director) Students work a minimum of 150 hours at court sites. The student is paid by the court and is jointly supervised by TVI and the employer. (1 theory + 9 lab hours a week)

LEGAL ASSISTANT STUDIES

The Legal Assistant Studies program trains qualified men and women for entry into the legal profession. The program is approved by the American Bar Association (ABA).

Legal assistants are skilled professionals who perform substantive legal tasks under the supervision of a licensed attorney. Responsibilities include interviewing and assisting clients and witnesses, investigation, data analysis, drafting legal documents and correspondence, research, litigation support and case management.

Employment opportunities include placement in law firms, corporate legal departments, legal aid offices, public agencies, insurance companies and other commercial firms.

Students are presented substantive and procedural law as well as legal skills. Studies cover the nature and philosophy of fundamental legal theory, the legal system and how that system relates to other disciplines, legal analytical skills, practice skills and the professional responsibilities of the legal assistant. The ethical issues inherent in the practice of the profession are stressed.

A suggested schedule per term for the associate of applied science degree program in Legal Assistant Studies includes:

Term 1: LAS 101, LAS 102, LAS 123, ENG 101, PSY 105
Term 2: LAS 111, LAS 124, LAS 201, ENG 102, MMS 134 or MMS 135
Term 3: LAS 203 or LAS 206, LAS 204, LAS 224, PHIL 156, MATH 119
Term 4: LAS 221, LAS 231, LAS 298 or LAS 299, COMM 221 or COMM 225 or COMM 240, elective course (3 credits)

			Credit Hours
COMM	221	Interpersonal Communication Studies	3
	or		
COMM	225	Small-Group Communication Studies	3
	or		
COMM	240	Organizational Communication Studies	3

MMS	134	WordPerfect for Windows	3
	or		
MMS	135	Microsoft Word for Windows	3
ENG	101	College Writing	3
ENG	102	Analytic and Argumentative Writing	3
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	3
	or		
LAS	206	Criminal Litigation	3
LAS	204	Legal Research and Writing II	3
LAS	221	Wills, Probate and Estate Planning	3
LAS	224	Evidence	3
LAS	231	Computers in Law Practice	3
LAS	298	Internship	4
	or		
LAS	299	Cooperative Education	4
LAS elective (see list below)			3
MATH	119	Methods of Problem Solving or higher math course	4
PHIL	156	Logic and Critical Thinking	3
PSY	105	Introduction to Psychology	3
		Total	**62**

ELECTIVES

*ACCT	101	Financial Accounting I	6
	or		
*ACCT	101A	Financial Accounting IA	3
	and		
*ACCT	101B	Financial Accounting IB	3
MMS	151	DOS Fundamentals (5 weeks)	1
MMS	154	Desktop Publishing Using WordPerfect (5 weeks)	1
MMS	156	Office Management Software (5 weeks)	1
MMS	158	Excel Fundamentals (5 weeks)	1
MMS	159	Access Fundamentals (5 weeks)	1
MMS	160	Introduction to Internet (5 weeks)	1
MMS	257	Presentation Graphics	3
LAS	211	Real Estate Law for Legal Assistants	3
LAS	223	Domestic Relations	3
LAS	225	Constitutional Law	3

LAS	230	Advanced Civil Litigation	3
LAS	232	Personal Injury Law	3
LAS	233	Law Office Management	3
LAS	234	Administrative Law	3
LAS	236	Employment Discrimination Law	3
LAS	242	Native American Law	3
LAS	243	Advanced Criminal Litigation	3
LAS	244	Social Security Law (5 weeks)	1
LAS	245	Bankruptcy Law (5 weeks)	1
LAS	296	Topics Course	3
LAS	296A	Mediation	3
LAS	296B	Public Defender	3

* Pre- or corequisite: ACCT 111 or higher math or permission of program director

LAS 101 Introduction to Legal Assistant Studies **3 credit hours**
(Prerequisites: ENG 100 or equivalent, RDG 100 or equivalent or approval of program director. Recommended prerequisite: CSCI 101) Definition and role of the legal assistant, ethical responsibilities, human relations, the legal system, legal research and analysis, the process of litigation, technology in the law and topics in substantive law.

LAS 102 Business Organizations **3 credit hours**
(Prerequisites: ENG 100 or equivalent, RDG 100 or equivalent or approval of program director. Recommended prerequisite: CSCI 101) Various types of business entities including sole proprietorships, partnerships and corporations, agency principles, franchising and regulatory requirements.

LAS 111 American Law and Ethics **3 credit hours**
(Prerequisites: ENG 101, LAS 101, LAS 102, LAS 123) Origins, nature, history and structure of the American judicial system, principles of federalism under the Constitution and rules of professional conduct for lawyers.

LAS 123 Torts **3 credit hours**
(Prerequisites: ENG 100 or equivalent, RDG 100 or equivalent or approval of the program director. Recommended prerequisite: CSCI 101) 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 complete a project designed to develop practice skills.

LAS 124 Legal Research and Writing I **3 credit hours**
(Prerequisites: ENG 101, LAS 101, LAS 102, LAS 123) Principles and skills of writing case briefs and legal memoranda, with a focus on basic legal research sources and techniques, including Westlaw and other computer-assisted legal research. Significant time is spent at the UNM law library.

LAS 201 Contract Law **3 credit hours**
(Prerequisites: ENG 101, LAS 101, LAS 102, LAS 123) Introduction to the law of contracts, rights and responsibilities, consideration, types of contracts, remedies and assignments and the study, analysis and application of cases. Students draft a simple contract.

LAS 203 Civil Litigation **3 credit hours**
(Prerequisites: MMS 134 or MMS 135, ENG 102, LAS 111, LAS 124, LAS 201) Process of civil litigation from initial client contact through post-trial procedures. Rules of civil procedure and rules of the various courts. Students develop a forms and procedures notebook.

LAS 204 Legal Research and Writing II **3 credit hours**
(Prerequisites: MMS 134 or MMS 135, ENG 102, LAS 111, LAS 124, LAS 201) Advanced legal research problems with focus on analysis and writing.

LAS 206 Criminal Litigation **3 credit hours**
(Prerequisites: MMS 134 or MMS 135, ENG 102, LAS 111, LAS 124, LAS 201) Process of criminal litigation from initial appearance through post-conviction proceedings. Drafting documents associated with the prosecution or defense at various stages. Review rules of criminal procedure of several courts and develop a forms and procedures notebook.

LAS 211 Real Estate Law for Legal Assistants **3 credit hours**
(Prerequisites: LAS 203 or LAS 206, LAS 204, LAS 224 or approval of the program director) Fundamental rights of property ownership, surveys, easements and licenses, deeds, titles, financing, closings and regulations.

LAS 221 Wills, Probate and Estate Planning **3 credit hours**
(Prerequisites: LAS 203 or LAS 206, LAS 204, LAS 224) Drafting of wills and trusts, administration of estates, formal and informal probate proceedings and estate tax returns.

LAS 223 Domestic Relations **3 credit hours**
(Prerequisites: LAS 203 or LAS 206, LAS 204, LAS 224 or approval of the program director) Legal issues in family relations with emphasis on local procedures in the domestic relations court.

LAS 224 Evidence **3 credit hours**
(Prerequisites: MMS 134 or MMS 135, ENG 102, LAS 111, LAS 124, LAS 201) Issues of proof of facts in civil and criminal trials, with focus on the rules of evidence in state and federal courts, constitutional considerations, interviewing witnesses and organizing documents.

LAS 225 Constitutional Law **3 credit hours**
(Prerequisites: LAS 203 or LAS 206, LAS 204, LAS 224 or approval of the program director) Civil rights and liberties under the Constitution, free speech, religious freedom, racial discrimination, group rights, privacy and political participation.

LAS 230 Advanced Civil Litigation **3 credit hours**
(Prerequisites: LAS 203 or LAS 206, LAS 204, LAS 224 or approval of the program director) Students participate in a hypothetical case, completing more sophisticated tasks in civil litigation, evidence rules, concepts and objections.

LAS 231 Computers in Law Practice **3 credit hours**
(Prerequisites: CSCI 101, MMS 134 or MMS 135, LAS 203 or LAS 206, LAS 204, LAS 224) Concepts and applications of computers in the areas of data organization, analysis and retrieval, legal forms, calendar and docket control, reports and searches. (2 theory + 3 lab hours a week) Course fee: $15

LAS 232 Personal Injury Law **3 credit hours**
(Prerequisites: LAS 203 or LAS 206, LAS 204, LAS 224 or approval of program director) Medical aspects and documentation of personal injuries in tort, workers' compensation and Social Security disability law.

LAS 233 Law Office Management **3 credit hours**
(Prerequisites: LAS 203 or LAS 206, LAS 204, LAS 224 or approval of program director) Prepares students to coordinate and oversee the administrative needs of a small to medium firm and includes managerial techniques, law office systems, revenue tracking, personnel management, crisis resolution and ethical requirements.

LAS 234 Administrative Law **3 credit hours**
(Prerequisites: LAS 203 or LAS 206, LAS 204, LAS 224 or approval of program director) Policies, practices and procedures of governmental agencies and state and local administrations.

LAS 236 Employment Discrimination Law **3 credit hours**
(Prerequisites: LAS 203 or LAS 206, LAS 204, LAS 224 or approval of program director) History of discrimination law and current federal protections, the principle of equal treatment, litigation involving unequal treatment, seniority, sexual and racial harassment, pay equity, labor relations and remedies.

LAS 242 Native American Law **3 credit hours**
(Prerequisites: LAS 203 or LAS 206, LAS 204, LAS 224 or approval of program director) Basic Native American law with the primary purpose of preparing students to work in private law firms that specialize in Native American law and in tribal courts and agencies.

LAS 243 Advanced Criminal Litigation **3 credit hours**
(Prerequisites: LAS 203 or LAS 206, LAS 204, LAS 224 or approval of the program director) Students participate in a hypothetical case, evidence rules, concepts and objections.

LAS 244 Social Security Law **1 credit hour**

(Prerequisites:.LAS 203 or LAS 206, LAS 204, LAS 224 or approval of program director) Representing clients through the Social Security administrative process, disability evaluation, procedural issues and regulations, federal law and medical terminology. (5 weeks)

LAS 245 Bankruptcy Law **1 credit hour**

(Prerequisites: LAS 203 or LAS 206, LAS 204, LAS 224 or approval of program director) Introduction to bankruptcy practice, Bankruptcy Code and Rules of Bankruptcy Procedure. (5 weeks)

LAS 296 Topics Course **3 credit hours**

(Prerequisites: LAS 203 or LAS 206, LAS 204, LAS 224 and approval of program director) Student chooses an area of study in consultation with an instructor. A sophisticated legal research paper or project is completed.

LAS 296A Mediation **3 credit hours**

(Prerequisites: LAS 203 or LAS 206, LAS 204, LAS 224 and approval of program director) Fundamental skills involved in mediating disputes. Training may be provided by local mediation organizations at a student rate. The student is jointly evaluated by the mediation trainer and the instructor. The course is offered subject to availability of trainers.

LAS 296B Public Defender **3 credit hours**

(Prerequisites: LAS 203 or LAS 206, LAS 204, LAS 224 and approval of program director) Students are assigned to a supervising attorney from the Public Defender's Office. The student works 135 hours and becomes familiar with all forms of case preparation with an emphasis on information gathering and investigation. The course is offered subject to availability of supervising attorney.

LAS 298 Internship **4 credit hours**

(Prerequisites: LAS 203 or LAS 206, LAS 204, LAS 224, all Arts & Sciences courses in the first three terms and approval of program director) Students perform a minimum of 150 hours of legal assistant assignments in legal environments. The student is jointly supervised by TVI and the supervising attorney. (1 theory + 9 lab hours a week)

LAS 299 Cooperative Education **4 credit hours**

(Prerequisites: LAS 203 or LAS 206, LAS 204, LAS 224, all Arts & Sciences courses in the first three terms and approval of program director) Students perform a minimum of 150 hours of legal assistant assignments in legal environments. Student is paid by the cooperating firm and is jointly supervised by TVI and the employer. (1 theory + 9 lab hours a week)

MICROCOMPUTER MANAGEMENT

The Microcomputer Management program combines microcomputer concepts, computer applications, accounting skills and problem solving in a business environment.

This program is accredited by the Association of Collegiate Business Schools and Programs. The associate degree may be transferred to the University of New Mexico toward a bachelor's degree in Organizational Learning and Instructional Technology.

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

Term 1: ACCT 101, ACCT 111, BA 121, CSCI 101, MMS 151

Term 2: ACCT 102, BA 111, BA 113, MMS 134 or MMS 135, MMS 150, MMS 160, (Concentrations: MMS 170 and MMS 171 or MMS 161 and MMS 156)

Term 3: ACCT 254, MMS 255, MMS 257, (Concentrations: ACCT 255 or MMS 258 and MMS 262 or MMS 270)

Term 4: BA 133, MMS 201, (Concentrations: CP 213, MMS 261, MMS 263, network elective, or MMS 271 and MMS 272)

CERTIFICATE AND DEGREE CORE REQUIREMENTS

			Credit Hours
ACCT	101	Financial Accounting I	6
ACCT	102	Financial Accounting II	6
ACCT	111	Accounting Math	3
ACCT	254	Electronic Spreadsheets	3
[1]BA	111	Communications (7.5 weeks)	2
BA	113	Introduction to Business	3
BA	121	Business Communications I	3
BA	133	Principles of Management	3
*CSCI	101	Computer Literacy	4
MMS	134	WordPerfect for Windows	3
	or		
MMS	135	Microsoft Word for Windows	3
MMS	150	Microsoft Windows (5 weeks)	1
MMS	151	DOS Fundamentals (5 weeks)	1
MMS	160	Introduction to Internet (5 weeks)	1
MMS	201	Hardware/Software Administration	3
MMS	257	Presentation Graphics	3
		Subtotal	**43–45**

CONCENTRATIONS FOR DEGREE OR CERTIFICATE

(One Concentration Required)

Microcomputer Management Specialist

ACCT	255	Computerized Accounting	3
[3]CP	213	Database Concepts	3
MMS	156	Office Management Software (5 weeks)	1
MMS	161	Project Management (5 weeks)	1
MMS	255	Desktop Publishing	3
MMS	258	Local Area Network (LAN) Systems Manager (10 weeks)	2
MMS	261	Spreadsheet Macro Programming (5 weeks)	1
		Total required for certificate	**57–59**

Network Specialist

[3]CP	213	Database Concepts	3
MMS	258	Local Area Network (LAN) Systems Manager (10 weeks)	2
MMS	261	Spreadsheet Macro Programming (5 weeks)	1
MMS	262	LAN Management	3
MMS	263	Advanced LAN Management	3
Network Elective			3
		Total required for certificate	**58–60**

Multimedia Specialist

MMS	170	Introduction to Multimedia(10 weeks)	2
MMS	171	Hypertext Markup Language (HTML) (5 weeks)	1
MMS	255	Desktop Publishing	3
MMS	270	Multimedia Authoring	3
MMS	271	Macromedia Director	3
MMS	272	Advanced Multimedia	3
		Total required for certificate	**58–60**

ARTS & SCIENCES COURSES REQUIRED FOR DEGREE

COMM	221	Interpersonal Communication Studies	3
	or		
COMM	130	Public Speaking	3
	or		
COMM	232	Business and Professional Communication Studies	3
	or		
COMM	240	Organizational Communication Studies	3
[2]ENG	101	College Writing	3
ENG	119	Technical Communications	3
MATH	120	Intermediate Algebra	4
PHIL	245B	Business Ethics	3
		Total required for degree	**73–76**

OPTIONAL COURSES#

BA	157	Computer Accounting for Small Business (5 weeks)	1
[3]CP	177L	Introduction to Computer Graphics	3
[3]CP	178L	Computer Animation	3
MMS	152	Lotus Fundamentals (5 weeks)	1
MMS	153	dBase Fundamentals (5 weeks)	1
MMS	156	Office Management Software (5 weeks)	1
MMS	157	PowerPoint Fundamentals (5 weeks)	1
MMS	159	Access Fundamentals (5 weeks)	1
MMS	162	Windows NT Workstation (5 weeks)	1
MMS	220	Desktop Publishing on a Mac	3
MMS	256	Advanced Desktop Publishing	3
MMS	280	Postscript Illustration	3
MMS	281	Image Manipulation/Painting	3
MMS	282	Digital Prepress	3
MMS	296	Topics Course	1–3
MMS	298	Internship	4
MMS	299	Cooperative Education	4

Network Electives

[3] CP	282L	Network Topologies/Network OS Environments	3
[3] CP	283L	Overview of NOS Environments	3
[3] CP	274L	Introduction to UNIX and WANs	3
[3] CP	218L	Introduction to Client/Server Technology	3

[1] Required for certificate only.
[2] This class should be taken in Term II for the degree.
[3] See the program director regarding prerequisites.
* Previously offered as BA 150.
# May be taken at any time when prerequisites are met.

MMS 134 WordPerfect for Windows **3 credit hours**
(Prerequisite: CSCI 101 or permission to enroll) Word processing software using Windows with emphasis on functions and practical office applications. (2 theory + 3 lab hours a week) Course fee: $15

MMS 135 Microsoft Word for Windows **3 credit hours**
(Prerequisite: CSCI 101 or permission to enroll) Word processing using Microsoft Word for Windows with emphasis on functions and practical office applications. (2 theory + 3 lab hours a week) Course fee: $15

MMS 150 Microsoft Windows **1 credit hour**
Basic elements of Windows with emphasis on software functions. (5 weeks; 2 theory + 3 lab hours a week) Course fee: $5

MMS 151 DOS Fundamentals **1 credit hour**
(Prerequisite: 25 wpm typing skill) DOS commands, internal and external commands, directories, file management and batch files. (5 weeks; 2 theory + 3 lab hours a week) Course fee: $5

MMS 152 Lotus Fundamentals **1 credit hour**
(Prerequisite: 25 wpm typing skill) Instruction is provided for non-accounting spreadsheet applications. (5 weeks; 2 theory + 3 lab hours a week) Course fee: $5

MMS 153 dBase Fundamentals **1 credit hour**
(Prerequisite: 25 wpm typing skill) Function and purpose of database software. (5 weeks; 2 theory + 3 lab hours a week) Course fee: $5

MMS 154 Desktop Publishing Using Word Perfect **1 credit hour**
(Prerequisites: knowledge of WordPerfect, CSCI 101 or equivalent or permission of the program director) Integrate WordPerfect graphics and text to produce newsletters, instructional materials and other documents. (5 weeks; 2 theory + 3 lab hours a week) Course fee: $5

MMS 156 Office Management Software **1 credit hour**
(Prerequisite: CSCI 101 or permission of the program director) Groupware is used to create, analyze and share information. (5 weeks; 2 theory + 3 lab hours a week) Course fee: $5

MMS 157 PowerPoint Fundamentals **1 credit hour**
(Prerequisite: 25 wpm typing skill) Basic text charts and graph charts. (5 weeks; 2 theory + 3 lab hours a week)

MMS 158 Excel Fundamentals **1 credit hour**
(Prerequisite: 25 wpm typing skill) Creating, editing and enhancing worksheets; formatting cells; basic formulas and charts. (5 weeks; 2 theory + 3 lab hours a week) Course fee: $5

MMS 159 Access Fundamentals **1 credit hour**
(Prerequisite: 25 wpm typing skill) Tables, queries, forms and reports. (5 weeks; 2 theory + 3 lab hours a week) Course fee: $5

MMS 160 Introduction to Internet **1 credit hour**
(Prerequisite: MMS 150 or permission of the program director) Main features of the Internet that include e-mail, listserve, file transfer protocol (FTP), Gopher, and the World Wide Web. (5 weeks; 2 theory + 3 lab hours a week) Course fee: $5

MMS 161 Project Management **1 credit hour**
(Prerequisites: CSCI 101, MMS 150 or permission of the program director) Planning, scheduling, managing and communicating project information. (5 weeks; 2 theory + 3 lab hours a week) Course fee: $5

MMS 162 Windows NT Workstation **1 credit hour**
Configure and optimize a Windows NT workstation. (5 weeks; 2 theory + 3 lab hours a week) Course fee: $5

MMS 170 Introduction to Multimedia **2 credit hours**
(Prerequisite: CSCI 101) How text, graphics, sound, images and video come together in a multimedia program. (10 weeks) Course fee: $5

MMS 171 Hypertext Markup Language (HTML) **1 credit hour**
(Pre- or corequisites: MMS 150, MMS 134 or 135, and MMS 160) Students receive instruction in a format used for writing documents to be viewed with a World Wide Web browser. (5 weeks; 2 theory + 3 lab hours a week) Course fee: $5

MMS 201 Hardware and Software Administration **3 credit hours**
(Prerequisites: CSCI 101, MMS 151) Topics include computer viruses, utilities software, DOS and Macintosh operating systems, installation of boards and software integration. (2 theory + 3 lab hours a week) Course fee: $5

MMS 220 Desktop Publishing on a Mac **3 credit hours**
This course teaches PostScript desktop publishing on the Macintosh computer from the basics to recent upgrades of the most popular page layout and illustration software. (2 theory + 3 lab hours a week) Course fee: $15

MMS 255 Desktop Publishing **3 credit hours**
(Prerequisite: CSCI 101 or CR 133 or permission of program director) Students use microcomputers to edit, typeset, design and do graphic production and page makeup. (2 theory + 3 lab hours a week) Course fee: $15

MMS 256 Advanced Desktop Publishing **3 credit hours**
(Prerequisite: MMS 255) Students get hands-on experience in advanced desktop publishing including design techniques, downloading materials from the Internet and managing linkages to PostScript graphics and photos. (2 theory + 3 lab hours a week) Course fee: $15

MMS 257 Presentation Graphics **3 credit hours**
(Prerequisite: CSCI 101 or CR 133 or permission of the program director) This course provides hands-on experience in graphics presentation software which emphasizes charting, drawing, organizing and displaying images. (2 theory + 3 lab hours a week) Course fee: $15

MMS 258 Local Area Network (LAN) Systems Manager **2 credit hours**
(Prerequisites: MMS 150, MMS 160, MMS 151 or permission to enroll) Introduction to network systems management that includes a brief overview of network layouts and topology and instruction on creating workable directories, login scripts, user accounts and menus. (10 weeks; 2 theory + 3 lab hours a week) Course fee: $5

MMS 260 Word Processing Macro Programming **1 credit hour**
(Prerequisites: CSCI 101, MMS 134 or MMS 135) The basic procedures for writing and running macros are covered. (5 weeks; 2 theory + 3 lab hours a week) Course fee: $5

MMS 261 Spreadsheet Macro Programming **1 credit hour**
(Prerequisites: CSCI 101, ACCT 254) The basic procedures for writing and running a macro are covered. (5 weeks; 2 theory + 3 lab hours a week) Course fee: $5

MMS 262 LAN Management **3 credit hours**
(Prerequisites: CSCI 101, MMS 150, MMS 151 or permission of the program director) Instruction on the operation and security of a computer network using a specific LAN software. (2 theory + 3 lab hours a week) Course fee: $10

MMS 263 Advanced LAN Management **3 credit hours**
(Prerequisite: MMS 258 or permission of the program director) Instruction on network performance, troubleshooting and ways to optimize network performance. (2 theory + 3 lab hours a week) Course fee: $10

MMS 264 Windows NT Server **3 credit hours**
(Prerequisites: MMS 150, MMS 160, MMS 162) Managing single or multiple domains, improving system security and data, and integrating and optimizing a Windows NT Server. Course fee: $10

MMS 270 Multimedia Authoring **3 credit hours**
(Prerequisites: CSCI 101, MMS 170 or permission of program director) Interactive multimedia authoring program with emphasis on learning to combine a variety of media. (2 theory + 3 lab hours a week) Course fee: $15

MMS 271 Macromedia Director **3 credit hours**
(Prerequisites: CSCI 101, MMS 170 or permission of the program director) Instruction in the use of an interactive multimedia script language to create dynamic multimedia productions. (2 theory + 3 lab hours a week) Course fee: $15

MMS 272 Advanced Multimedia **3 credit hours**
(Prerequisite: MMS 270; corequisite: MMS 270) Instruction in the choice and use of appropriate software and media to design and produce a cost effective multimedia presentation. Course fee: $15

MMS 280 Postscript Illustration **3 credit hours**
Advanced training in the design and production of printable artwork is offered in FreeHand and Illustrator. (2 theory + 3 lab hours a week) Course fee: $15

MMS 281 Image Manipulation/Painting **3 credit hours**
Design and produce artwork, halftones, duotones and separations in Photoshop. (2 theory + 3 lab hours a week) Course fee: $15

MMS 282 Digital Prepress **3 credit hours**
Top-end print production in a PostScript environment, preflighting, image production, trapping and imposition. (2 theory + 3 lab hours a week) Course fee: $15

MMS 296 Topics Course **1–3 credit hours**
Current topics in computers.

MMS 298 Internship **4 credit hours**
(Prerequisites: ACCT 254, MMS 258 or MMS 262 or MMS 257 and permission of program director) 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 TVI and the company. (1 theory + 9 lab hours a week)

MMS 299 Cooperative Education **4 credit hours**
(Prerequisites: ACCT 254, MMS 258 or MMS 270 and permission of program director) 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 TVI and the employer. (1 theory + 9 lab hours a week)

NETWORK MANAGEMENT

The Network Management program provides opportunities for skills and knowledge in the areas of network management, troubleshooting and network performance.

This program combines network management skills, problem solving skills and business skills. Managing and maintaining a local area network in a small, medium or large business is emphasized. Early courses in the program emphasize written and verbal communications, business knowledge and basic computer skills.

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

Term 1: ACCT 101, ACCT 111, MMS 150, MMS 151, MMS 160, ELEC 117
Term 2: BA 113, BA 121, CP 282, MMS 258, MMS 162
Term 3: BA 133, CP 274L, CP 283, MMS 262, MMS 263
Term 4: CP 285, CP 218, CP 213, MMS 264

CERTIFICATE REQUIREMENTS

			Credit Hours
ACCT	101	Financial Accounting I	6
ACCT	111	Accounting Math	3
BA	113	Introduction to Business	3
BA	121	Business Communications I	3
BA	133	Principles of Management	3

CP	218	Introduction to Client/Server Technology	3
*CP	274L	Introduction to UNIX and WANs	3
CP	282	Networking Topologies/NOS Environments	3
CP	283	Overview of Network Operating Systems Environments	3
CP	285	Troubleshooting Networks	3
*CP	213	Database Concepts	3
ELEC	117	Upgrading and Repairing PCs	3
MMS	150	Microsoft Windows (5 weeks)	1
MMS	151	DOS Fundamentals (5 weeks)	1
MMS	160	Introduction to Internet (5 weeks)	1
MMS	162	Windows NT Workstation (5 weeks)	1
MMS	258	Local Area Network (LAN) Systems Manager (10 weeks)	2
MMS	262	LAN Management	3
MMS	263	Advanced LAN Management	3
MMS	264	Windows NT Server	3
		Total required for certificate	**54**

*See program director regarding prerequisites.

ARTS & SCIENCES COURSES REQUIRED FOR DEGREE

COMM	221	Interpersonal Communications Studies	3
ENG	101	College Writing	3
MATH	120	Intermediate Algebra	4
PHIL	245B	Business Ethics	3
Social or Behavioral Science Elective			3
		Total required for degree	**70**

See the Technologies Department and the Accounting, Business Administration and Microcomputer Management programs for course descriptions.

PRE-MANAGEMENT

This associate of arts degree is designed to fulfill the freshman and sophomore course requirements for admission to the baccalaureate degree program at the Anderson Schools of Management at the University of New Mexico. This program is accredited by the Association of Collegiate Business Schools and Programs.

The curriculum is based on an articulation agreement between TVI and UNM which facilitates the transfer process. The agreement states that the student's cumulative grade point average (GPA) should be 2.0 and the GPA in the specific requirements should be 2.4. Specific requirement courses must be passed with a grade of C or better. The credit/no credit option is not available for specific requirement courses; students may select that

option only for general education requirements courses. Transfer and non-traditional credit accepted by TVI toward the completion of this program may not be accepted by UNM. Students who apply transfer and non-traditional credit toward the Pre-Management program at TVI and/or enroll in specific requirement courses on a credit/no credit basis are not covered by this articulation agreement.

Students should communicate with the Bachelor of Business Administration admission advisors at the Anderson Schools of Management at the University of New Mexico at least one semester before they plan to transfer.

A suggested schedule per term for the associate of arts degree in Pre-Management includes:

Term 1: BA 113, ENG 101, PSY 105 or SOC 101, CSCI 101, MATH 121
Term 2: ENG 102, ECON 200, MATH 180, PSY or SOC 200+
Term 3: ECON 201, MATH 245, lab science
Arts & Sciences requirements: 7 credit hours
Term 4: ACCT 101, Arts & Sciences requirements: 6 credit hours
Term 5: ACCT 102, Arts & Sciences requirements: 9 credit hours

GENERAL EDUCATION REQUIREMENTS

Credit Hours

General Electives
COMM 130, 232; ART 101, 151, 201, 260; MUS 139, 140; or modern languages (French, Spanish, German, etc.) philosophy, humanities (except history[1]), literature, English above 102 except ENG 119 9

Social Science Electives
Anthropology; history[1]; political science; geography 9

Lab Science Electives
Astronomy; biology; chemistry; physics (must include lab) 4

Subtotal 22

SPECIFIC REQUIREMENTS

These courses are prerequisites. They must be passed with a grade of C or better 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 (MATH 121 and 180 recommended for business majors)	6–8
ECON	200 and 201	6
PSY	105 and 200 or higher	
	or	
SOC	101 and 200 or higher	6
MATH	245	4

*CSCI	101		4
[2]ACCT	101 or (ACCT 101A and ACCT 101B)		6
ACCT	102 or (ACCT 102A and ACCT 102B)		6
BA	113		3
		Subtotal	**47–49**
		Total	**69–72**

[1] Defined by UNM as a social science; listed in TVI Arts & Sciences as humanities.
[2] Pre- or corequisite: ACCT 111 or completion of MATH 162 or 180
* Offered previously as BA 150.

STENOTRANSCRIPTION

Stenotranscriptionists produce documents in corporate, government, publishing, medical, legal office settings and in police departments. Stenotranscriptionists may also be self-employed. They use machine shorthand skills, computers, and rapid data entry software to produce documents at 100 wpm and faster.

Each student develops a broad vocabulary and extensive training in document production, grammar and punctuation skills. These courses emphasize accuracy in document production.

A suggested schedule per term for the Stenotranscription program includes:
Term 1: BA 121, BA 131, CR 121, CR 103, CSCI 101
Term 2: CR 104, CR 123. CR 132, BA 211
Term 3: AA 143, CR 210, CR 240, CR 250, CR 251
Term 4: CR 298A, MMS 160

CERTIFICATE REQUIREMENTS

			Credit Hours
AA	143	Word Processing	4
	or		
MMS	134	WordPerfect for Windows	3
	or		
MMS	135	Microsoft Word for Windows	3
BA	211	Business Law	3
BA	121	Business Communications I	3
BA	131	Human Relations (7.5 weeks)	2
CR	103	Machine Shorthand I	7
CR	104	Machine Shorthand II	7
CR	121	Introduction to Court Reporting	2
CR	123	Punctuation for Court Reporters	3
CR	132	Medical Terminology and Anatomy	5

CR	210	Machine Shorthand III	8
CR	240	Legal Terminology/Procedures	3
CR	250	Computer-aided Transcription	3
CR	251	Stenotranscription	3
CR	298A	Internship	2
*CSCI	101	Computer Literacy	4
MMS	160	Introduction to Internet (5 weeks)	1
		Total	**59–64**

* Previously offered as BA 150.

OPTIONAL COURSES#

AA	207	Law Office Technology	4
AA	250	Machine Transcription	3
BA	242	Current Procedural Terminology	3
BA	243	ICD-9-CM Coding	3
BA	252	Customer Relations	3
BOLC Course		Medical Transcription	
CR	122	Word Power	1
CR	296	Topics Course	1–3
CR	299	Cooperative Education	4
ENG	240	Traditional Grammar	3
ENTR	101	Entrepreneurship	6

May be taken at any time when prerequisites are met.

HEALTH OCCUPATIONS

The Health Occupations Department provides entry-level training and skill upgrading in a variety of medical fields as well as child development.

Special courses, for which a department certificate of completion is awarded, also are offered. At least 12 students must sign up for a special course before it can be offered, and each student must meet all prerequisites. These courses may not be offered every year. Students enrolled in these courses may not be eligible to receive financial aid or Veterans Administration benefits.

Health Occupations offerings in 1997–98 are:

Emergency Medical Technician	Special Course
Licensed Practical Nurse Refresher	Special Course
Nursing Home/Health Care Attendant	Special Course
Perioperative Nurse Specialist	Special Course
Registered Nurse Refresher	Special Course
Child, Youth and Family Development	Associate of Arts Degree
Clinical Laboratory Assistant	Certificate
Healthcare Technician	Certificate
Health Unit Clerk	Certificate
Medical Laboratory Technician	Associate of Science Degree
Practical Nursing	Certificate
Nursing	Associate of Science Degree
Nursing Assistant	Certificate
Pharmacy Technician	Certificate
Phlebotomy	Certificate
Respiratory Therapy	Associate of Science Degree
Surgical Technology	Certificate

Classes for most programs are held in Jeannette Stromberg Hall at Main Campus; students may have supervised patient practicums and observations at community agencies.

Enrollment: All Health Occupations programs except Nursing Assistant require a high school diploma or equivalent and completion of the TVI placement test. Most programs also have prerequisites. Health Occupations programs require that students be in good physical condition, free of health conditions that could endanger themselves or others. Students may be required to have a physical exam.

Credit by examination (challenge) is available for selected courses. Program directors have detailed information.

Grading Policy: It is strongly recommended that all required courses be taken for a traditional letter grade. Most courses within Health Occupations must be taken for a traditional letter grade; the credit/no credit option may only be used for selected courses. A traditional grade of C or better is required in all Art & Sciences and occupational courses.

Handbooks: For specific policies and procedures regarding classroom expectations, clinical experiences, learning laboratories, standards of practice and professional codes of ethics, students should consult their programs' student handbook.

Computer Literacy: The TVI computer literacy requirement can be achieved by either completion of a computer course or successful completion of the computer literacy test. Training materials are available in the Health Occupations computer lab for students who do not complete a formal computer course.

EMERGENCY MEDICAL TECHNICIAN

This special course trains ambulance attendants to recognize, stabilize and transport patients with life-threatening emergencies. Classes include theory and lab. A TVI and EMS (Emergency Medical System) Academy certificate is awarded to students completing the course, who are then eligible to take the state licensure exam to become licensed emergency medical technicians.

Prior to enrollment each student must have current Basic Life Support (BLS) provider CPR certification and must be a high school graduate. BLS CPR certification is offered through the American Heart Association.

The course is offered during evening hours in the fall and spring terms. Participants pay the TVI registration fee, a $40 uniform fee and a $15 supply fee and purchase a textbook. The uniform fee covers the cost of the EMS academy course syllabus and certification.

EMS 160L Basic Emergency Medical Technician Skills 7 credit hours
(Prerequisites: high school diploma or equivalent, BLS CPR certification, RDG 099 or equivalent, MATH 099 or equivalent) Introduction to emergency medical techniques provided by rescue squads including use of airway adjuncts, oxygen therapy, splinting, patient assessment and treatment for shock. (5 theory + 5 lab hours a week) Course fee: $15; uniform fee: $40

LICENSED PRACTICAL NURSE REFRESHER

The LPN Refresher special courses meet the requirements of the State of New Mexico Nursing Practice Act 61-3-24.D. for nurses who have not been actually engaged in nursing for five years or more. It is approved by the New Mexico Board of Nursing. The curriculum focuses on updates in all major areas of nursing practice.

A physical examination and a current CPR certification for health professionals (BLS) are required before the first clinical day. White uniform and shoes and a stethoscope are required for clinical experience.

The $20 course fee covers the cost of supplies and preventive lab tests in case of needle stick exposure. There are additional fees payable to the New Mexico State Board of Nursing for licensure endorsement and reinstatement if a nursing license has expired.

The 7.5-week course is offered once a year in the spring term and enrollment is limited to 21 persons.

			Credit Hours
LPNR	155L	Refresher Theory/Lab	7
LPNR	165C	Refresher Clinical Experience	2
		Total	**9**

LPNR 155L Refresher Theory/Lab **7 credit hours**
(Prerequisite: a valid LPN license; corequisite: LPNR 165C) Trends in medical-surgical and specialty nursing trends, procedures and pharmacology are covered. (11 theory + 3 lab hours a week) Course fee: $20

LPNR 165C Refresher Clinical Experience **2 credit hours**
(Corequisite: LPNR 155L) Supervised medical and surgical clinical experiences include administration of medications and patient care. This course is offered for credit/no credit.

NURSING HOME/HOME HEALTH ATTENDANT

This 88-hour, eleven-week special course is designed to teach basic nursing skills to individuals who wish to work or are working in a nursing home as an attendant or in patients' homes as a home health attendant. Graduates are eligible to take the state certification exam to become a Certified Nursing Assistant (CNA).

The theory portion of the course includes basic nursing skills, geriatrics, simple anatomy and physiology, rehabilitation, residents' rights and housekeeping chores. Lab experiences focus on personal care, vital signs and mobility skills.

Twenty-four persons are enrolled in each course on a first come, first served basis. Courses are offered in the fall and spring terms.

NAHA 102L Nursing Home/Home Health Attendant Theory/Lab 5 credit hours
Includes basic nursing skills necessary to work in a nursing home, rehabilitation center or private home. Personal care and restorative care skills are taught in a lab setting. (5 theory + 3 lab hours a week)

PERIOPERATIVE NURSE SPECIALIST

These special courses provide RNs and LPNs with the skills and knowledge to work in hospital operating rooms or free-standing day surgical units. Twelve-week courses are offered in the summer term.

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. Applicants should call the Health Occupations Department to schedule an interview with the instructor. Applicants must be current licensed nurses. During the first week of the course, students must submit proof to the instructor of current immunizations, New Mexico RN or PN license, CPR card and a physical exam.

There is a $35 course fee which covers the cost of parking permits, name tags and preventive lab tests in case of needle stick exposure.

			Credit Hours
PRNS	255L	Perioperative Nurse Specialist Theory/Lab	8
PRNS	265C	Perioperative Nurse Specialist Clinical Experience	6
		Total	**14**

PRNS 255L Perioperative Nurse Specialist Theory/Lab 8 credit hours
(Prerequisite: department approval; corequisite: PRNS 265C) Presents history and philosophy of perioperative nursing, the surgical environment, perioperative care, intraoperative care and postoperative care. Skills are practiced in a mock operating room laboratory. (6 theory + 6 lab hours a week) Course fee: $35

PRNS 265C Perioperative Nurse Specialist Clinical Experience 6 credit hours
(Corequisite: PRNS 255L) Application of new and previously learned concepts to perioperative nursing in hospital operating rooms.

REGISTERED NURSE REFRESHER

The RN Refresher special courses meet the requirements of the State of New Mexico Nursing Practice Act 61-3-24.D. for nurses who have not been actually engaged in nursing for five years or more. It is approved by the New Mexico Board of Nursing. The curriculum focuses on updates in all major areas of nursing practice.

A physical examination and a current CPR certification for health professionals (BLS) are required before the first clinical day. White uniform and shoes and a stethoscope are required for clinical experience.

The $20 course fee covers the cost of supplies and preventive lab tests in case of needle stick exposure. There are additional fees payable to the New Mexico State Board of Nursing for licensure endorsement and reinstatement if a nursing license has expired.

The 7.5-week RN Refresher course is offered once a year in the summer term and enrollment is limited to 21 persons.

			Credit Hours
RNR	255L	Refresher Theory/Lab	7
RNR	265C	Refresher Clinical Experience	2
		Total	**9**

RNR 255L Refresher Theory/Lab **7 credit hours**
(Prerequisite: a valid RN license; corequisite: RNR 265C) Trends in medical-surgical and specialty nursing, pharmacology and procedures are covered. (11 theory + 3 lab hours a week) Course fee: $20

RNR 265C Refresher Clinical Experience **2 credit hours**
(Corequisite: RNR 255L) Supervised medical-surgical clinical experiences include total patient care. This course is offered for credit/no credit.

CHILD, YOUTH AND FAMILY DEVELOPMENT

The Child, Youth and Family Development (CYFD) program facilitates the learning of theory and skills required for working with children, youth and families in certain settings. The two-year program includes classroom instruction at the Main and South Valley campuses as well as practical experience. The program leads to an associate of arts degree and/or prepares students for the national Child Development Associate (CDA) credential assessment.

The curriculum provides courses in children, youth and family development and early childhood education as well as the CDA specialty concentration. The coursework also promotes the study of reading, writing, speech, math, English and science.

Not all courses are offered each term. Courses require a minimum enrollment of 12 students.

Students interested in transferring the CYFD associate degree to a four-year school are urged to seek advisement from that school to ensure proper planning when beginning their studies at TVI. The Early Childhood Multicultural Education (ECME) concentration is accepted at all New Mexico four-year schools with similar programs.

The enrollment requirement is a high school diploma or equivalent. Note: Federal law requires a background check on all persons seeking employment in child care facilities.

ARTS AND SCIENCES COURSES REQUIRED FOR ASSOCIATE DEGREE

			Credit Hours
ART	101	Introduction to Art and/or	
ART	151	Art of the American Southwest	
		Select one for CYFD concentration	3
		Both required for ECME concentration	6
COMM	270	Communication Studies for Teachers	3
ENG	101	College Writing	3

ENG	102	Analytic and Argumentative Writing	3
MATH	111	Math for Elementary/Midschool Teachers	3
Social and Behavioral Science: three courses:			9
HIST	101 or 102	Western Civilization I or II	
ANTH	238	Cultures of the Southwest	
PSCI	200	U.S. Politics	
SOC	101	Introduction to Sociology	
Biological Science, Physical Science or Astronomy			8
		CYFD Total	**32**
		ECME Total	**35**

CONCENTRATION: CHILD, YOUTH AND FAMILY DEVELOPMENT (CYFD)

This course of study facilitates the learning of theory and skills required for working in various settings with children from infancy through adolescence as well as families. The two-year concentration includes theory and application in practical settings.

REQUIRED COURSES

			Credit Hours
CDV	103	Pre-School Growth and Development (Fall, Spring)	3
CDV	104	Theories of Child and Family Development (Fall, Spring, Summer)	3
CDV	105L	Infant Growth and Development, Theory and Lab (Fall, Spring)	4
CDV	201	Middle Childhood Growth and Development (Spring, Summer)	3
CDV	202	Adolescent Growth and Development (Spring, Summer)	3
CDV	212	Special Issues in Child and Family Development (Spring)	3
CDV	214C	Practicum for CYFD Major (Spring)	3
CDV	217 or	Strengthening Family Structures (Summer)	3
CDV	219 or	Marriages and Families (Fall)	3
CDV	213	Family Relations (Spring)	3
CDV	Electives (see below)		9
		Subtotal	**34**
		Total	**66**

ELECTIVES

CDV	101	Parents and Young Children (Fall, Summer)	3
CDV	106	Healthy Young Children (Fall, Summer)	3
CDV	128	Early Childhood Learning Environments I (Fall)	3
CDV	130	Working with Families and Communities (Spring, Summer)	3

CDV	204	Introduction to Classroom Learning (Spring)	3
CDV	206	Working with Special Needs Children (Fall)	3
CDV	207	Management of Early Childhood Programs (Summer)	3
CDV	209	Early Childhood Learning Environments II (Spring)	3
CDV	210	Guidance in Early Childhood (Fall, Spring)	3
CDV	213	Family Relations (Spring)	3
CDV	216	Individual and Family Diversity (Spring, Summer)	3
CDV	217	Diversity in Early Childhood Programs and Assessment (Fall, Summer)	2
CDV	218	Strengthening Family Structures (Summer)	3
CDV	219	Marriages and Families (Fall)	3
CDV	296	Topics	1–3

CONCENTRATION: EARLY CHILDHOOD MULTICULTURAL EDUCATION

This course of study is designed for students who wish to work in this field or transfer to a four-year institute to complete a bachelor's degree in early childhood education or a related field. This concentration addresses the seven general early childhood education competency areas required for New Mexico Department of Education licensure in early childhood education (birth to third grade).

REQUIRED COURSES

CDV	126	Childhood Growth and Development (Fall, Spring, Summer)	3
CDV	127L	Observing Young Children (Fall, Spring, Summer)	1
CDV	128	Early Childhood Learning Environments I (Fall)	3
CDV	129C	Early Childhood Practicum I Fall, Spring)	2
CDV	130	Working with Families and Communities (Spring, Summer)	3
CDV	131C	Early Childhood Practicum II (Spring, Summer)	2
CDV	209	Early Childhood Learning Environments II (Fall)	3
CDV	210	Guidance in Early Childhood (Fall, Spring)	3
CDV	215	Intro to the Early Childhood Professions (Spring, Summer)	4
CDV	217	Diversity in Early Childhood Programs and Assessment (Fall, Summer)	2

(Note: The 29 credits above comprise the articulated transfer module to New Mexico four-year institutes.)

CDV	212	Special Issues in Child and Family Development (Spring)	3
		Subtotal	**32**
		Total	**67**

CONCENTRATION: CHILD DEVELOPMENT ASSOCIATE (CDA) CREDENTIAL

The CDA track of study prepares students for the national Child Development Associate (CDA) credential assessment administered by the Council for Early Childhood Professional Recognition. It is designed for those currently working or planning to work with children from birth through age six in such settings as Head Start, family care homes, Even Start, child care facilities and private and public pre-schools.

REQUIRED COURSES

			Credit Hours
CDV	120	Introduction to CDA Training	1
CDV	121	Training Seminar I	3
CDV	122	Training Seminar II	3
CDV	123	CDA Assessment Preparation	1
CDV	124A	Supervised Field Experience I	1
CDV	124B	Supervised Field Experience II	1

Note: Prerequisites may be waived for non-majors by permission of dean or program director.

CDV 101 Parents and Young Children **3 credit hours**
Study of the interactions of parents and children and diverse family configuration throughout the life cycle.

CDV 103 Pre-School Growth and Development **3 credit hours**
(Pre- or corequisites: CDV 104, CDV 105L and ENG 101) Examines the cognitive, physical and social-emotional development of the pre-school child. Requires observations in an appropriate setting.

CDV 104 Theories of Child and Family Development **3 credit hours**
(Pre- or corequisites: ENG 101) Overview of significant theories and research of children's development and family interactions.

CDV 105L Infant Growth and Development Theory and Lab **4 credit hours**
(Pre- or corequisites: CDV 104 and ENG 101) Examines the basic needs and growth factors of children with an emphasis on the prenatal period through 36 months. 3 theory + 3 lab hours per week. (This course replaces CDV 102 and CDV 102L)

CDV 106 Healthy Young Children **3 credit hours**
(Pre- or corequisites: CDV 104 and ENG 101) Provides an awareness of basic health and safety management procedures which contribute to the prevention of childhood illnesses. Emphasis on safe environments, child abuse and neglect and children's nutrition.

CDV 120 Introduction to CDA Training 1 credit hour
(Pre- or corequisites: RDG 100, MATH 100) Study of the history of CDA, the assessment system and competency standards. A review of the six competency and 13 functional areas as well as what is needed to complete the CDA through the direct assessment route.

CDV 121 CDA Training Seminar I 3 credits hours
(Pre- or corequisites: CDV 120, RDG 10,0 MATH 100; corequisites: CDV 124) Formalized instruction covers four of the eight core content areas: Safe, Healthy Learning Environments; Commitment to Professionalism; Observing and Recording Children's Behavior and Growth and Development Principles.

CDV 122 CDA Training Seminar II 3 credit hours
(Pre- or corequisites: CDV 120, RDG 100, MATH 100; corequisites: CDV 125) Formalized instruction covers four of the eight content areas: physical and intellectual development; social and emotional development; strategies for establishing productive family relationships and effective program operation.

CDV 123 CDA Assessment Preparation 1 credit hour
(Pre- or corequisites: CDV 120, 121, 122, RDG 100, MATH 100) Presents the steps involved in preparation for the assessment; preparation of a professional resource file, distribution of parent questionnaires, review for the interview and situational assessment.

CDV 124A CDA Field Experience I 1 credit hour
(Corequisite: CDV 121; pre-or corequisites: CDV 120, RDG 100, MATH 100) Scheduled on-site experience that includes working with children at various early childhood settings, as well as home visitor settings serving children birth through age six.

CDV 125B Supervised Field Experience II 1 credit hour
(Corequisite: CDV 122; pre- or corequisites: CDV 120, RDG 100, MATH 100) Continuation of Field Experience I.

CDV 126 Childhood Growth and Development 3 credit hours
(Pre- or corequisite: ENG 101) Provides foundation for becoming an early childhood professional with knowledge of how young children develop and learn. Major developmental theories are integrated with all aspects of development including psycho-social, physical/ motor, cognition, language and literacy.

CDV 127L Observing Young Children 1 credit hour
(Pre- or corequisite: ENG 101; corequisite: CDV 126) Observation in an approved early childhood setting to promote practical application of lecture and text material for CDV 126. (3 lab hours per week)

CDV 128 Early Childhood Learning Environments I 3 credit hours
(Pre- or corequisites: CDV 126, 127; ENG 101 for ECME majors; CDV 104 and ENG 101 for CYFD majors) Provides students with the knowledge and skills to set up and maintain

safe, healthy, multicultural, indoor and outdoor environments for children 0-8 years, developing typically and atypically. Promotes good health, nutrition and prevention of diseases.

CDV 129C/131C Early Childhood Practicum I, II **2 credit hours**
(Pre-or corequisites: CDV 126, 127, ENG 101) Note: Practicum I must be completed successfully before enrolling in Practicum II. Students work in an approved early childhood setting four hours a week enabling them to practice competencies learned through course work and texts.

CDV 130 Working with Families and Communities **3 credit hours**
(Pre- or corequisites: CDV 126, 127; ENG 101 for ECME majors; CDV 104 and ENG 101 for CYFD majors) Approaches family, school and community collaboration from the premise that parents are a child's first and most important teacher and that collaboration is essential. Stresses methods to enhance communication and cooperation.

CDV 131C (see CDV 129C)

CDV 204 Introduction to Classroom Learning **3 credit hours**
(Pre- or corequisites: CDV 104 and ENG 101) An introduction to educational psychology and learning. Emphasis is on practical application.

CDV 206 Working with Special Needs Children **3 credit hours**
(Pre- or corequisites: CDV 104, ENG 101) Examines the characteristics and educational needs of exceptional children. Surveys definition, etiology and educational alternatives for each of the exceptionalities. (Formerly titled Education of the Exceptional Person)

CDV 207 Management of Early Childhood Programs **3 credit hours**
(Pre- or corequisites: CDV 104, ENG 101) Presents knowledge and skills to develop an effective early childhood program. Students examine staff responsibilities, program development, scheduling, behavioral observation and evaluation techniques.

CDV 209 Early Childhood Learning Environments II **3 credit hours**
(Pre- or corequisites: CDV 126, 127, 128; ENG 101 for ECME majors; CDV 104, ENG 101 for CYFD majors) Focus on planning, analyzing and evaluating materials, equipment, activities and approaches for learning experiences for birth through third grade. Examines developmentally appropriate practices in curriculum planning. (Formerly titled Developmentally Appropriate Practice)

CDV 210 Guidance in Early Childhood **3 credit hours**
(Pre- or corequisites: CDV 104, ENG 101 for CYFD majors; CDV 126, 127; ENG 101 for ECME majors) Covers positive guidance and discipline techniques; emphasis is on appropriate experiences for the development of autonomy, self-esteem and social competency.

CDV 212 Special Issues in Child and Family Development **3 credit hours**
(Prerequisite: Must be in final term or have permission of program director; summer gradu-

ates may enroll in spring term.) Exit seminar course designed to present a balance of research findings, theory and application. Focuses on critical contemporary issues in the field. Students complete a professional portfolio.

CDV 213 Family Relations 3 credit hours
(Pre- or corequisites, CDV 104, ENG 101) Study of marriage and family life as viewed through the family life cycle and differing family ethnicities. Presents foundation for understanding issues such as gender dating, commitment, sexuality and couple communication.

CDV 214C Practicum for CYFD Concentration 3 credit hours
(Prerequisite: Must be in final term or have permission of program director; summer graduates may enroll in spring term.) Provides students with a supervised field experience (nine hours per week) in a childhood or family setting, including Head Start, Even Start, local child care center and public school classrooms.

CDV 215 Introduction to the Early Childhood Professions 4 credit hours
(Pre- or corequisites: CDV 126, 127; ENG 101) Students explore a variety of early childhood care and education programs in multicultural settings for typical and atypical children. Students participate in a field experience at different sites serving children birth to three, three to five, and five to eight.

CDV 216 Individual and Family Diversity 3 credit hours
(Pre- or corequisites: CDV 126, 127; ENG 101 for ECME majors; CDV 104, ENG 101 for CYFD majors) Focuses on individual and family in terms of social and community diversity. Variances including disabilities, ethnicity, gender and social class are addressed.

CDV 217 Diversity in Early Childhood Programs and Assessment 2 credit hours
(Pre- or corequisites: CDV 126, 127; ENG 101 for ECME majors; CDV 104, ENG 101 for CYFD majors) Focuses on appropriate programming and assessment of typical and atypical young children, the role of parents in designing programs, the role of assessment in designing curricula and the role of language and culture in assessment.

CDV 218 Strengthening Family Structures 3 credit hours
(Pre- or corequisites: CDV 104, ENG 101) Students view families from a structural perspective by being exposed to systems thinking. Explores how families are similar to and different from others in society, including biological and social systems. Strength-based perspective is studied and encouraged in practice.

CDV 219 Marriages and Families 3 credit hours
(Pre- or corequisites: CDV 104, ENG 101) Provides insights into contemporary marriage and family situations. Focus on decision making for better understanding of families and the broader society.

CDV 296 Topics 1–3 credit hours
Various special topics in the field are offered as elective hours.

CLINICAL LABORATORY ASSISTANT

The Clinical Laboratory Assistant (CLA) certificate program prepares students to perform basic laboratory testing in a medical laboratory under the supervision of a medical technologist, medical laboratory technician or pathologist. A CLA collects and processes blood specimens and performs test procedures in chemistry, hematology, microbiology and urinalysis.

Students should possess the ability to communicate with clients and the manual dexterity required to handle laboratory equipment. Applicants must present evidence of current TB testing, immunizations (including Hepatitis B, rubella and rubeola) and BLS CPR certification prior to the clinical portion of the program. A $50 uniform fee covers the cost of a lab coat, health tests, name tags, clinical parking fees, and lab tests in case of needle stick exposure. Advanced placement through transfer is available for applicants who have completed other phlebotomy programs.

The program is offered in the spring term. Prerequisites are:

- ☐ high school diploma or equivalent
- ☐ MATH 099 or equivalent
- ☐ ENG 099 or equivalent
- ☐ RDG 099 or equivalent
- ☐ completion of TVI Phlebotomy program within past three years or ASCP or NCA certification
- ☐ recent work experience

REQUIRED CLINICAL LABORATORY ASSISTANT PROGRAM COURSES

			Credit Hours
CLA	101L	Introduction to Laboratory Technique (7 weeks)	4
CLA	102L	Basic Hematology/Chemistry (7 weeks)	4
CLA	103C	Clinical Experience (8 weeks)	5
		Total	**13**

CLA 101L Introduction to Laboratory Technique **4 credit hours**

(Prerequisites: department approval, RDG 099 or equivalent, ENG 099 or equivalent, MATH 099 or equivalent; corequisite: CLA 102L) Introduction to basic anatomy and physiology, medical terminology, communications, laboratory math and laboratory techniques using applied theory in urinalysis, serology and Microbiology. Safety issues and practices are stressed. Uniform fee: $50

CLA 102L Basic Hematology/Chemistry **4 credit hours**

(Corequisite CLA 101L) Instrumentation and the concepts of quality control and calibration; basic techniques using applied theory in hematology and chemistry and the clinical significance of laboratory testing.

CLA 103C Clinical Experience **5 credit hours**
(Prerequisite: CLA 101L, CLA 102L) In this clinical practicum students perform urinalysis, serology, microbiology, hematology and chemistry procedures in affiliated medical laboratories. (28 hours per week)

HEALTHCARE TECHNICIAN

The one-term Healthcare Technician certificate program prepares persons to assist nurses in hospitals. Topics include drawing blood, collecting specimens and preparing and maintaining equipment used to obtain blood specimens. Transcribing written doctor's orders, ordering supplies and communicating with patients as well as healthcare personnel are presented. A third component includes skills such as sterile technique, urinary catheterizations, respiratory care and assisting with physical therapy.

The 12-week, 330-hour, summer-term program includes six weeks of classroom/lab instruction and six weeks of experience in local hospitals and/or clinics.

There is a $40 uniform fee that includes a lab coat, bandage scissors, name tag, parking fees and health tests. There is a $10 supply fee. Students are required to have their own stethoscopes and transfer belts.

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

Prerequisites are:

- ☐ graduation from TVI Nursing Assistant program within past two years and
- ☐ C.N.A. certification or:
  - ☐ C.N.A. certification and
  - ☐ MATH 099 and RDG 099 or equivalent
  - ☐ successful completion of written Nursing Assistant exam
  - ☐ successful completion of NA skill exam
- ☐ current CPR certification
- ☐ current immunizations (MMR, PPD, Hepatitis B, and tetanus)

			Credit Hours
HCT	101/101L	HCT Phlebotomy Skills and Laboratory	2
HCT	102/102L	HCT Health Unit Coordinator Skills and Laboratory	2
HCT	103/103L	HCT Special Skills Theory and Laboratory	4
HCT	110C	HCT Phlebotomy Skills Clinical	2
HCT	120C	HCT Multi-skilled Clinical	2
		Total	**12**

HCT 101/101L HCT Phlebotomy Skills and Laboratory **2 credit hours**
(Corequisites HCT 102L, HCT 103L; prerequisites: RDG 099 or equivalent, ENG 099 or equivalent, MATH 099 or equivalent, departmental approval) Theory and skills of basic

venipuncture and blood collection techniques, specimen handling and reference procedures are presented. (4 theory + 4 lab hours a week) Uniform fee: $40

HCT 102/102L HCT Health Unit Coordinator Skills and Laboratory 2 credit hours
(Corequisite: HCT 101L) Students acquire basic skills including medical terminology, abbreviations, communications, pharmacological terms and data forms. (2 theory + 8 lab hours a week for six weeks) Course fee: $10

HCT 103/103L HCT Special Skills Theory and Laboratory 4 credit hours
(Corequisite: HCT 101L) Students will acquire technical nursing skills such as sterile technique, urinary catheterizations, and respiratory care. (4 theory + 8 lab hours/week for six weeks)

HCT 110C HCT Phlebotomy Skills Clinical 2 credit hours
(Prerequisite: HCT 101L; corequisite: HCT 120C) Students apply fundamental phlebotomy techniques within the clinical setting. (30 clinical hours a week for 3 weeks)

HCT 120C HCT Multi-skilled Clinical 2 credit hours
(Corequisite: HCT 110C) Students apply health unit coordinating and special skills in nursing in a healthcare setting under the supervision of a nurse. (30 clinical hours/week for three weeks)

HEALTH UNIT CLERK

The Health Unit Clerk certificate program prepares persons to work in hospitals, elder care centers and out-patient clinics. Transcribing doctors' written orders, typing, ordering supplies, answering the telephone, working with computers and communicating with patients, visitors and staff are typical activities. The 15-week program has nine weeks of classroom theory and six weeks of clinical practice in local hospitals. It is offered in the fall, spring and summer terms.

Enrollment in the Health Unit Clerk program requires a high school diploma or equivalent, the ability to read at the seventh-grade level and a passing score on the math placement test. Students also must be able to write clearly and accurately and have the ability to speak distinctly to others.

There is a $30 uniform fee which covers the required uniform top, parking fees, name tag and health tests. Neutral-colored slacks or skirts are required but are not covered by the fee.

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

			Credit Hours
HUC	101L	Health Unit Clerk Theory and Lab	8
HUC	131C	Health Unit Clerk Clinical Practice	4
		Total	**12**

HUC 101L Health Unit Clerk Theory and Lab 8 credit hours
(Prerequisites: enrollment in the program, RDG 099 or equivalent, ENG 099 or equivalent, MATH 099 or equivalent; corequisite: HUC 131C) Includes 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. (5 theory + 20 lab hours a week)

HUC 131C Health Unit Clerk Clinical Practice 4 credit hours
(Prerequisite: HUC 101L) Supervised clinical experience in local hospitals and hospital out-patient clinics. Uniform fee: $30

MEDICAL LABORATORY TECHNICIAN

The Medical Laboratory Technician associate of science degree program prepares students to perform laboratory procedures which aid the physician and pathologist in the diagnosis and treatment of disease. Medical laboratory technicians (MLTs) work under the supervision of a pathologist in clinics, hospitals, private laboratories and physician office labs, collecting blood specimens and performing test procedures in such disciplines as clinical chemistry, hematology, immunohematology, immunology, microbiology and urinalysis.

The program is accredited by the National Accrediting Agency for Clinical Laboratory Sciences. Graduates are eligible to take both the American Society of Clinical Pathologists and the National Certification Agency exams to obtain Certified Medical Laboratory Technician credentials.

The clinical practicum experience at affiliated hospitals and laboratories provides experience in performing laboratory tests under the direction of a clinical instructor. Students must arrange for their own transportation to the hospitals or labs.

There is an uniform fee of $65 for two lab coats, parking fees, name tag and preventive lab tests in case of needle stick exposure. Each MLT laboratory course also has a $20 supply fee.

Orientation sessions for the Medical Laboratory Technician program are scheduled regularly; students should contact the Health Occupations Department for dates and times. These sessions include detailed information about the petitioning and selection process, program requirements and general information about laboratory medicine as a career including the physical demands of the job. Anyone interested in the Medical Laboratory Technician program is strongly encouraged to attend one of these orientation sessions. For more information on orientation sessions applicants may call 224-4161. Prospective MLT stu-

dents must declare MLT as their major, complete the prerequisites and submit a petition packet to the MLT program director to be considered for the MLT class beginning in January. Students should call the Health Occupations office to learn the dates of the fall petition period.

Students are responsible for meeting the eligibility requirements. Once all requirements are fulfilled, students may petition for enrollment in the core MLT curriculum. Required Arts & Sciences courses may be taken prior to enrollment in MLT courses. Should the number of students eligible to enroll exceed the class size, priority will be given to those who have completed all required Arts & Sciences courses. The program begins in the spring term of each year.

MEDICAL LABORATORY TECHNICIAN ADVANCED PLACEMENT

Applicants seeking advanced placement to the Medical Laboratory Technician program should contact the program director for more information. Prerequisites are:

- ☐ high school diploma or equivalent
- ☐ English, math, reading, science at 100 level (MATH 100A): may be fulfilled by ACT, SAT or Accuplacer score or college course work.
- ☐ MATH 121 or equivalent or higher level math course
- ☐ CHEM 111/112L or higher level college chemistry with a lab
- ☐ minimum score of 85% on Nursing/MLT Basic Math Test within 12 months prior to petitioning
- ☐ cumulative GPA 2.0 or higher

REQUIRED MEDICAL LABORATORY TECHNICIAN COURSES

			Credit Hours
MLT	110L	Introduction to Medical Technology	4
MLT	114	Immunology	1
MLT	114C	Clinical Immunology	1
MLT	151C	Clinical Experience Urinalysis/Phlebotomy	4
[1]MLT	201L	Clinical Chemistry	7
[1]MLT	203L	Clinical Hematology/Coagulation	6
[1]MLT	204L	Clinical Immunohematology	3
MLT	205C	Clinical Experience	13
[1]MLT	206	MLT Microbiology	3
MLT	206C	Clinical MLT Microbiology	2

REQUIRED ARTS & SCIENCES COURSES[1]

[2]BIO	123	Biology for Health Sciences	3
[2]BIO	124L	Biology for Health Sciences Lab	1
ENG	101	College Writing	3
CHEM	121L	General Chemistry I	4
[3]BIO	136	Human Anatomy and Physiology for Non-Majors	3
[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
		Total	**70**

[1]Courses taught by University of New Mexico faculty at the Health Sciences and Service Building on the UNM campus. Students are charged TVI tuition rates.
[2]BIO 121L may be substituted for BIO 123/124L.
[3]BIO 237/247L and BIO 238/248L may be substituted for BIO 136/139L.
[4]PHIL 245M—Biomedical Ethics strongly recommended.

An agreement with the UNM Medical Laboratory Science (MLS) Department allows for the transfer of some or all credits earned at TVI toward the UNM MLS bachelor's degree. Students should contact the program director for specifics.

In order to satisfy prerequisite and corequisite requirements, the following order of courses is recommended:

Prerequisite Courses:	MATH 121, CHEM 111/112L (or higher level chemistry)
Spring Term:	MLT 110L, BIO 123/124L, ENG 101, CHEM 121L
Summer Term:	MLT 151C, BIO 136/139L, CHEM 122L, HUM/SOC elective
Fall Term:	MLT 114L, MLT 114C, MLT 201L, MLT 204L, BIO 239/239L
Spring Term:	MLT 203L, MLT 206, MLT 206C
Summer Term:	MLT 205C

MLT 110L Introduction to Medical Technology 4 credit hours
(Prerequisite: departmental approval; pre- or corequisites: ENG 101, BIO 123/124L, CHEM 121L) Introduction to basic medical laboratory techniques emphasizing urinalysis. Includes principles and procedures of chemical and microscopic analysis of urine, basic immunology, instrumentation, quality control and safety procedures. (3 theory + 3 lab hours a week) Uniform fee: $65

MLT 114 Immunology 1 credit hour
(Prerequisite: MLT 151C; pre- or corequisites: BIO 239/239L; corequisite: MLT 114C, MLT 201L) A basic study of the body's immune response and introduction to diseases involving deficiencies in the immune system. (2 hours a week for 8 weeks)

MLT 114C Clinical Immunology 1 credit hour
(Prerequisite: MLT 151C; pre- or corequisites: BIO 239/239L; corequsite: MLT 114, MLT 201L) An opportunity to perform serological testing on specimens from hospital patients using current methodologies. (6 hours a week for 8 weeks) Course fee: $20

MLT 151C Clinical Experience Urinalysis/Phlebotomy 4 credit hours
(Prerequisite: MLT 110L; pre- or corequisites: BIO 136/139L, CHEM 122L, humanities/social science) The practice of procedures learned in urinalysis and phlebotomy at affiliated hospitals. This is a credit/no credit course.

MLT 201L Clinical Chemistry **7 credit hours**
(Pre- or corequisites: MLT 114, MLT 114C, MLT 204L, BIO 239/239L) The principles and methods used in testing for chemical components in blood and other body fluids including basic instrumentation and laboratory experiences for performing the basic procedures used in a clinical chemistry laboratory. (5 theory + 6 lab hours a week) Course fee: $20

MLT 203L Clinical Hematology/Coagulation **6 credit hours**
(Pre- or corequisites: MLT 206, MLT 206C) Normal and abnormal blood cell enumeration and morphology and coagulation mechanisms including the principles of routine procedures performed in the hematology laboratory. (4 theory + 6 lab hours a week) Course fee: $20

MLT 204L Clinical Immunohematology **3 credit hours**
(Pre- or corequisites: MLT 114, MLT 114C, MLT 201L, BIO 239/239L) Theory principles and test methods for determining blood group typing, antibody detection and identification, cross matching and component therapy. (4 theory + 6 lab hours a week for 7 weeks) Course fee: $20

MLT 205C Clinical Experience **13 credit hours**
(Prerequisites: MLT 203L, MLT 206, MLT 206C) Supervised clinical practice takes place in the clinical laboratories of affiliated hospitals with rotations through hematology/coagulation, microbiology, chemistry and immunohematology departments. This is a credit/no credit course.

MLT 206 MLT Microbiology **3 credit hours**
(Prerequisite: MLT 201L, MLT 204L; corequisites: MLT 203L, MLT 206C) Clinical bacteriology, mycology and parasitology including macroscopic and microscopic identification of organisms, antibiotics susceptibility testing, life cycles, and pathology and etiology of various diseases. Virology is introduced.

MLT 206C Clinical Microbiology **2 credit hours**
(Prerequisite: MLT 201L, MLT 204L; corequisites: MLT 203L, MLT 206) The identification of microorganisms of clinical significance from specimens obtained from hospital patients. Students utilize current methodologies and identification techniques. Course fee: $20

MLT 296 Topics in Laboratory Medicine **4 credit hours**
(Prerequisites: may vary) Various topics in laboratory medicine are presented.

NURSING PROGRAMS

There are two programs available: associate degree nursing (leading to eligibility for licensure as a Registered Nurse) and practical nursing (leading to eligibility for licensure as an Licensed Practical Nurse). Advanced placement is available. Both programs are approved by the New Mexico State Board of Nursing and accredited by the National League for Nursing Accreditation Commission (NLNAC). For further information on accreditation for either program, the NLNAC may be contacted at (212) 989-9393, extension 153.

Licensure: It is essential that prospective students be informed that the New Mexico State Board of Nursing (NMSBON) 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 (from BON Manual #91-2, 61-3-28):

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;
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.

Orientation sessions: Separate orientation sessions are scheduled regularly for each program. For information applicants may call the Health Occupations Department at 224-4161. These sessions review levels of nursing, the petition process for enrollment, program requirements and curriculum changes. Individuals interested in either nursing program *must* attend one of these sessions and continuing students are encouraged to attend at least one session a year. *Students may declare their major in practical nursing or associate degree nursing at any time. However, when ready to enter clinical courses, students must petition for selection.*

Petitioning: Petitions for selection to the clinical courses are accepted early in the spring term for the practical nurse program and early in the fall term for the associate degree nursing program. Applicants may contact the Health Occupations Department for the dates and times when petitions are accepted. To be eligible to petition a student must complete the prerequisites (see below) and provide proof of completing all required liberal arts courses with a C or better. Anatomy and physiology courses must be taken within five years from the date of application to the nursing program. Note: Anatomy and physiology courses have general biology (BIO 123/124L) and chemistry (CHEM 111/112L) prerequisites. These prerequisites may be met by appropriate high school courses. Waiver is provided by the biology faculty.

Once all criteria are fulfilled students must petition for enrollment in the first clinical course in either nursing program. Should there be more petitioners than available spaces, the date of admission to TVI will be used as the final selection criterion. Should there be

more than one person with the same date of admission competing for the same slot, the date of completion of all required liberal arts courses will be used as the final selection criterion. The date of completion will be the last day of the term in which the course was successfully completed.

Because of the high demand for these programs it may take more than one year after petitioning to begin the nursing core coursework.

Requirements for entering clinical courses: After selection into the first clinical course, students must submit:

- ☐ Completed physical examination and health forms with evidence of current immunizations before beginning clinical courses. It is strongly advisable that students be able to lift 50 pounds or more.
- ☐ Evidence of current certification in cardiopulmonary resuscitation (CPR) for health professionals before beginning clinical courses. CPR certification must be kept current throughout the program.

Students must arrange for their own transportation to attend all classes, observations and clinical experiences as scheduled. There may be some required evening clinical hours as well as daytime hours.

There is an initial $90 equipment fee for required uniforms, stethoscope, scissors, parking fee, transfer belts, identification tags and preventive lab tests in case of needle stick exposure. Students are responsible for the expenses of the physical examination, a watch with a second hand, safety goggles, uniform shoes, graduation pin, textbooks and licensing exam fees. In addition, each course has fees for standardized testing.

Graduation requirements: A minimum grade of C must be earned in all required courses to continue in either nursing program and graduate. In addition, competency in dosage calculations, as tested by clinical calculation exams, must be maintained for progress in the program, and the computer literacy requirement must be met.

Prerequisites: P.N. and A.D.N. (must be completed in order to petition):

- ☐ high school graduate or equivalent
- ☐ English, math, reading, science at 100-level (MATH 100-A): may be fulfilled by ACT, SAT or Accuplacer scores or college coursework
- ☐ minimum score of 85% on Nursing/MLT Basic Math test within 12 months prior to petitioning
- ☐ cumulative TVI GPA 2.0 or higher

PRACTICAL NURSING

This certificate program prepares practical nurses to care for patients in a variety of health care facilities under the supervision of registered nurses and physicians. Graduates 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. Petitioning and prerequisites are covered above. The program begins in the summer term.

REQUIRED LIBERAL ARTS COURSES

			Credit Hours
BIO	237	Human Anatomy and Physiology I	3
BIO	247L	Human Anatomy and Physiology I Lab	1
BIO	238	Human Anatomy and Physiology II	3
BIO	248L	Human Anatomy and Physiology II Lab	1
ENG	101	College Writing	3
[1]NUTR	244	Human Nutrition	3
[2]PSY	105	General Psychology	3

PRACTICAL NURSE COURSES

NURS	115	Dosage Calculations	1
PN	126C	Foundations of Practical Nursing	9
PN	127C	Family Nursing	8
[3]PN	131	Pharmacology	3
PN	128C	Nursing of the Family with Complex Problems	13
PN	129	Trends and Issues in Practical Nursing	1
		Total	**52**

[1]NUTR 125 may be substituted.
[2]PSY 220 may be substituted.
[3]NURS 231 may be substituted.

PRESBYTERIAN HEALTHCARE SERVICES

Presbyterian Hospital
School Practical Nursing

The Presbyterian Healthcare Services (PHS) School of Practical Nursing was started in 1956 at Presbyterian Hospital. In 1965 TVI assumed administrative responsibility for the school. Presbyterian continues to support the school by providing clinical facilities for patient care experiences.

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. For additional information applicants may contact the director of the nursing programs. Official transcripts for previous vocational/college course work must be submitted to the TVI Records Office. Nursing courses are only valid for three years from the date of application to TVI. Advanced placement by challenge exam is offered to students who have either completed a formal course of study in a nursing-related field within a postsecondary

institution (e.g. military corps member) or performed basic nursing skills during employment in an in-patient setting within the last three years

NURS 115 Dosage Calculations **1 credit hour**
(Prerequisites: Nursing Basic Math Test and nursing director approval; corequisites: PN 126C) Presents methods of dosage calculations for oral and parenteral medications, including intravenous therapy and pediatric dosages. Offered for CR/NC only.

PN 126C Foundations of Practical Nursing **9 credit hours**
(Prerequisites: nursing director approval, BIO 237/247L, ENG 101; corequisites: NURS 115, BIO 238/248L, NUTR 244) A study of the foundations of practical nursing including an introduction to nursing process. Develops key concepts of basic and higher order needs within a caring framework. Clinical focuses on assessment of healthy clients across the life-span and measures to maintain/promote mental and physical health. (5 hours theory +12 hours clinical) Uniform fee: $90

PN 127C Family Nursing **8 credit hours**
(Prerequisites: BIO 238/248L, NURS 115, PN 126C, NUTR 244; pre- or corequisites: PSY 105, PN 131) Using nursing process, study of the child-bearing and child-rearing family. Clinical focuses on maternity and pediatric clients in community and hospital settings. Includes nursing care of clients with prevalent oncological conditions across the life-span. (4 hours theory, 12 hours clinical) Course fee: $15

PN 128C Nursing of the Family with Complex Problems **13 credit hours**
(Prerequisites: Calculation Exam II, PN 127C, PN 131, PSY 105; corequisite PN 129)* Continued study of the family, using nursing process, focusing on the impact of illness on clients and their families. Clinical focuses on medical and surgical clients with multisystem health problems in acute and long term health care settings. (8 hours theory, 15 hours clinical) Course fee: $20

PN 129 Trends and Issues in Practical Nursing **1 credit hour**
(Corequisite: PN 128C) The role of the practical nurse in relation to legal/ethical issues, professional relationships, the Nurse Practice Act and the changing health care delivery system.

PN 131 Pharmacology **3 credit hours**
(Prerequisites: BIO 238/248L, PN 126C; corequisite: PN 127C) 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 integrating nursing implications and responsibilities. Course fee: $10

*Calculation exams must be passed with a score of 90% or better.

NURSING

The associate degree nursing (ADN) program prepares technical nurses to provide nursing care to individuals or groups admitted to health care agencies. The clients have common, well defined health problems. Graduates work in structured healthcare settings where they provide and manage client care, teach and promote communication while participating as members of the nursing profession. Requirements and prerequisites are covered above. The program begins in the fall and spring terms.

REQUIRED ARTS & SCIENCES COURSES

			Credit Hours
BIO	237	Anatomy and Physiology I	3
BIO	247L	Anatomy and Physiology I Lab	1
ENG	101	College Writing	3
PSY	105	General Psychology	3
BIO	238	Anatomy and Physiology II	3
BIO	248L	Anatomy and Physiology II Lab	1
[1]NUTR	244	Human Nutrition	3
PSY	220	Developmental Psychology	3
BIO	239	Microbiology for Health Sciences	3
BIO	239L	Microbiology for Health Sciences Lab	1
PHIL	245M	Biomedical Ethics	3
[2]Elective			3

REQUIRED NURSING COURSES

NURS	115	Dosage Calculations	1
NURS	126C	Foundations of Nursing	9
NURS	127C	Family Nursing I	8
NURS	226C	Family Nursing II	10
NURS	227	Manager of Care	1
NURS	231	Pharmacology in Nursing	3
NURS	247C	Complex Health Problems in the Family	10
		Total	**72**

[1]NUTR 125 may be substituted.
[2]May be outside of Arts & Sciences with department approval; may not be a lab/science course.

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 as described above. Official transcripts of all vocational/college courses must be sent to TVI. All advanced placement stu-

dents must take NURS 202C prior to enrollment in the Nursing courses. Advanced placement may be granted in three ways:

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 postsecondary institution (e.g. military corps member) or performance of basic nursing skills during employment in an inpatient setting within the last three years. Individuals interested in challenge must make an appointment with the director of the nursing program. The process includes theory and practical exams. Students should check with the department for courses available for challenge. There is a fee for each challenge exam.

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. For specific information, students should contact the director of the nursing programs.

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

- ☐ meet all enrollment criteria for the ADN program including official transcripts of previous education in a vocational school or college
- ☐ pass the Nursing Mobility Profile I examinations as indicated by the program
- ☐ provide proof of completion of all required liberal arts courses with a minimum grade of C (anatomy and physiology and microbiology courses must be taken within five years from the date of application to the nursing program). Students must also have completed NURS 115 and NURS 202C . Priority is given to those who have also completed NURS 231.

Students are responsible for meeting the prerequisites and notifying the nursing director of their readiness to enter advanced placement four months prior to the term when they want to enter. Students will be notified by mail when they are selected to enter the clinical courses. After selection, students must meet the same requirements for entering clinical courses described above.

Students pay equipment fees for parking, name tags, achievement tests and preventive lab tests in case of needle stick exposure upon enrollment into nursing courses (fees are attached to specific courses). Students also are responsible for the expenses of physical exams, uniforms, transfer belts, shoes, watch with a second hand, safety goggles, stethoscope, bandage scissors, graduation pin and licensing fees.

NURS 115 Dosage Calculations **1 credit hour**

(Prerequisites: Nursing Basic Math Test and nursing director approval; corequisite: NURS 126C) Presents methods of dosage calculations for oral and parental medications, including intravenous therapy and pediatric dosages. The course is offered for CR/NC.

NURS 126C Foundations of Nursing **9 credit hours**

(*Prerequisites: nursing director approval, BIO 237/247L, ENG 101, PSY 105, NUTR 244; corequisites: NURS 115, BIO 238/248L, PSY 220)* Foundations of nursing are reviewed including an introduction to the nursing process with a focus on assessment. Key concepts

of basic and higher order needs within a caring framework are developed. Clinical: assessment of healthy clients across the life-span and measures to maintain/promote mental and physical health. (5 hours theory + 12 hours clinical) Uniform fee: $90

NURS 127C Family Nursing I **8 credit hours**
(Prerequisites: BIO 238/248L, NURS 115, NURS 126C, PSY 220; pre- or corequisites: BIO 239/239L, PHIL 245M) Using nursing process, the child-bearing and child-rearing family are studied. Clinical: experiences with maternity and pediatric clients in community and hospital settings. (4 hours theory + 12 hours clinical) Course fee: $15

NURS 202C Concepts for Transition Students **2 credit hours**
*(**ADN Students**—prerequisites: ENG 101, PSY 105, BIO 238/248L, NUTR 244 and credit for NURS 126C. **PN Students**—pre- or corequisites: ENG 101, NUTR 244, BIO 238/248L and credit for PN 126C)* Conceptual framework of the nursing program and an in-depth study of the nursing process are introduced. In-depth focus on assessment across the life span. This course is required for all applicants who seek advanced placement in the practical nurse or associate degree program. Course is only offered spring and summer. (1 hour theory + 3 hours clinical)

NURS 226C Family Nursing II **10 credit hours**
(Prerequisites: Calculation Exam II, NURS 127C, BIO 238/248L, BIO 239/239L; pre- or corequisites: NURS 231; corequisite: NURS 227)* Continued study of the family, using nursing process, focusing on the impact of illness. Clinical: medical and surgical clients in community and hospital settings.(5 hours theory + 15 hours clinical) Course fee: $20

NURS 227C Manager of Care **1 credit hour**
(Prerequisites: NURS 127C; Corequisite: NURS 226C) Introduces management principles to prepare the ADN nurse to manage care of groups of clients. Clinical application in NURS 226C. Course fee: $10

NURS 231 Pharmacology in Nursing **3 credit hours**
(Prerequisites: BIO 238/248L, NURS 126C; pre- or corequisite: BIO 239/239L) Concepts necessary for nursing judgment in the use of chemical agents and the theoretical base required to administer medications are introduced. Information covers drugs in current use, including pharmacokinetics, pharmacodynamics, therapeutic uses, adverse reactions, precautions and contraindications. Course fee: $10

NURS 247C Complex Health Problems in the Family **10 credit hours**
(Prerequisites: Calculation Exam III, NURS 226C, NURS 227, NURS 231, ELECTIVE)* Study of the impact of complex, multi-system health problems on individuals and families. Includes psychiatric disorders, cultural factors and practice issues. Clinical: providing and managing care of clients across the lifespan. (5 hours theory + 15 hours clinical) Course fee: $20

NURS 296 Topics in Nursing **1–10 credit hours**
(Prerequisites: may vary) Various topics in nursing are presented.

*Calculation exams must be passed with a score of 90% or higher.

NURSING ASSISTANT

This certificate program provides training in basic nursing skills required for the care and comfort of the sick in hospitals, out-patient clinics, nursing homes, public health agencies, private medical offices and the home. Graduates are eligible to take the state certification exam. The program begins in the fall and spring terms.

Good communication skills and the desire as well as 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 student will be required to have a physical exam, PPD and current immunizations (including tetanus, Rubella and Rubeola, and Hepatitis B) to go to clinical.

The 15-week program includes 330 instructional hours. Nine weeks are spent in the classroom and laboratory, followed by six weeks of extensive supervised clinical experiences. A student attends class an average of 22 hours per week throughout the program.

A $35 uniform fee covers the cost of the required uniform top, name tag, stethoscope, health test, CNA pin, parking fees, CPR and first aid certification, a transfer belt and preventive lab tests in case of needle stick exposure. A watch with a second hand, uniform slacks, shirt and shoes are required but not covered by the fee.

Students enrolled in this program may not be eligible to receive financial aid or Veterans Administration benefits.

Prerequisites are:

- ☐ MATH 099 or equivalent
- ☐ RDG 099 or equivalent

			Credit Hours
NA	101	Nursing Assistant Theory	4
NA	110L	Nursing Assistant Lab	1
NA	121C	Nursing Assistant Clinical Experiences	3
NA	131	Health Communications	3
NA	171	Nursing Assistant Applications	3
NA	161	Nursing Assistant Issues	2
		Total	**16**

NA 101 Nursing Assistant Theory **4 credit hours**
(Prerequisites: enrollment in the program, RDG 099 or equivalent, ENG 099 or equivalent,

MATH 099 or equivalent; corequisites: NA 110L, NA 131, NA 161, NA 171) During the first nine weeks students attend classes covering basic nursing skills used in health care agencies and homes. Other topics covered are medical terminology, home care issues and community resources.

NA 110L Nursing Assistant Lab 1 credit hour
(Corequisites: NA 101, NA 131, NA 161, NA 171) Students practice basic nursing skills in the laboratory. (5 lab hours a week for five weeks) Uniform fee: $35

NA 121C Nursing Assistant Clinical Experiences 3 credit hours
(Corequisite: NA 161) Successful completion of NA 101, NA 110L, NA 131 and NA 171 is required before going to clinical. The last six weeks of the program include supervised practice of nursing skills in hospitals, long-term care centers and patient homes throughout the city.

NA 131 Health Communications 3 credit hours
(Corequisite: NA 101, NA 110L, NA 161, NA 171) This course includes introductions to anatomy and physiology and nutrition. The basic structure and normal functions of the body systems and some of the aging problems which can occur in those systems are covered.

NA 161 Nursing Assistant Issues 2 credit hours
(Corequisite: NA 101, NA 110L, NA 121C, NA 131, NA 171) Special topics are covered such as nutrition labs, blood pressure practice, home health care post-conferences and clinical seminars.

NA 171 Nursing Assistant Applications 3 credit hours
(Corequisite: NA 101, NA 110L, NA 131, NA 161) Basic math is reviewed for part of the term with practice working selected problems. Tests cover eight areas of concentration. The other part of the term deals with geriatric issues and the application of nursing assistant theory to them.

PHARMACY TECHNICIAN

Pharmacy Technician is a two-term certificate program that prepares persons to assist pharmacists in the community or hospital pharmacy. Students prepare, mix, assemble and label medications. They also prepare sterile products including irrigation and intravenous admixtures. Instruction is provided in the classroom, in laboratories on campus and in local health care facilities. Arts & Sciences courses listed in the curriculum may be taken prior to entering the program.

There is a $35 uniform fee for one lab coat, name tag and parking fee. The program begins in the fall term.

Prerequisites are:

- ☐ high school diploma or equivalent
- ☐ RDG 099 or equivalent
- ☐ ENG 099 or equivalent
- ☐ MATH 100A or equivalent

REQUIRED PHARMACY TECHNICIAN COURSES

			Credit Hours
PT	110	Introduction to Pharmacy Technology	3
PT	111L	Pharmacy Technician Lab I	2
PT	115	Pharmacy Technician Anatomy and Physiology	3
PT	116	Pharmacy Calculations	3
PT	120	Advanced Pharmacy Technology	3
PT	121L	Pharmacy Technician Lab II	3
PT	122C	Pharmacy Technician Practicum	5
PT	125	Pharmacology for Pharmacy Technicians	3

REQUIRED ARTS & SCIENCES COURSES*

CHEM	111/112	Introduction to Chemistry	4
COMM	221	Interpersonal Communication Studies	3
CSCI	101	Computer Literacy	4
		Total	**36**

*Check prerequisites

PT 110 Introduction to Pharmacy Technology 3 credit hours
(Prerequisites: RDG 099 or equivalent, ENG 099 or equivalent, MATH 100A or equivalent; corequisites: PT 111L, PT 115, PT 116; pre-or corequisites: CHEM 111/112L, CSCI 101)
Provides a discussion of the pharmacy technician's role, the Pharmacy Practice Act, ethics, prescription preparation and institutional drug distribution systems. Uniform fee: $35

PT 111L Pharmacy Technician Lab I 2 credit hours
(Corequisites: PT 110, PT 115, PT116; pre- or corequisites: CHEM 111/112L, CSCI 101)
This campus lab provides opportunities for skill development in prescription preparation including oral, parenteral and IV preparation. Medical terminology and infection control, including universal precautions, are also emphasized.

PT 115 Pharmacy Technician Anatomy and Physiology 3 credit hours
(Corequisites: PT 110, PT 111L, PT 116; pre- or corequisites: CHEM 111/112L, CSCI 101)
This is an integrated study of the structures and function of the human body. Common disease entities related to body systems are presented.

PT 116 Pharmacy Calculations 3 credit hours
(Corequisites: PT 110, PT 111L, PT 115; pre- or corequisites: CHEM 111/112L, CSCI 101) This math course is designed to provide skills in pharmaceutical calculations for oral, parenteral and IV preparations.

PT 120 Advanced Pharmacy Technology 3 credit hours
(Prerequisites: PT 110, PT 111L, PT 115, PT 116, CHEM 111/112L, CSCI 101; corequisites: PT 121L, PT 122C, PT 125; pre- or corequisite: COMM 221) This course covers compounding and packaging of drugs, preparation of intravenous admixtures, inventory maintenance, clerical skills and institutional drug distribution processes.

PT 121L Pharmacy Technician Lab II 3 credit hours
(Corequisites: PT 120, PT 122C, PT 125; pre- or corequisite: COMM 221) This campus lab provides opportunities for skill development in compounding/reconstitution, labeling, aseptic technique, use of laminar flow hoods and use of the computer.

PT 122C Pharmacy Technician Practicum 5 credit hours
(Corequisites: PT 120, PT 121L, PT 125; pre- or corequisite: COMM 221) Students are assigned to institutional and community pharmacies for practical experience in applying what they have learned in classrooms and labs.

PT 125 Pharmacology for Pharmacy Technicians 3 credit hours
(Corequisites: PT 120, PT 121L, PT 122C; pre- or corequisite: COMM 221) This is a study of therapeutic drug categories.

PHLEBOTOMY

The primary work of a phlebotomist is to draw blood specimens for testing from healthcare clients. The job includes establishing a professional relationship with the client, obtaining blood specimens by venipuncture and skin puncture procedures, performing bedside testing, preparing and maintaining equipment, entering data into the computer and performing clerical duties. The job requires a lot of walking, bending and standing.

Applicants are required to present evidence of current Hepatitis B (HBV), Tetanus, Rubella and Rubeola immunizations, PPD testing and certification in cardiopulmonary resuscitation (CPR) before beginning the clinical part of the course. Students should possess good organizational skills and the ability to prioritize duties, the ability to communicate with clients, and manual dexterity.

To receive a certificate, a student must successfully complete the 15-week, 375-hour program, which includes six weeks of classroom and lab instruction and nine weeks of experience in local hospital and/or clinics. The program begins in the fall term.

A $40 uniform fee covers the cost of a lab coat, health tests, name tags, parking fees and preventive lab tests in case of needle stick exposure.

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

Prerequisites are:

- ☐ high school diploma or equivalent
- ☐ MATH 099 or equivalent
- ☐ ENG 099 or equivalent
- ☐ RDG 099 or equivalent

			Credit Hours
PHLB	101L	Phlebotomy Theory and Lab	7
PHLB	121C	Phlebotomy Clinical Practice	5
		Total	**12**

PHLB 101L Phlebotomy Theory and Lab **7 credit hours**
(Prerequisites: enrollment criteria for the program, RDG 099 or equivalent, ENG 099 or equivalent, MATH 099 or equivalent; corequisite: PHLB 121C) Six weeks of theory and procedures for collecting blood and other specimens from patients also includes anatomy and physiology, computer processes and laboratory clerical duties. (10 theory + 15 lab hours a week)

PHLB 121C Phlebotomy Clinical Practice **5 credit hours**
(Prerequisite: CPR certification; corequisite: PHLB 101L) Nine-week supervised clinical course in which students practice skills and apply the theory learned in class. Uniform fee: $40

RESPIRATORY THERAPY

The respiratory care profession specializes in diagnostic testing, therapeutic treatment and critical care for patients suffering from life-threatening or chronically disabling cardiopulmonary disorders. A respiratory therapist is a graduate of a two-year associate of science or four-year bachelor of science degree program and is capable of performing at an advanced level of respiratory care.

Under medical direction, respiratory therapists assess and treat clinical problems. They monitor and evaluate cardiorespiratory function, perform diagnostic tests and treatments, research treatment effectiveness and act as consultants to physicians, nurses and other healthcare specialists.

Employment opportunities are in urban and rural healthcare facilities and with medical equipment suppliers and agencies providing home healthcare and rehabilitation services for cardiopulmonary patients.

The TVI Respiratory Therapy (RT) associate of science program includes classroom and laboratory instruction and supervised clinical experiences at local hospitals and other

facilities. The curriculum includes basic and advanced instruction in cardiorespiratory anatomy, physiology and pathophysiology, critical care medicine, cardiopulmonary function, respiratory home care and pulmonary rehabilitation. The emphasis is on developing problem-solving and decision-making skills. The RT program includes instruction by faculty from the University of New Mexico Medical Center and School of Medicine.

The program is accredited by the Commission on Accreditation of Allied Health Education Programs (CAAHEP) and the Joint Review Committee for Respiratory Therapy Education (JRCRTE). Graduates are eligible to take the National Board for Respiratory Care (NBRC) 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.

The program begins in the fall term. Orientation sessions covering the petition and selection process and respiratory care careers are scheduled regularly; students should contact the Health Occupations Department for dates and times or call the Health Occupations information hotline at 224-4161. Anyone interested in the Respiratory Therapy program is strongly encouraged to attend one of these orientation sessions.

Students are responsible for meeting the prerequisites. Arts & Sciences courses may be taken prior to entering the program and it is recommended that students complete as many of these courses as possible prior to entering the RT core courses. Once all prerequisites are fulfilled, students may petition for enrollment in the core courses of the RT curriculum. If the number of eligible petitioners exceeds the number of positions available, preference will be given to those who have completed the most Arts & Sciences courses required for the RT curriculum. Petitioners will then be ranked by date of completion of petition eligibility requirements. If necessary, petitioners will be randomly selected. Additional positions may be made available for individuals with established residence in rural communities of New Mexico. The procedure for admission to the program under this condition is available from the director of the Respiratory Therapy program. Students must have a physical exam and submit a completed health form with evidence of current immunizations before beginning clinical courses.

Students pay an initial $90 fee to cover the cost of the uniform, stethoscope, identification badges, CPR certification, parking fees and preventive lab tests in case of needle stick exposure. An additional $20 fee during the second year covers parking. A $75 fee for the last clinical course covers the cost of assessment exams to prepare for national board tests. Students may choose to purchase bandage scissors and a graduation pin.

Prerequisites are:

- ☐ declare RT as major
- ☐ high school diploma or equivalent
- ☐ MATH 100 or equivalent: may be fulfilled by ACT, SAT or Accuplacer tests or college coursework
- ☐ BIO 123/124 or equivalent
- ☐ ENG 101 or equivalent
- ☐ PSY 105 or SOC 101 or equivalent
- ☐ CSCI 101 or equivalent
- ☐ TVI GPA 2.0 or higher

REQUIRED RESPIRATORY THERAPY COURSES

			Credit Hours
RT	110	Respiratory Therapy Principles and Practices I	3
RT	111	Respiratory Therapy Principles and Practices II	3
RT	115L	Respiratory Therapy Lab I	1
RT	116L	Respiratory Therapy Lab II	1
RT	121C	Clinical Experiences I	5
RT	122C	Clinical Experiences II	5
[1]RT	131	Physics of Respiratory Therapy	3
RT	133	Pharmacology of Respiratory Therapy	3
RT	210	Advanced Respiratory Therapy I	3
RT	215L	Advanced Respiratory Therapy Lab I	1
RT	221C	Advanced Clinical Experiences I	5
RT	211	Advanced Respiratory Therapy II	3
RT	216L	Advanced Respiratory Therapy Lab II	1
RT	222C	Advanced Clinical Experiences II	5
RT	212	Advanced Respiratory Therapy III	3
RT	217L	Advanced Respiratory Therapy Lab III	1
RT	223C	Advanced Clinical Experiences III	5

REQUIRED ARTS & SCIENCES COURSES

[2]BIO	136	Human Anatomy & Physiology	1
[2]BIO	139L	Human Anatomy & Physiology Lab	3
MATH	120	Intermediate Algebra	3-4
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
		Total	**69–70**

[1]A college physics course may be substituted for RT 131.
[2]BIO 237/247L and BIO 238/248L may be substituted for BIO 136/139L.

In order to satisfy prerequisite and corequisite requirements, the following order of coursework is recommended:

Fall Term:	RT 110, RT 115L, RT 121C, RT 131 and BIO 136/139L
Winter Term:	RT 111, RT 116L, RT 122C, RT 133 and MATH 120
Summer Term:	RT 210, RT 215L, RT 221C, and PHIL 245M
Fall Term:	RT 211, RT 216L, RT 222C and CHEM 111/112L
Winter Term:	RT 212, RT 217L, RT 223C and BIO 239/239L

RESPIRATORY THERAPY ADVANCED PLACEMENT

Advanced placement means enrollment in RT coursework at or above the level of RT 210. Persons wanting to transfer or challenge RT courses should contact the Health Occupations Department. There are two ways in which advanced placement can be granted to Respiratory Therapy applicants:

Transfer: Transfer credit may be awarded for documented equivalent therapist coursework completed at other CAAHEP/JRCRTE accredited programs.

Challenge: Technician graduates with documented work experience in respiratory care may apply to challenge portions of the RT curriculum. There is a $15 fee for each challenge exam.

Challenge and transfer applicants must meet all prerequisites for enrollment in the RT program. Entry will be granted on a space available basis.

RT 110 Respiratory Therapy Principles and Practices I 3 credit hours
(Prerequisites: departmental approval and BIO 123/124L, CSCI 101, ENG 101, PSY 105 or SOC 101; corequisites: RT 115L, RT 121C, RT 131, BIO 136/139L) Introduces respiratory therapy as a health sciences profession. Includes cardiopulmonary assessment, medical gas administration, oxygen therapy, microbiology, infection control, equipment maintenance, incentive breathing exercises and chest physiotherapy. Uniform fee: $90

RT 111 Respiratory Therapy Principles and Practices II 3 credit hours
(Prerequisites: BIO 136/139L, RT 110, RT 115L, RT 121C, RT 131; corequisites: RT 116L, RT 122C, RT 133, MATH 120) Emphasis on positive pressure breathing treatments, airway management, pulmonary function testing, arterial puncture and blood gas analysis. Includes administering medicated aerosol therapy.

RT 115L Respiratory Therapy Lab I 1 credit hour
(Corequisites: RT 110, RT 121C, RT 131) Students practice basic respiratory care procedures learned in RT 110, using state-of-the-art equipment in the learning laboratory under simulated patient situations.

RT 116L Respiratory Therapy Lab II 1 credit hour
(Corequisites: RT 111, RT 122C, RTT 133) Students practice respiratory care procedures learned in RT 111 using equipment in simulated patient situations.

***RT 121C Clinical Experiences I 5 credit hours**
(Corequisites: RT 110, RT 115L, RT 131) Application of knowledge and skills in supervised patient care experiences in the hospital setting .

***RT 122C Clinical Experiences II 5 credit hours**
(Corequisites: RT 111, RT 116L, RT 133) Supervised clinical experiences in area hospitals and healthcare facilities.

RT 131 Physics of Respiratory Therapy 3 credit hours
(Corequisites: RT 110, RT 115L, RT 121C) Basic concepts of physics related to physiology of the lungs, gas laws, gas flow and mechanics of breathing. Concepts are applied to operation of respiratory therapy equipment.

RT 133 Pharmacology of Respiratory Therapy 3 credit hours
(Corequisites: RT 111, RT 116L, RT 122C) Presents concepts and principles of pharmacologic agents used in cardiopulmonary care. Includes study of biologic interactions, dosage calculations, side effects, indications for medication, therapeutic, diagnostic procedures and ethical and legal issues.

RT 210 Advanced Respiratory Therapy I 3 credit hours
(Prerequisites: RT 111, RT 116L, RT 122C, RT 133; corequisites: RT 215L, RT 221C; corequisite: PHIL 245M) Presents cardiopulmonary assessment and diagnosis for the advanced practitioner including correlation of cardiopulmonary anatomy, physiology and pathophysiology with evaluation of cardiac and pulmonary function. Course fee: $20

RT 211 Advanced Respiratory Therapy II 3 credit hours
(Prerequisites: RT 210, RT 215L, RT 221C; corequisites: RT 216L, RT 222C, CHEM 111/ 112L) Presents concepts of adult critical care medicine including adult intensive care and pathophysiology of diseases.

RT 212 Advanced Respiratory Therapy III 3 credit hours
(Prerequisites: RT 211, RT 216L, RT 222C; corequisites: RT 217L, RT 223C, BIO 239/ 239L) Presents concepts of critical care medicine for children and infants including the concepts of rehabilitative practice and home healthcare for patients with chronic cardiopulmonary diseases.

RT 215L Advanced Respiratory Therapy Lab I 1 credit hour
(Corequisites: RT 210, RT 221C) Present clinical assessment techniques, cardiopulmonary anatomy and physiology, pulmonary function testing hemodynamic monitoring and advanced cardiac life support in the learning laboratory.

RT 216L Advanced Respiratory Therapy Lab II 1 credit hour
(Corequisites: RT 211, RT 222C) Students practice mechanical ventilation procedures related to critical care medicine for adults using patient and computer simulation in the learning laboratory.

RT 217L Advanced Respiratory Therapy Lab III 1 credit hour
(Corequisites: RT 212, RT 223C) Students practice mechanical ventilation procedures related to critical care medicine for children and infants using patient and computer simulations in the learning laboratory.

***RT 221C Advanced Clinical Experiences I 5 credit hours**
(Corequisites: RT 210, RT 215L) Supervised application of advanced respiratory care in

clinical settings with emphasis on problem-solving and decision-making skills. Experiences include cardiopulmonary function and evaluation activities.

***RT 222C Advanced Clinical Experiences II 5 credit hours**
(Corequisites: RT 211, RT 216L) Supervised application of respiratory care in adult critical care environments with emphasis on problem-solving and decision-making skills, patient evaluation skills and the evaluation of therapeutic care plans.

***RT 223C Advanced Clinical Experiences III 5 credit hours**
(Corequisites: RT 212, RT 217L) Supervised application of respiratory care in pediatric and neonatal critical care environments and for home healthcare and pulmonary rehabilitation. Includes independent study project in an area of respiratory care. Course fee: $75

RT 296 Special Topics in Respiratory Care 1–6 credit hours
(Prerequisite: permission of program director) Students participate in supervised learning activities of advanced, specialized practices including rural healthcare, interdisciplinary problem-based learning, cardiopulmonary diagnostics, specialized perinatal/pediatric or adult critical care and expanded practices of Respiratory Care. Prepares students for the national board exams or to prepare for challenge exams in the RT program.

*RT 121C, RT 122C, RT 221C, RT 222C, and RT 223C: During each term, students meet for formal lectures on the pathophysiology of the cardiopulmonary system. These lectures are given by the program's medical director and physicians from the UNM School of Medicine or other physicians in the community. Students participate in problem-based learning sessions with physicians to discuss clinical cases. They are required to complete written case studies, article reviews and pathology reports and to present oral reports.

SURGICAL TECHNOLOGY

Surgical Technology is a three-term certificate program which presents the knowledge and skills necessary to work in hospital operating rooms and free-standing day surgery centers, including preparation of a surgical environment and functioning as a member of the operating room team. Graduates may take a national certification examination.

All students are required to meet program prerequisites prior to enrolling. Prior to clinical courses students are required to have a physical exam, PPD and current immunizations (including tetanus, rubella, rubeola and hepatitis B). The TVI Health Center provides these services for a fee if the student does not have a private physician. Students must arrange for their own transportation to attend all classes, observations and clinical experiences, which may be required on weekends or evenings.

The program begins in the summer term. A $35 uniform fee covers the cost of a lab coat, parking fees, name tags and preventive lab tests in case of a needle stick exposure. Prerequisites are:

- ☐ high school diploma or equivalent
- ☐ MATH 099 or equivalent

A&S courses may be taken prior to entering the program.

REQUIRED ARTS & SCIENCE COURSES

			Credit Hours
ENG	101	College Writing	3
BIO	136/139L	Anatomy and Physiology/Non-Majors	4
	or		
BIO	237/247L	Anatomy and Physiology I	4
	and		
BIO	238/248L	Anatomy and Physiology II	4
COMM	221	Interpersonal Communications	3

REQUIRED SURGICAL TECHNOLOGY COURSES

ST	110	Beginning Surgical Technology I	4
ST	112L	Surgical Technology Lab	2
ST	114C	Surgical Technology Clinical I	8
ST	120	Advanced Surgical Technology II	4
ST	124C	Surgical Technology Clinical II	8
		Total	**36–40**

ST 110 Beginning Surgical Technology I **4 credit hours**
(Prerequisites: MATH 099, ENG 101, BIO 136/139L or BIO 237/247L, COMM 221; corequisites: ST 112L, ST 114C) Includes scope of practice, technologist role, medical ethics, medical terminology, basic principles of aseptic technique, anatomy and physiology, and basic microbiology applied to surgical procedures.

ST 112L Surgical Technology Lab **2 credit hours**
(Corequisites: ST 110, ST 114C) Provides opportunity to practice clinical skills and competencies developed in the classroom. Includes surgical technique (setting up the sterile field, scrubbing, gowning and gloving) and standards of practice.

ST 114C Surgical Technology Clinical I **8 credit hours**
(Corequisites: ST 110, ST 112L) Application of surgical procedure theory and skills in the clinical setting. (24 hours per week) Uniform fee: $35

ST 120 Advanced Surgical Technology II **4 credit hours**
(Prerequisites: ST 110, ST 112L, ST 114C; corequisite: ST 124C) Continues surgical technology theory with a focus on general and specialty surgical procedures.

ST 124C Surgical Technology Clinical II **8 credit hours**
(Corequisite: ST 120) Continued application of surgical procedure theory and skills in the clinical setting with emphasis on a variety of specialty areas. (24 hours per week)

TECHNOLOGIES

The high-skilled, high-tech jobs of the 21st century will demand specialized entry-level training and skill upgrading, and the Technologies Department offers both, along with state-of-the-art equipment to support them.

Architectural/Engineering Drafting Technology	Certificate and Associate of Applied Science Degree
Computing Technology	Certificate and Associate of Applied Science Degree
Design Drafting Engineering Technology	Associate of Applied Science Degree
Electronics Engineering Technology	Associate of Applied Science Degree
Electronics Technology	Certificate and Associate of Applied Science Degree
Manufacturing Technology	Certificate and Associate of Applied Science Degree
Pre-Engineering	Associate of Applied Science Degree

Several programs offer concentrations so students may specialize in their primary area of interest. The time necessary to complete most of the Technologies programs varies from 12 to 24 months if a student carries a full course load each term.

To enter Technologies courses, the student must meet the prerequisites of MATH 100B or equivalent, reading at a minimum of eighth-grade level and CSCI 101, Computer Literacy, or equivalent. Students graduating under older catalogs may continue to use CP176L to meet the computer literacy requirements. The required Accuplacer test for entering students can determine if the math and reading prerequisites are already met.

Electronics Engineering Technology courses are offered at the Montoya Campus only. The Business Computer Programming concentration is offered at both Main Campus and Montoya Campus. Other Technologies programs are offered only at the Main Campus. Selected classes are available at the Rio Rancho Campus and South Valley Campus. There are beginning groups in most Technologies majors each term.

Challenge examinations are available for some courses numbered below 200. The cost is $15 per examination. For information concerning transferability of vocational courses either to or from TVI, students should see the appropriate program chair or director.

Optional courses are available to enhance the education of those students meeting the prerequisites. Optional courses and courses numbered 200 or above may not be offered every term and are subject to cancellation before the first day of the term due to insufficient enrollment; a minimum of 12 students is required. Some credit courses are offered in the evening. Information is available in the Schedule of Classes each term.

Students working toward an associate degree or a certificate must earn a grade of C or better in each course used to meet graduation requirements. Credit/no credit is not a grading option for students in Technologies courses.

ARCHITECTURAL/ENGINEERING DRAFTING TECHNOLOGY

Architectural/Engineering Drafting Technology offers career preparation for persons with a strong interest in building design and construction.

The program integrates mathematics, technical writing and blueprint reading into the technical courses at all levels. Computer applications are emphasized throughout the program. The curriculum includes the principles of architectural and engineering graphics and the theory and practice of construction technology. To prepare students for work in the construction industry, the development and use of communication, teamwork and problem-solving skills are incorporated throughout the program.

Graduates are prepared for entry-level jobs as architectural or engineering drafting technicians in residential and commercial construction and for estimating and sales positions with contractors, fabricators and suppliers. The potential for advancement into jobs with increasing responsibility and wider scope is good.

To enter Architectural/Engineering Drafting Technology courses the student must meet the prerequisites of MATH 100B, ENG 100, reading at a minimum of eighth-grade level, CSCI 101 or equivalents. If a student takes MATH 099 or MATH 100B it is recommended that he or she also take COMM 232 and/or PHIL 245T. Students must purchase their own drafting tools and construction hard hats.

Because TVI strives to respond to changes in the workforce needs of the design professions and the construction industry, the curriculum may be modified and topics courses added during the academic year. Students are encouraged to review the Schedule of Classes each term. Entry into a course without the prerequisite may be allowed with the permission of the program chair or director.

COURSES REQUIRED FOR CERTIFICATE

			Credit Hours
Term 1			
ARDR	107L	Architectural Drafting I	7
ARDR	108	Architectural Mathematics	4
ARDR	109	Building Materials and Methods I	4
ARDR	176	Orientation to the Construction Industry	1
Term 2			
ARDR	213	CAD Analysis	4
ARDR	214L	Architectural CAD Drafting II	7
ARDR	115	Building Materials and Methods II	4
Term 3			
ARDR	119L	Architectural CAD Drafting III	7
ARDR	182	Advanced CAD	3
BA	111	Communications (7.5 weeks)	2
	or		
COMM	232	Business and Professional Communication Studies	3
BA	131	Human Relations (7.5 weeks)	2
	or		
PHIL	245T	Ethics of Technology	3
		Total for Certificate	**45–47**

COURSES REQUIRED FOR ASSOCIATE DEGREE

Term 1			
ARDR	107L	Architectural Drafting I	7
ARDR	108	Architectural Mathematics	4
ARDR	109	Building Materials and Methods I	4
ARDR	176	Orientation to the Construction Industry	1
Term 2			
ARDR	213	CAD Analysis	4
ARDR	214L	Architectural CAD Drafting II	7
ARDR	115	Building Materials and Methods II	4
Term 3			
ARDR	119L	Architectural CAD Drafting III	7
ARDR	182	Advanced CAD	3
ART	260	Architectural History: Ancient through Modern	3
PHYS	102	Introduction to Physics	3

Term 4			
ARDR	113	Site Analysis	2
ARDR	201	Structural Systems Analysis	4
ARDR	203L	Structural Systems CAD Drafting	5
COMM	232	Business and Professional Communication Studies	3
	or		
ENG	101	College Writing	3
MATH	120	Intermediate Algebra	3
Term 5			
ARDR	209L	Architectural Design	3
ARDR	212L	M/E CAD Systems Drafting	5
ARDR	215	M/E Systems Analysis	4
ARDR	221	Architectural/Engineering Drafting Seminar	1
PHIL	245T	Ethics of Technology	3
	or		
PSY	105	Introduction to Psychology	3
		Total for Associate Degree	**80**

OPTIONAL COURSES

ARDR	180	Fundamentals of Computer-Assisted Drafting	3
ARDR	181	Intermediate Computer-Assisted Drafting	3
ARDR	183	Fundamentals of Microstation Computer-Assisted Drafting	3
ARDR	184	Intermediate Microstation Computer-Assisted Drafting	3
ARDR	275	Design Applications for Interiors	3
ARDR	296	Topics	Variable
ARDR	297	Special Problems	Variable
ARDR	298	Internship	3
ARDR	299	Cooperative Education	3
CP	177L	Introduction to Computer Graphics	3
CP	178L	Computer Animation	3
GIS	201	Introduction to Geographic Information Systems	3
GIS	202	Geographic Information System Software Applications I	3
GIS	203	Geographic Information System Software Applications II	3

ARDR 107L Architectural Drafting I **7 credit hours**

(Pre- or corequisites: ARDR 108, ARDR 109, ARDR 176) The fundamentals of architectural graphic representation are introduced as the foundation of all A/E drafting courses. Basic common assembly systems are explored and schedules are introduced. (3 theory + 12 lab hours a week) Course fee: $15. Note: Students must provide their own drafting kits.

ARDR 108 Architectural Mathematics **4 credit hours**
(Prerequisite: MATH 100B) Basic concepts of geometry and trigonometry are covered with an emphasis on architectural and engineering applications and calculator use. Students must provide a full-function scientific calculator with a ten-digit display. (4 theory + 1 lab hours a week)

ARDR 109 Building Materials and Methods I **4 credit hours**
(Prerequisites: CSCI 101, ENG 100 and MATH 100B or equivalent; pre- or corequisites: ARDR 108, ARDR 176) Basic common materials, systems and assemblies with wide applications in the building industry are examined. (4 theory + 1 lab hours a week)

ARDR 113 Site Analysis **2 credit hours**
(Prerequisites: ARDR 119L, ARDR 182, ART 260, PHYS 102) Analytical factors of site design are examined, such as orientation and view, sound and light intrusions, contours and grading, drainage and foliage. Planning aspects of site size are introduced. (1 theory + 4 lab hours a week)

ARDR 115 Building Materials and Methods II **4 credit hours**
(Prerequisites: ARDR 107L, ARDR 108, ARDR 109, ARDR 176) This is a continuation of ARDR 109 with an intensified examination of interior and exterior finish materials and systems and an introduction to structural materials and systems. (4 theory + 1 lab hours a week)

ARDR 119L Architectural CAD Drafting III **7 credit hours**
(Prerequisites: ARDR 213, ARDR 214L, ARDR 115) In this continuation of ARDR 107L, students perform design development and produce representative architectural construction and detail drawings using graphic, dimensioning and notation systems. (3 theory + 12 lab hours a week) Course fee: $15

ARDR 176 Orientation to the Construction Industry **1 credit hour**
(Prerequisites: CSCI 101, ENG 100 or equivalent) Topics include the construction environment, the related disciplines of architects, engineers, contractors, suppliers and other consultants and the drawings typical of each discipline. Students must supply construction hard hat.

ARDR 180 Fundamentals of Computer-Assisted Drafting **3 credit hours**
(Prerequisite: CSCI 101) The student is introduced to the fundamentals of computer assisted drafting using AutoCAD. (2 theory + 3 lab hours a week) Course fee: $15

ARDR 181 Intermediate Computer-Assisted Drafting **3 credit hours**
(Prerequisite: ARDR 180) Topics include customized menu-making, attribute editing and extracting, and the drawing of isometrics using AutoCAD. (2 theory + 3 lab hours a week) Course fee: $15

ARDR 182 Advanced Computer-Assisted Drafting 3 credit hours
(Prerequisites: ARDR 213, ARDR 214L) This is an introduction to three-dimensional CAD modeling using AutoCAD to enhance graphic representation and visualization. (2 theory + 3 lab hours a week) Course fee: $15

ARDR 183 Fundamentals of Microstation CAD 3 credit hours
(Prerequisite: CSCI 101) The student is introduced to the fundamentals of computer-assisted drafting using Intergraph's Microstation CAD. (2 theory + 3 lab hours a week) Course fee: $15

ARDR 184 Intermediate Microstation CAD 3 credit hours
(Prerequisite: ARDR 183) Continuing ARDR 183 and Intergraph's Microstation software, topics include user interface development and introduction to three-dimensional design. (2 theory + 3 lab hours a week) Course fee: $15

ARDR 201 Structural Systems Analysis 4 credit hours
(Prerequisites: ARDR 119L, ARDR 182, ART 260, PHYS 102. Corequisite: ARDR 203L) The basic principles of physics as they apply to construction and structural analysis are covered. Students are introduced to structural design in wood, steel and concrete and to elementary beam design problems. (4 theory + 1 lab hour a week)

ARDR 203L Structural Systems CAD Drafting 5 credit hours
(Prerequisites: ARDR 119L, ARDR 182, ART 260, PHYS 102. Corequisites: ARDR 201, ARDR 113) Students develop representative drawings of pre-cast and site-cast concrete, structural steel and heavy timber structures. Non-mathematical concepts of building structures and methods of construction are covered. (2 theory + 8 lab hours a week) Course fee: $15

ARDR 209L Architectural Design 3 credit hours
(Prerequisites: ARDR 113, ARDR 201, ARDR 203L, COMM 232, MATH 120) The student executes two- and three-dimensional abstract exercises incorporating basic design concepts. These concepts are applied to various built environment circumstances. Sketch drawings and study models develop design concepts in specific applications. (2 theory + 3 lab hours a week) Course fee: $15

ARDR 212L Mechanical/Electrical Systems CAD Drafting 5 credit hours
(Prerequisites: ARDR 113, ARDR 201, ARDR 203L, COMM 232, MATH 120. Corequisite: ARDR 215) Conventional drafting methods of mechanical and electrical systems including overlaying electrical, heating, ventilation and plumbing systems on architectural views are reviewed. Engineering drawings are developed and engineering graphic skills are emphasized. (3 theory + 6 lab hours a week) Course fee: $15

ARDR 213 CAD Analysis **4 credit hours**
(Corequisite: ARDR 214L) Beginning to advanced CAD concepts and commands are applied to the production and coordination of A/E construction drawings. (4 theory + 1 lab hour a week)

ARDR 214L Architectural CAD Drafting II **7 credit hours**
(Prerequisite: ARDR 107L. Corequisite: ARDR 213) The student develops representative construction drawings using CAD software commonly employed in the A/E industry. (3 theory + 12 lab hours a week) Course fee: $15

ARDR 215 Mechanical/Electrical Systems Analysis **4 credit hours**
(Prerequisites: ARDR 113, ARDR 201, ARDR 203L, COMM 232, MATH 120. Corequisite: ARDR 212L) General theory and layout information and code requirements for non- residential systems are studied. Topics include lighting, plumbing and air conditioning. (4 theory + 1 lab hour a week)

ARDR 221 Architectural/Engineering Drafting Seminar **1 credit hour**
(Pre- or corequisites: ARDR 209L, ARDR 212L, ARDR 215 and PSY 105 or PHIL 245T) The student develops a resumé and presents a cumulative portfolio to a review committee. Needs, requirements, personnel procedures, expectations of employers and trends of the professional community are examined. (1 theory + 1 lab hour a week)

ARDR 275 Design Applications for Interiors **3 credit hours**
(Prerequisite: CSCI 101, ENG 100 or equivalent) An introduction to basic color systems and psychology, light and lighting, space planning, code applications of finish selections, fabrics and furniture styles is provided.

ARDR 296 Topics **Variable credit hours**
(Prerequisite: permission of the program chair) Topics offered depend on requests from the community and available instructors.

ARDR 297 Special Problems **Variable credit hours**
(Prerequisite: permission of the program chair) The student and instructor define a specific problem in the area of the student's interest and directly related to the program. The student develops and executes a solution using analytical and drafting techniques. An oral presentation may be required.

ARDR 298 Internship **3 credit hours**
(Prerequisite: permission of the program chair) In cooperation with local industry, the student works for one term on a cooperative basis in an appropriate, defined training program. The position is not paid.

ARDR 299 Cooperative Education **3 credit hours**

(Prerequisite: permission of the program chair) In cooperation with local industry, the student works for one term on a cooperative basis in an appropriate, defined training program. The position is paid.

GIS 201 Introduction to Geographic Information Systems **3 credit hours**

(Prerequisite: MATH 123, CSCI 101, ARDR 180) This course introduces concepts of Geographic Information Systems including applications, components, mapping, topology, data and data capture.

GIS 202 Geographic Information Systems Software with Applications **3 credit hours**

(Prerequisite: GIS 201) The concepts of Geographic Information Systems with computer applications are introduced. Actual projects are developed using the computer and related hardware. (2 theory + 3 lab hours week)

GIS 203 Geographic Information Systems Software with Application II **3 credit hours**

(Prerequisite: GIS 202, programming Language or permission of program chair) In this course students develop individual projects. (1 theory + 5 lab hours a week)

COMPUTING TECHNOLOGY

In this program students acquire the skills to solve information and management problems using computer hardware and software. Students have the choice of three concentrations: Business Computer Programming, Computer Animation/Graphics and Computer Networking. Graduates are prepared for jobs as entry-level business applications programmers or as computer animation and graphics technicians or network technicians, which can be the first steps to a career in the computer field.

Computers currently used at TVI are the IBM ES-9000, IBM AS400, IBM microcomputers and compatibles and Silicon Graphics workstations. Mainframe, mini- and microcomputers and local area networks are used in Computing Technology courses.

Courses numbered below 200 give students a sound background in fundamental skills used on a wide variety of computers and computer-related equipment. Courses numbered above 200 continue to build computer application skills with emphasis on problem-solving techniques and the interactions among people and machines/computers/technology. A mainframe environment is used to teach three widely used business programming languages while three additional languages are taught on microcomputers. Optional courses are available.

Students entering Computing Technology courses must satisfy the prerequisites of MATH 100B, reading at a minimum of eighth-grade level and CSCI 101. If a student takes

MATH 099 or MATH 100B, it is recommended that he or she also take the computer programming course from the Adult & Developmental Education Department and CSCI 101 before taking courses within the major.

Some advanced courses may be offered at only the Main Campus or at the Montoya Campus but not both. Optional courses may not be used to replace technical electives.

Entry into a course without prerequisite classes may be allowed with the permission of the program director.

BUSINESS COMPUTER PROGRAMMING CONCENTRATION

CERTIFICATE AND DEGREE REQUIREMENTS

			Credit Hours
ACCT	103	Survey of Accounting for non-Business Majors	3
CP	103	Mathematics for Computer Programmers	4
CP	105	Fundamentals of Computer Programming	6
+CP	101A	ANSI COBOL	3
	and		
+CP	101B	ANSI COBOL	3
	or		
+CP	101L	ANSI COBOL	6
CP	115	Internal Storage and File Structure	3
CP	116	Systems Analysis	3
CP	213	Database Concepts	3
CP	214L	RPG III/400 Programming	3
CP	175L	Introduction to C Language Programming	3
CP	283	Overview of Network Operating System Environments	3

ADDITIONAL 18 CREDITS SELECTED FROM COURSES BELOW

+CP	111A	Advanced ANSI COBOL	3
	and		
+CP	111B	Advanced ANSI COBOL	3
	or		
+CP	111L	Advanced ANSI COBOL	6
CP	201L	Interactive Programming Techniques	3
CP	202L	Assembler Language Programming	6
CP	216L	Computer Operating Systems	3
CP	217L	Personal Computer Assembler Language	3
CP	218	Introduction to Client/Server Technology	3
CP	220	Advanced Database Concepts	3
CP	274L	Introduction to Unix and WANs	3
CP	278	Advanced C Language Programming	3
CP	280L	Advanced RPG III/400	3
CP	284	Introduction to Visual Basic	3
CP	287	Advanced Visual Basic with Client/Server Applications	3

ADDITIONAL CERTIFICATE REQUIREMENTS

ENG	101	College Writing	3
Communications (COMM) Elective			3
		Total Credits for Certificate	**61**

†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.

ADDITIONAL ASSOCIATE OF APPLIED SCIENCE DEGREE REQUIREMENTS

ENG	101	College Writing	3
ENG	119	Technical Communications	3
MATH	145	Fundamentals of Probability and Statistics	3
MATH	150	Advanced Algebra	4
	or		
MATH	180	Elements of Calculus I	3
Humanities Elective			3
Social Science Elective			3
		Total Credits for Degree	**79–80**

COMPUTER ANIMATION/GRAPHICS CONCENTRATION

CERTIFICATE REQUIREMENTS

ART	106	Drawing I	3
ART	121	Two-Dimensional Design	3
ART	122	Three-Dimensional Design	3
CP	177	Introduction to Computer Animation/Graphics	3
CP	178	Computer Animation I	3
CP	179	Computer Animation II	3
CP	180	Computer Animation Strategies and Techniques	3
CP	262	Video Editing/Post Production	3
ELEC	217	Upgrading and Repairing PCs	3
MMS	256	Advanced Desktop Publishing	3
MMS	281	Image Manipulation/Paint	3
THEA	122	Introduction to Theater	3

ADDITIONAL CERTIFICATE REQUIREMENTS

ENG	101	College Writing	3
Communications (COMM) Elective			3
		Total Credits for Certificate	**42**

REQUIRED DEGREE COURSES

ACCT	103	Survey of Accounting for non-Business Majors	3
CP	103	Mathematics for Computer Programmers	4
CP	105	Fundamentals of Computer Programming	6
CP	175L	Introduction to C Language Programming	3
CP	283	Overview of Network Operating System Environments	3
CP	284	Introduction to Visual Basic	3
ELEC	217	Upgrading and Repairing PCs	3

ADDITIONAL 36 CREDITS SELECTED FROM COURSES BELOW

ART	106	Drawing I	3
ART	121	Two-Dimensional Design	3
ART	122	Three-Dimensional Design	3
CP	177L	Introduction to Computer Animation/Graphics	3
CP	178L	Computer Animation I	3
CP	179	Computer Animation II	3
CP	180	Computer Animation Strategies and Techniques	3
CP	260L	Open GL/Open Inventor	3
CP	261L	Image Processing	3
CP	262	Video Editing/Post Production	3
CP	274L	Introduction to Unix and WANs	3
ELEC	276L	Soldering Techniques (7.5 weeks)	2
MMS	256	Advanced Desktop Publishing	3
MMS	280	Postscript Illustration	3
MMS	281	Image Manipulation/Painting	3
MMS	282	Digital Pre-press	3
THEA	122	Introduction to Theater	3

ADDITIONAL ASSOCIATE OF APPLIED SCIENCE DEGREE REQUIREMENTS

ENG	101	College Writing	3
ENG	119	Technical Communications	3
MATH	145	Fundamentals of Probability and Statistics	3
MATH	150	Advanced Algebra	4
	or		
MATH	180	Elements of Calculus I	3
Humanities Elective			3
Social Science Elective			3
		Total Credits for Degree	**79–80**

COMPUTER NETWORKING CONCENTRATION

CERTIFICATE AND DEGREE REQUIREMENTS

ACCT	103	Survey of Accounting for non-Business Majors	3
CP	101L	ANSI COBOL	6
	or		
CP	175L	Introduction to C Language Programming	3
CP	105	Fundamentals of Computer Programming	6
CP	213	Database Concepts	3
CP	218	Introduction to Client/Server Technology	3
CP	220	Advanced Database Concepts	3
CP	274L	Introduction to Unix and WANs	3
CP	275	Advanced Unix and WAN Administration	3
CP	278	Advanced C Language Programming	3
CP	282	Networking Topologies/Network OS Environments	3
CP	283	Overview of Network OS Environments	3
CP	285	Troubleshooting Networks	3
ELEC	105L	Digital Circuits	4
ELEC	217	Upgrading and Repairing PCs	3
Computing Technology Elective			3

ADDITIONAL CERTIFICATE REQUIREMENTS

ENG	101	College Writing	3
Communications (COMM) Elective			3
		Total Credits for Certificate	**55–58**

ADDITIONAL ASSOCIATE OF APPLIED SCIENCE DEGREE REQUIREMENTS

ENG	101	College Writing	3
ENG	119	Technical Communications	3
MATH	145	Fundamentals of Probability and Statistics	3
MATH	150	Advanced Algebra	4
	or		
MATH	180	Elements of Calculus I	3
Humanities Elective			3
Social Science Elective			3
		Total Credits for Degree	**73–77**

RECOMMENDED ARTS & SCIENCES ELECTIVES FOR COMPUTING TECHNOLOGY

COMM	221	Interpersonal Communication Studies	3
MATH	180	Elements of Calculus I	3
PHIL	156	Logic and Critical Thinking	3
PSY	105	Introduction to Psychology	3

OPTIONAL COURSES FOR COMPUTING TECHNOLOGY

ARDR	180	Fundamentals of Computer-Assisted Drafting	3
CP	177L	Introduction to Computer Animation/Graphics	3
CP	178L	Computer Animation I	3
CP	281L	C++ Language Programming	3
CP	283	Overview of Network Operating System Environments	3
CP	296	Topics	Variable
CP	297	Special Problems	Variable
CP	298	Internship	3
CP	299	Cooperative Education	3
CSCI	101	Computer Literacy	4
DDET	286	Technical Modeling and Simulation	3
ELEC	217	Upgrading and Repairing PCs	3
GIS	201	Introduction to Geographic Information Systems	3
GIS	202	Geographic Information Systems Software Applications I	3
GIS	203	Geographic Information Systems Software Applications II	3

CP 101A ANSI COBOL **3 credit hours**

(Prerequisites: CP 105 and CP 103 or permission of program director) Elementary structured programming projects directly related to business and accounting applications are designed, coded, debugged and executed. (2 theory + 3 lab hours a week) Course fee: $10

CP 101B ANSI COBOL **3 credit hours**

(Prerequisite: CP 101A) This is a continuation of CP 101A. More advanced, structured programming projects are designed, coded, debugged and executed. (2 theory + 3 lab hours a week)

CP 101L ANSI COBOL **6 credit hours**

(Prerequisites: CP 105 and CP 103) Students write structured programming projects directly related to business and accounting applications. The projects are designed, coded, debugged and executed using a mainframe computer system. (4 theory + 6 lab hours a week) Course fee: $10

CP 103 Mathematics for Computer Programmers **4 credit hours**

(Prerequisite: MATH 100B) Algebra fundamentals are covered along with selected applications in business and management math. Computerized math applications are illustrated. (4 theory hours + 1 lab hour a week)

CP 105 Fundamentals of Computer Programming **6 credit hours**

(Prerequisites: RDG 99 or equivalent and CSCI 101; pre- or corequisite: ACCT 103) This course includes computer vocabulary, operating system concepts, structured programming techniques, programming logic and control using BASIC. (4 theory + 6 lab hours a week) Course fee: $10

CP 111A Advanced ANSI COBOL 3 credit hours
(Prerequisite: CP 101L) Development of structured programming skills obtained in CP 101L continues with emphasis on indexed file processing. (2 theory + 3 lab hours a week) Course fee: $10

CP 111B Advanced ANSI COBOL 3 credit hours
(Prerequisite: CP 111A) This course continues the development of structured programming skills obtained in CP 111A with emphasis on file update and subprogram concepts. (2 theory + 3 lab hours a week)

CP 111L Advanced ANSI COBOL 6 credit hours
(Prerequisite: CP 101L) Skill development continues using the ANSI COBOL language. Emphasis is on sequential and indexed file processing, file maintenance, multi-dimensional table processing, sorts and interactive programming. (4 theory + 6 lab hours a week) Course fee: $10

CP 115 Internal Storage/File Structure 3 credit hours
(Prerequisite: CP 105 or a programming language or permission of program director) Common number systems, internal storage interpretation, control statements, utilities and file structures such as indexed files, linked lists, stacks and queues are reviewed. (2 theory + 3 lab hours a week)

CP 116 Systems Analysis 3 credit hours
(Prerequisites: CP 101L and ACCT 103) Structured techniques of systems analysis and design are presented. The systems life cycle and several methods of analyzing existing systems are covered. (2 theory + 3 lab hours a week)

CP 175L Introduction to C Language Programming 3 credit hours
(Prerequisite: CP 105 or a programming language or permission of program director) This is an introduction to C programming language using microcomputers. (2 theory + 3 lab hours a week) Course fee: $10

CP 177L Introduction to Computer Animation/Graphics 3 credit hours
(Prerequisites: CSCI 101 and ART 106 or permission of program director) Various topics desirable in industry are explored. Windows 95, Lightwave 3D animation software, modeling, texturing, lighting, animation and other bundled tools are reviewed. Additional lab hours outside the regular class time are required. (2 theory + 3 lab hours a week) Course fee: $15

CP 178L Computer Animation I 3 credit hours
(Prerequisites: CP 177L and ART 121) Extensive use of Alias 3D computer animation software involving modeling, rendering, morphing, texture mapping, animation and image processing. Additional lab hours outside the regular class time are required. (2 theory + 3 lab hours a week)

CP 179 Computer Animation II 3 credit hours
(Prerequisites: CP 178L and MMS 281 and ART 122) Advanced techniques such as inverse kinematics, constraints, character building, particle emission and dynamic forces are explored. Team project participation is emphasized. Additional lab hours outside the regular class time are required. (2 theory + 3 lab hours a week) Course fee: $15

CP 180 Computer Animation Strategies and Techniques 3 credit hours
(Prerequisites: CP 177L and MMS 281 and ART 121) The use of Lightwave 3D animation software is expanded to professional applications. Insights into the work environment and employer expectations are emphasized. Additional lab hours outside the regular class time are required. (2 theory + 3 lab hours a week)

CP 201L Interactive Programming Technique 3 credit hours
(Prerequisites: CP 111L and CP 115) Students develop interactive business applications on the IBM mainframe in the VSE environment. Command level CICS and VSAM file structures are used. (2 theory + 3 lab hours a week)

CP 202L Assembler Language Programming 6 credit hours
(Prerequisites: CP 105 and CP 115) Techniques necessary to write Assembler language programs are introduced on an IBM mainframe. (4 theory + 6 lab hours a week)

CP 213 Database Concepts 3 credit hours
(Prerequisite: CP 105 or CSCI 101 or permission of program director) General concepts and organization of database systems are included along with practical applications. Microcomputers are used. (2 theory + 3 lab hours a week) Course fee: $10

CP 214L Report Program Generator III/400 3 credit hours
(Prerequisite: a programming language or permission of program director) Introduction to the RPG III/400 programming language used in business organizations. Students become familiar with the basic coding parameters and code a variety of business functions. (2 theory + 3 lab hours a week)

CP 216L Computer Operating Systems 3 credit hours
(Prerequisite: CP 202L) Topics designed to increase understanding of the use of microcomputers. Included is study of operating systems and macro assembler programming. (2 theory + 3 lab hours a week) Course fee: $10

CP 217L Personal Computer Assembler Language 3 credit hours
(Prerequisite: CP 202L) This course introduces the student to Assembler language programming using the microcomputer. (2 theory + 3 lab hours a week) Course fee: $10

CP 218 Introduction to Client/Server Technology 3 credit hours
(Prerequisites: CP 283 and a programming language or permission of program director) The concepts of client/server technology are introduced. (2 theory + 3 lab hours a week)

CP 220 Advanced Database Concepts **3 credit hours**
(Prerequisite: CP 213 or permission of program director) Continuation of CP 213 with emphasis on relational databases, advanced queries, SQL, macros, custom forms and incorporating Visual Basic within Access. Multi-user network environment.

CP 260L Open GL/Open Inventor **3 credit hours**
(Prerequisites: CP 175L and CP 177L or permission of program director) The use of this graphics library interface that runs on a wide variety of platforms is covered. Students write graphics applications using the object-oriented 3D graphics developer tool kit. (2 theory + 3 lab hours a week)

CP 261L Image Processing **3 credit hours**
(Prerequisite: CP 175L or permission of program director) The use and applications of PC and Unix-based development environments are covered. Applications include image processing, data manipulation and scientific visualization. (2 theory + 3 lab hours a week)

CP 262 Video Editing/Post Production **3 credit hours**
(Prerequisite: CP 178L or permission of program director) Nonlinear video editing techniques are presented. Applications include video and audio editing skills, compositing, special effects and broadcast quality production procedures. (2 theory + 3 lab hours a week)

CP 274L Introduction to Unix and WANs **3 credit hours**
(Prerequisite: CP 105 or a programming language or permission from the program director) An introduction to Unix with emphasis on running a network. Topics include the Unix command line, X-Windows and connection/connection-less networking schemes (TCP/IP and NFS). Wide Area Network data delivery and protocols are introduced. (2 theory + 3 lab hours a week) Course fee: $10

CP 275 Advanced Unix and WAN Administration **3 credit hours**
(Prerequisite: CP 274L or permission of program director) Course involves building and customizing a Unix host in a network environment and administering it remotely. Remote access protocols (PPP, SLIP, etc.) and the mechanics of remote data delivery are covered. (2 theory + 3 lab hours a week)

CP 278 Advanced C Language Programming **3 credit hours**
(Prerequisite: CP 175L or permission of program director) Students with considerable programming experience write programs working with data structures such as stacks, linked lists, binary search trees and self-balancing trees. (2 theory + 3 lab hours a week) Course fee: $10

CP 280L Advanced RPG III/400 **3 credit hours**
(Prerequisite: CP 214L) A continuation of CP 214L with emphasis on file processing and interactive techniques. (2 theory + 3 lab hours a week) Course fee: $10

CP 281L C++ Language Programming 3 credit hours
(Prerequisite: CP 175 or permission of program director) Programming principles of the computer language C++ are covered. This is an advanced programming class. (2 theory + 3 lab hours a week) Course fee: $10

CP 282 Networking Topologies/NOS Environments 3 credit hours
(Prerequisite: CSCI 101 or permission of program director) An introduction to building networks and running a network operating system. Using the OSI model as a guide, students study cabling protocols, data link protocols (Ethernet, FDDI, ATM, etc.) and network protocols (IP and IPX). Switches, bridges, gateways and routers are introduced. (2 theory + 3 lab hours a week)

CP 283 Overview of Network Operating System Environments 3 credit hours
(Prerequisite: CSCI 101 or permission of program director) An introduction to installing and administering the most common microprocessor-based NOS environments (Novell, Windows NT, etc.). Students run these NOS systems on a variety of data link protocols and install and maintain devices for inter-network communication. (2 theory + 3 lab hours a week)

CP 284 Introduction to Visual Basic 3 credit hours
(Prerequisite: CP 105 or a programming language or permission of program director) Students are introduced to the capabilities of the development environment and common programming techniques required to create simple, useful applications. (2 theory + 3 lab hours a week)

CP 285 Troubleshooting Networks 3 credit hours
(Prerequisite: CP 282 or permission of program director) Problems course. Students run a wide variety of applications over a network and apply troubleshooting techniques using software and LAN analyzing equipment. (2 theory + 3 lab hours a week)

CP 287 Advanced Visual Basic w/ Client/Server Applications 3 credit hours
(Prerequisite: CP284 or permission of program director) Constructing advanced applications using Visual Basic, with an emphasis in client/server development. (2 theory + 3 lab hours a week)

CP 296 Topics Variable credit hours
(Prerequisite: permission of program director) Topics vary based on the requests from the community and available software, hardware and instructors.

CP 297 Special Problems Variable credit hours
(Prerequisite: permission of program director) The student and instructor define a specific problem in the area of the student's interest and directly related to the program. The student develops and executes a solution using analytical techniques appropriate to the problem. An oral presentation may be required.

CP 298 Internship **3 credit hours**

(Prerequisite: permission of program director) In cooperation with local industry, the student works for one term on a cooperative basis in an appropriate training program. The position is not paid.

CP 299 Cooperative Education **3 credit hours**

(Prerequisite: permission of program director) In cooperation with local industry, the student works for one term on a cooperative basis in an appropriate training program. The position is paid.

DESIGN DRAFTING ENGINEERING TECHNOLOGY

Design Drafting Engineering Technology is a complex field for persons with a strong interest in electronics and/or mechanical design. The program places 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 TVI chapter of the Society of Manufacturing Engineers (SME) and attend local SME seminars.

Students must buy their own drafting tools and a full-function scientific calculator.

It is strongly recommended that all beginning students meet with the program advisor to plan an individual course of study. Entry into a course without the necessary prerequisites may be allowed with the permission of the program 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).

DDET course credits will transfer to NMSU or other schools offering baccalaureate degrees in Engineering Technology. Additional information is available from the program chair at (505) 224-3353.

			Credit Hours
DDET	101	Introduction to Engineering Technology	1
DDET	102L	Manufacturing Methods	3
DDET	106L	Basic CADD	3
DDET	111L	Mechanical Detailing	3
DDET	114L	Structured Computer Programming	3
DDET	115L	Intermediate CADD	3
DDET	201L	Mathematics of Mechanics	3

DDET	205L	Machine Design	4
DDET	206L	Jig and Fixture Design	4
DDET	211L	Electromechanical Drafting	3
DDET	212	Applied Engineering Mechanics	3
DDET	214L	Materials Science	4
DDET	215L	Technical Computer Applications	3
DDET	216L	Dimensional Metrology	4
ENG	101	College Writing	3
ENG	119	Technical Communications	3
Humanities/Social Science Elective			3
MATH	121	College Algebra	3
	or		
MATH	150	Advanced Algebra	4
MATH	162	Calculus I	4
	or		
MATH	180	Elements of Calculus	3
MATH	123	Trigonometry	3
PHYS	151/153L	General Physics I/Lab	4
PHYS	152/154L	Physics II/Lab	4
	or		
CHEM	121/121L	General Chemistry I/Lab	4
		Total Credits for Degree	**70–72**

OPTIONAL COURSES

CP	177L	Introduction to Computer Graphics	3
CP	178L	Computer Animation	3
DDET	104L	Introduction to Technical Drafting	4
DDET	116L	Basic Electronic Drafting	3
DDET	280	Introduction to Quality Assurance	3
DDET	281	Statistical Controls	3
DDET	283	Coordinate Measurement Machines	3
DDET	284	Geometric Dimensioning and Tolerancing	3
DDET	285	ASQC Certification Preparation	3
DDET	286	Technical Modeling and Simulation	3
DDET	290L	Avanced CADD	3
DDET	296	Topics	Variable
DDET	297	Special Problems	Variable
DDET	298	Internship	3
DDET	299	Cooperative Education	3
WELD	170	Welding Skills Improvement	3

DDET 101 Introduction to Engineering Technology 1 credit hour
This required course should be completed in the first term. It introduces elementary concepts of product design and development, project management, quality control and teamwork in industry. (1 theory + 1 lab hour a week)

DDET 102L Manufacturing Methods 3 credit hours
(Pre- or corequisite: ENG 101) The student is introduced to manufacturing methods including machining, fabrication, hot and cold metal working processes, assembly operations and quality assurance. Properties of materials as affected by manufacturing processes are introduced. (3 theory hours + 1 lab hour a week)

DDET 104L Introduction to Technical Drafting 4 credit hours
(Prerequisite: MATH 120 or ACT math score of 26 or equivalent) This is an introduction to fundamental drafting techniques including care and use of drafting equipment, lettering, sketching, linework, scaling and geometric construction. (3 theory + 3 lab hours a week)

DDET 106L Basic CADD 3 credit hours
(Pre- or corequisite: DDET 104L or permission of program 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 hard-copy output. (2 theory + 3 lab hours a week) Course fee: $15

DDET 111L Mechanical Detailing 3 credit hours
(Prerequisite: DDET 104L) This course introduces the development of detail drawings including layout, view selection, notation, dimensioning, ASME Y-14.5 tolerancing and revisions of mechanical parts. (2 theory + 4 lab hours a week)

DDET 114L Structured Computer Programming 3 credit hours
(Prerequisite: MATH 120) Beginning computer programming using engineering applications is the focus of this course. (2 theory + 3 lab hours a week) Course fee: $15

DDET 115L Intermediate CADD 3 credit hours
(Prerequisite: DDET 106L. Pre- or corequisite: DDET 111L) The student continues use of CADD software in an applied situation. Advanced drawings include insertions, layering, auto-dimensioning and constructing library files. (2 theory + 3 lab hours a week) Course fee: $15

DDET 116L Basic Electronic Drafting 3 credit hours
(Prerequisite: DDET 104L) Electronic drafting fundamentals including symbolic representation of electronic components and devices, block and connection diagramming, cable drawings and circuit schematics are presented. Basic electronics theory and mathematics applications are included. (2 theory + 3 lab hours a week)

DDET 201L Mathematics of Mechanics 3 credit hours
(Prerequisite: MATH 121 or MATH 150) A graphical analysis of the relationships among points, lines and planes in space is presented. Advanced applications of trigonometry to dynamic mechanisms and point locations are covered. (2 theory + 3 lab hours a week)

DDET 205L Machine Design Layout 4 credit hours
(Prerequisites: MATT 173, DDET 111L, DDET 115L. Pre- or corequisite: DDET 201L or MATH 123) Application of 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 are introduced. Layout formats, part searches and material specifications are made for each design. (3 theory + 3 lab hours a week)

DDET 206L Jig and Fixture Design 4 credit hours
(Prerequisite: DDET 205L) This design course centers around the science of three-dimensional location, clamping and holding of work for machining and assembly. Cams, levers, screwlocks, air and hydraulic devices are covered. Students make various designs in the TVI machine shop. (3 theory + 3 lab hours a week)

DDET 211L Electromechanical Drafting 3 credit hours
(Prerequisite: DDET 205L) The study, experimentation, design and drafting of electromechanical devices and systems. Principal components of hydraulic, pneumatic drive systems and control devices are covered in a hands-on laboratory. A major design project is required. (1 theory + 5 lab hours a week)

DDET 212 Applied Engineering Mechanics 3 credit hours
(Prerequisites: MATH 123, DDET 201L) Analyzing the forces on mechanical elements at rest and in motion is the focus of this course. The study of statics and complex forces on materials is included. (3 theory hours + 1 lab hour a week)

DDET 214L Materials Science 4 credit hours
(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. (3 theory + 3 lab hours a week)

DDET 215L Technical Computer Applications 3 credit hours
(Prerequisite: DDET 115L) Students use the computer to solve engineering and related problems. (2 theory + 3 lab hours a week)

DDET 216L Dimensional Metrology 4 credit hours
(Prerequisite: DDET 111L or MATT 112) Students make direct and indirect measurements to 50 millionths of an inch. Measurements concentrate on linear and angular units. Equipment used in electrical, decibel and PPM measurements is introduced. Lab work includes SPC and CMM practicums. (3 theory + 3 lab hours a week)

DDET 280 Introduction to Quality Assurance **3 credit hours**
This course examines the philosophies of Deming, Juran and Taguchi as they apply to quality in the workplace. Total Quality Management (TQM), self-directed teams and teamwork also are studied.

DDET 281 Statistical Controls **3 credit hours**
(Suggested prerequisite: any college algebra) The uses of hardware and software as they apply to quality assurance are featured in this course. Students study design of experiments, sampling techniques, SPC, control chart application and development and process reliability. (2 theory + 3 lab hours a week)

DDET 283 Coordinate Measurement Machines **3 credit hours**
This is an introductory course in the theory and operation of CMM equipment. Geometric dimensioning and tolerancing are applied to CMM inspection. (2 theory + 3 lab hours per week)

DDET 284 Geometric Dimensioning and Tolerancing **3 credit hours**
This course covers the design and use of gauges, fixtures and tools for inspection using GD&T specifications to meet ASME-Y14.5 standards.

DDET 285 ASQC Certification Preparation **3 credit hours**
Students prepare for the ASQC certification examination.

DDET 286 Technical Modeling and Simulation **3 credit hours**
(Prerequisite: CSCI 101 or DDET 115) Students use 3DStudio software to create architectural walk-throughs, mechanical simulations and simple character animation. Concepts of lighting, material mapping and camera manipulation are explored. Additional lab hours outside of class time may be required. (2 theory + 3 lab hours a week)

DDET 290L Advanced CADD **3 credit hours**
(Prerequisite: DDET 115L or permission of instructor) Using a mechanical design framework, this course introduces advanced concepts in AutoCAD including: paper/model space, attributes, 3-D and program customization. (2 theory + 3 lab hours a week) Course fee: $15

DDET 296 Topics **Variable credit hours**
(Prerequisite: permission of the program chair) Topics offered depend on requests from the community and available instructors.

DDET 297 Special Problems **Variable credit hours**
(Prerequisite: permission of the program chair) The student and instructor define a specific problem in the area of the student's interest and directly related to the program. The student develops and executes a solution using analytical and drafting techniques appropriate to the problem. An oral presentation may be required.

DDET 298 Internship **3 credit hours**

(Prerequisite: permission of the program chair) In cooperation with local industry, the student works for one term on a cooperative basis in an appropriate training program. The position is not paid.

DDET 299 Cooperative Education **3 credit hours**

(Prerequisite: permission of the program chair) In cooperation with local industry, the student works for one term on a cooperative basis in an appropriate training program. The position is paid.

ELECTRONICS ENGINEERING TECHNOLOGY

The Electronics Engineering Technology program emphasizes the application of scientific and engineering methods along with related technical skills 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 the skills necessary for employment in a broad occupational area at levels between the electronics technician and the electrical engineer.

TVI laboratory facilities contain modern equipment for testing, troubleshooting, calibrating, analyzing and designing electronic circuits. Such circuits may be found in communications equipment, computers, electronic instruments and many other electronic devices.

Students applying for this program should be seriously interested in the study of electronics with emphasis on mathematics and science and should have high standards of excellence.

It is strongly recommended that all beginning students meet with the program chair to plan an individual course of study.

Pre- or corequisites for Electronics Engineering Technology courses may be waived by the program advisor for a student who has related experience and/or coursework. Credit for an EET course may be given if an official transcript from another institution indicating an equivalent course is approved by the program chair and department dean. Credit for an EET course may be given by passing a challenge exam.

Students in this program are required to purchase 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).

EET course credits will transfer to NMSU or other schools offering baccalaureate degrees in Engineering Technology. Additional information is available from the program chair at (505) 224-5919.

ELECTRONICS ENGINEERING TECHNOLOGY COURSE OFFERINGS BY TERM

EET	107L	109L	113L	117L	119L	207L	208L	209L	218L	219L
Fall	E	A				A	E	A	A	E
Spring	A	E	A	A	A				E	A
Summer			A	E	E	E	A	E		

E = Evening Hours A = Afternoon Hours

			Credit Hours
ENG	101	College Writing	3
ENG	119	Technical Communications	3
*MATH	121	College Algebra	3
	or		
*MATH	150	Advanced Algebra	4
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
*MATH	123	Trigonometry or Trigonometry Proficiency Test	3
*MATH	162	Calculus I	4
	or		
*MATH	180	Elements of Calculus 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
CHEM	111/112L	Introduction to Chemistry/Lab	4
	or		
CHEM	121/121L	General Chemistry/Lab	4
PHYS	151/153L	Physics I/Lab	4
	or		
PHYS	160/163L	General Physics I/Lab	5
Humanities/Social Science Elective			3
Technical Elective			3
		Total Credits for Degree	**68–71**

*A minimum of eight credit hours in math above MATH 120 are required for graduation.

TECHNICAL ELECTIVES

EET	296	Topics	Variable
EET	297	Special Problems	Variable
EET	298	Internship	3
EET	299	Cooperative Education	3
PC	201	Electromechanical Systems	3

Any advanced course offered by the Technologies Department or any physical science or computer science course or mathematics course above that which is required.

EET 107L Graphics and Analytical Methods 3 credit hours

(Pre- or corequisite: MATH 150 or MATH 121) Mechanical and electronic drafting methods, including schematic preparation, printed circuit layout, chassis definition and wiring, are studied. Lab time is devoted to techniques required to prepare drawings. Students gain experience in word processing, spreadsheet preparation, graphics, data base preparation and CAD. (2 theory + 3 lab hours a week) Course fee: $15

EET 109L Circuit Analysis I 5 credit hours

(Pre- or corequisites: ENG 101, EET 107L, MATH 150 or MATH 121) Passive DC circuits are analyzed using Ohm's Law, Kirchhoff's Laws, source conversions, network theorems and branch/mesh/nodal analysis. Transient analysis of R-C and R-L circuits is presented along with concepts of energy, power and efficiency. Computers are used for spreadsheet preparation, graphics and word processing. (3 theory + 5 lab hours a week)

EET 113L Structured Computer Programming 3 credit hours

(Prerequisite: MATH 121 or MATH 150) This is a course in beginning computer programming using engineering applications. (2 theory + 2.5 lab hours a week) Course fee: $15

EET 117L Digital Electronics I 3 credit hours

(Prerequisite: EET 109L) Combinational logic and integrated circuits are analyzed and designed using Boolean algebra, Karnaugh maps and logic diagrams. Number systems, binary codes and code conversions are studied along with flip flops, multivibrators and circuit applications. Lab work emphasizes wiring and troubleshooting skill while confirming circuit design objectives. (3 theory + 1 lab hours a week)

EET 119L Circuit Analysis II 5 credit hours

(Prerequisite: EET 109L. Pre- or corequisites: ENG 119, MATH 123, MATH 162 or MATH 180) Passive AC circuits with dependent and independent sources are studied along with network theorems, phasor analysis, AC measurements, power factor analysis/correction, sweep generation usage and Fourier series. Computers are used for complex mathematical problem solving, spreadsheet preparation, graphics, word processing and CAD. (3 theory + 5 lab hours a week)

EET 207L Digital Electronics II **3 credit hours**

(Prerequisite: EET 117L) Logic circuit decoders, encoders, multiplexers, counters and registers are studied along with ADCs, DACs, RAM, ROM and applications. (3 theory + 1 lab hours a week)

EET 208L Microprocessors **4 credit hours**

(Prerequisite: EET 113L. Pre- or corequisite: EET 207L) Microprocessors and microcomputers are studied in depth with emphasis on machine and assembly language programming. Interrupts and DOS entry points are introduced. (3 theory + 3 lab hours a week)

EET 209L Electronic Devices **5 credit hours**

(Pre- or corequisite: EET 119L) Diodes, bipolar transistors, FETs and circuits including rectifiers, zener diode regulators, clippers, clampers and amplifiers are studied. Transistor modeling and circuit analysis/design are stressed along with computer use for circuit analysis, spreadsheet preparation, graphics and word processing. (3 theory + 5 lab hours a week)

EET 218L Microprocessor Interfacing **3 credit hours**

(Prerequisites: EET 208L, EET 209L) I/O devices including printers, terminals and proto board circuits are interfaced to a microcomputer. Each student makes an oral presentation and prepares documentation describing system operation and organization along with block diagrams, schematics and structured software. (2 theory + 2.5 lab hours a week)

EET 219L Electronic Systems **5 credit hours**

(Prerequisite: EET 209L) Electronic system schematics are studied along with frequency considerations, decibel usage, differential and operational amplifiers, power supplies, thyristors, PLLs, oscillators and feedback concepts. Each student prepares a technical manual for a computer-controlled system. Video monitor basics and introductory transmission line theory are presented. Computers are used for advanced circuit analysis, instrument control, data logging and word processing. (3 theory + 5 lab hours a week)

EET 296 Topics **Variable credit hours**

(Prerequisite: Open to advanced Electronics students) The topics depend on the requests from the community.

EET 297 Problems **Variable credit hours**

(Prerequisite: enrolled only in 200-level technical courses and/or permission of the program chair) The student and instructor define a specific problem in the area of the student's interest and directly related to the program. The student develops and executes a solution using analytical and computer-aided techniques appropriate to the problem. An oral presentation may be required.

EET 298 Internship 3 credit hours
(Prerequisite: permission of the program chair) In cooperation with local industry, the student works for one term on a cooperative basis in an appropriate training program. The position is not paid.

EET 299 Cooperative Education 3 credit hours
(Prerequisite: permission of the program chair) In cooperation with local industry, the student works for one term on a cooperative basis in an appropriate training program. The position is paid.

ELECTRONICS TECHNOLOGY

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 with electro-mechanical and computer applications. To receive a certificate or an associate of applied science degree, the student must complete the occupational core requirements and a concentration in Process Control or another concentration chosen from a list of approved classes, plus additional Arts & Sciences requirements.

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 systems. Such systems include communications equipment, computers, electronic instruments and electro-mechanical equipment.

Students entering Electronics Technology courses must meet the prerequisites of Math 100B or equivalent on placement test, and reading at a minimum of eighth-grade level. CSCI 101 or equivalent is also required before taking 200-level courses. If a student takes MATH 099 or MATH 100B, it is recommended that he or she also take ELEC 100 from the Adult & Developmental Education Department, CSCI 101 and ENG 100 before taking courses within the major.

Entry into a course without the prerequisite may be allowed with the permission of the program director.

CERTIFICATE AND DEGREE CORE REQUIREMENTS

			Credit Hours
†ELEC	103A	Electronics Fundamentals A	4
	and		
†ELEC	103B	Electronics Fundamentals B	4
	or		
ELEC	103L	Electronics Fundamentals	8
ELEC	104	Electronics Mathematics	5

ELEC	105L	Digital Circuits	4
ELEC	111L	Introduction to Photonics	4
†ELEC	114A	Semiconductor Devices A	3
	and		
†ELEC	114B	Semiconductor Devices B	4
	or		
ELEC	114L	Semiconductor Devices	7
†ELEC	118A	Electromechanical Devices A	3
	and		
†ELEC	118B	Electromechanical Devices B	3
	or		
ELEC	118L	Electromechanical Devices	6
†ELEC	203A	Introduction to Microprocessors A	3
	and		
†ELEC	203B	Introduction to Microprocessors B	3
	or		
ELEC	203L	Introduction to Microprocessors	6
ELEC	205L	Analog Circuits	6
ELEC	214L	Troubleshooting Techniques	3

†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.

CONCENTRATION OPTIONS FOR CERTIFICATE OR DEGREE

STUDENT-SELECTED CONCENTRATION: 18 CREDITS

ELEC	207	RF/Modulation	3
ELEC	216	Consumer Electronics	6
ELEC	217	Upgrading and Repairing PCs	3
ELEC	220	Digital Signal Processing Systems	6
CP	282	Networking Topologies/NOS Environments	3
CP	283	Overview of NOS Environments	3
CP	285	Troubleshooting Networks	3
LEOT	205L	Introduction to Laser Systems	4
LEOT	206	Optics	6
LEOT	217L	Advanced Laser Systems with Applicaitons	6
PC	212L	Vacuum System	2

PROCESS CONTROL CONCENTRATION

PC	201	Electromechanical Systems	3
PC	211	Power RF (7.5 weeks)	2
PC	212L	Vacuum Systems (7.5 weeks)	2
PC	203	PLC Theory and Applications (7.5 weeks)	2

PC	204	Feedback Theory and Applications (7.5 weeks)	2
PC	205	Sensor Theory and Applications (7.5 weeks)	2

Plus five additional credits from among these courses:

PC	206	CIM Theory and Applications (7.5 weeks)	2
PC	207	Mobile Robot Design and Construction (7.5 weeks)	2
PC	208	Industrial Robot Theory and Applications (7.5 weeks)	2
SMT	201/201L	Semiconductor Manufacturing Technology I Theory/Lab	3
SMT	211/211L	Semiconductor Manufacturing Technology II Theory/Lab	3

ADDITIONAL CERTIFICATE REQUIREMENTS

BA	111	Communications (7.5 weeks)	2
	or		
ENG	101	College Writing	3
BA	131	Human Relations (7.5 weeks)	2
	or		
PSY	105	Introduction to Psychology	3
	Total Credits for Certificate		**71–73**

ADDITIONAL DEGREE REQUIREMENTS

ENG	119	Technical Communications	3
CHEM	111/112L	Introduction to Chemistry/Lab	4
	or		
CHEM	121/121L	General Chemistry/Lab	4
Humanities/Social Science Elective			3
MATH	162	Calculus I	4
	or		
MATH	180	Elements of Calculus	3
	or		
MATH	150	Advanced Algebra	4
	or		
MATH	145	Introduction to Probability and Statistics	3
PHYS	151/153L	Physics I/Lab	4
	or		
PHYS	160	General Physics	4
	Total Credits for Degree		**84–85**

OPTIONAL COURSES

CP	175L	C Language Programming	3
CSCI	101	Computer Literacy	4
CP	177L	Introduction to Computer Graphics	3
CP	178L	Computer Animation	3

CP	274L	Introduction to the Unix Operating System	3
ELEC	276L	Soldering Techniques (7.5 weeks)	2
ELEC	279	Electronics Refresher	3
ELEC	282	Pulse Power	3
ELEC	296	Topics	Variable
ELEC	297	Special Problems	Variable
ELEC	298	Internship	3
ELEC	299	Cooperative Education	3
FS	203	Hazardous Materials	3

ELEC 103A Electronics Fundamentals A **4 credit hours**
(Recommended corequisite: ELEC 104 or strong mathematics background or permission of program director) The basic concepts of DC electronics with emphasis on Ohm's Law, Kirchhoff's Law, circuit analysis and component application with troubleshooting are covered. In the lab students construct circuits from schematic diagrams and use multimeters. (3 theory + 3 lab hours a week) Course fee: $15

ELEC 103B Electronics Fundamentals B **4 credit hours**
(Prerequisite: ELEC 103A) Covers the basic concepts of AC electronics with emphasis on Ohm's Law, Kirchhoff's Law, circuit analysis and component application. In the lab students construct, analyze and troubleshoot AC circuits with multimeters, oscilloscopes and function generators. (3 theory + 3 lab hours a week)

ELEC 103L Electronics Fundamentals **8 credit hours**
(Recommended corequisite: ELEC 104 or strong mathematics background) The basic concepts of DC and AC electronics with emphasis on Kirchhoff's Law, circuit analysis and component application with troubleshooting are covered. Students use oscilloscopes, function generators and multimeters and construct circuits from schematic diagrams. ELEC 103L = ELEC 103A + ELEC 103B (5 theory + 9 lab hours a week) Course fee: $15

ELEC 104 Electronics Mathematics **5 credit hours**
(Prerequisite: MATH 100B or sufficient math placement score) This course covers algebra and trigonometry and their application to various technologies.

ELEC 105L Digital Circuits **4 credit hours**
(Recommended corequisite: ELEC 104 or strong mathematics background) The fundamental concepts and applications of digital logic circuits are covered along with number systems and Boolean algebra. The basic logic gates and MSI, LSI circuits are used to develop operational digital circuits. (4 theory + 1 lab hours a week)

ELEC 111L Introduction to Photonics **4 credit hours**
(Prerequisite: ELEC 103L. Corequisite: ELEC 105L) Fiber optics and optical transducer theory are studied including the basics of laser safety and operation. Laboratory experiments in all three areas strengthen concepts. (3 theory + 3 lab hours a week)

ELEC 114A Semiconductor Devices A **3 credit hours**
(Prerequisites: ELEC 103L, ELEC 104) The basic concepts and applications of semiconductors, rectifier circuits, transistor biasing techniques, AC circuits and transistor regulated power supplies are covered. (2 theory + 3 lab hours a week)

ELEC 114B Semiconductor Devices B **4 credit hours**
(Prerequisite: ELEC 114A) This course covers field effect transistor circuits, op-amp theory, linear and non-linear op-amp circuits and frequency effects. (3 theory + 3 lab hours a week)

ELEC 114L Semiconductor Devices **7 credit hours**
(Prerequisites: ELEC 103L, ELEC 104) Semiconductor devices, diodes, transistors, op-amps and JFETS, and their application in simple power supplies and amplifiers are introduced. Students construct, analyze and troubleshoot semiconductor circuits. (5 theory + 5 lab hours a week)

ELEC 118A Electromechanical Devices A **3 credit hours**
(Prerequisites: ELEC 103L, ELEC 104) The basic principles and components of hydraulic and pneumatic systems are introduced. In laboratory experiments students study component operation and principle application. (2 theory + 3 lab hours a week)

ELEC 118B Electromechanical Devices B **3 credit hours**
(Prerequisites: ELEC 118A, ELEC 105L) This course covers various control circuits for DC and AC motors and stepper motors. In laboratory experiments students analyze and troubleshoot servosystems for motor speed and positioning control. (2 theory + 3 lab hours a week)

ELEC 118L Electromechanical Devices **6 credit hours**
(Prerequisites: ELEC 103L, ELEC 104, ELEC 105L) Theory and application of mechanical devices and their control circuits are presented. Topics include hydraulics, pneumatics, vacuum, AC and DC motors, stepper motors and servomechanisms. Students assemble, operate and troubleshoot small-scale electromechanical systems. (4 theory + 6 lab hours a week)

ELEC 203A Introduction to Microprocessors A **3 credit hours**
(Prerequisites: ELEC 118L, CP176L) This course covers the organization of a microcomputer using the 8088 CPU, memory and I/O devices. Programs are written in Assembler language and in a higher level language to drive the PC's serial I/O, parallel printer port and disk drives. (2 theory + 3 lab hours a week)

ELEC 203B Introduction to Microprocessors B **3 credit hours**
(Prerequisite: ELEC 203A) The students build individual buffered interfaces that connect with the PC's I/O backplane for their custom I/O applications. (2 theory + 3 lab hours a week)

ELEC 203L Introduction to Microprocessors **6 credit hours**
(Prerequisites: ELEC 118L, CP176L) 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. (4 theory + 6 lab hours a week)

ELEC 205L Analog Circuits **6 credit hours**
(Prerequisite: ELEC 114L) Circuitry involved in an analog system is covered. Discrete transistor circuits and classes of operation are studied. Signal generation and active filters using operational amplifiers are presented. Fundamentals of modulation and demodulation are also covered. (4 theory + 6 lab hours a week)

ELEC 207 RF/Modulation **3 credit hours**
(Prerequisite: ELEC 114L) An introduction to radio frequency communication theory, circuits and problems. Topics include electromagnetic interference, analog modulation/demodulation techniques, transmission lines and antennas. (3 theory + 1 lab hours a week)

ELEC 214L Troubleshooting Techniques **3 credit hours**
(Prerequisite: ELEC 205L or equivalent) Students apply troubleshooting techniques to a complete electronic system. Emphasis is on systematic analysis to locate problems. (2 theory + 3 lab hours a week)

ELEC 216 Consumer Electronics **6 credit hours**
(Prerequisite: ELEC 205L or permission of program director) A study of televisions, video camcorders and video recording methods and equipment with an emphasis on alignment, troubleshooting and repair. Offered every other term. (4 theory + 6 lab hours a week)

ELEC 217 Upgrading and Repairing PCs **3 credit hours**
(Recommended corequisite: CSCI 101 or permission of program director) Basic aspects of computer repair, troubleshooting techniques with and without software, modifications and replacement are covered. The emphasis is on microcomputers and related hardware. (2 theory + 3 lab hours a week) Course fee: $15

ELEC 220 Digital Signal Processing Systems **6 credit hours**
(Prerequisite: ELEC 203L, ELEC 205L) Covers op amp theory, applications and limitations, analog circuit analysis and filtering techniques, including passive, active and digital filters. Interfacing methods between analog signals and digital computers are presented. Topics include address decoding, DAC and ADC applications, parallel and serial interfaces and transmission line theory. Offered fall and spring terms only. (4 theory + 6 lab hours a week)

ELEC 276L Soldering Techniques (7.5 weeks) **2 credit hours**
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. (1 theory + 4 lab hours a week) Course fee: $15

ELEC 279 Electronics Refresher 3 credit hours
(Prerequisite: completion of an electronics program or equivalent) This is a review of electronics, including basics, semiconductors, op-amps, digital electronics and microprocessors.

ELEC 282 Pulsed Power 3 credit hours
(Prerequisite: ELEC 114L or permission of advisor) The generation, transmission and measurement of high-voltage, pulsed power systems are studied. Offered fall term only.

ELEC 296 Topics Variable credit hours
(Prerequisite: advanced Electronics student) The topics depend on the requests from the community.

ELEC 297 Special Problems Variable credit hours
(Prerequisite: advanced Electronics student) The student is given a problem to investigate and solve. The student designs the solution using a combination of techniques.

ELEC 298 Internship 3 credit hours
(Prerequisite: permission of the program director) In cooperation with local industry, the student works for one term on a cooperative basis in an appropriate training program. The position is not paid.

ELEC 299 Cooperative Education 3 credit hours
(Prerequisite: permission of the program director) In cooperation with local industry, the student works for one term on a cooperative basis in an appropriate training program. The position is paid.

LEOT 205L Introduction to Laser Systems 4 credit hours
(Prerequisite: ELEC 111L) The theory and operation of solid-state and gas lasers are studied. Continuous wave and pulsed systems are discussed. Laboratory exercises provide hands-on operation of various types of lasers. Offered fall term. (4 theory + 1 lab hours a week)

LEOT 206 Optics 6 credit hours
(Prerequisite: ELEC 111L) Lenses and optical systems are studied from the standpoints of geometric and wave optics. Laboratory experiments are performed. Offered fall term. (4 theory + 6 lab hours a week)

LEOT 217L Advanced Laser Systems with Applications 6 credit hours
(Prerequisite: LEOT 205L) The applications of laser systems to industry are covered. Students write a technical paper. Calibration techniques, interferometery and Q-switching are examples of laboratory exercises. Offered spring term. (4 theory + 6 lab hours a week)

PC 201 Electromechanical Systems 3 credit hours
(Prerequisites: ELEC 114L, ELEC 118L) This course uses electromechanical systems donated by local industries to expose students to equipment schematics, maintenance proce-

dures and troubleshooting. Students practice preventive and corrective maintenance. (2 theory + 3 lab hours a week) Course fee: $25

PC 203 PLC Theory and Applications (7.5 weeks) 2 credit hours
(Prerequisites: ELEC 203L, ELEC 205L or permission of program advisor or instructor) Topics include ladder logic diagrams, PLC hardware, software and applications of PLCs. A series of PLC lab exercises and a PLC project are required. Offered fall and summer terms only. (2 theory hours and 3 lab hours per week) Course fee: $25

PC 204 Feedback Theory and Applications (7.5 weeks) 2 credit hours
(Prerequisites: ELEC 203L, ELEC 205L) Topics include various types of feedback systems, components and operation. The applications of such systems are studied. Offered fall and spring terms only. (2 theory hours and 3 lab hours per week) Course fee: $25

PC 205 Sensor Theory and Applications (7.5 weeks) 2 credit hours
(Prerequisites: ELEC 203L, ELEC 205L) Topics include force, photonic and temperature sensors. A project designed and constructed by students is required. Offered fall and spring terms only. (2 theory and 3 lab hours per week) Course fee: $25

PC 206 CIM Theory and Applications (7.5 weeks) 2 credit hours
(Prerequisites: ELEC 203L, ELEC 205L) Topics include theory of computer integrated manufacturing (CIM), CIM systems used in industry and the programming and operation of such systems. Offered fall and summer terms only. (2 theory and 3 lab hours per week) Course fee: $25

PC 207 Mobile Robot Design and Construction (7.5 weeks) 2 credit hours
(Prerequisites: ELEC 203L, ELEC 205L) Topics include microcontrollers, DC motors, motor drive circuitry and communications technology. A project designed and constructed by students is required. Offered spring term. (2 theory and 3 lab hours per week) Course fee: $25

PC 208 Industrial Robot Theory and Applications (7.5 wks) 2 credit hours
(Prerequisites: ELEC 203L, ELEC 205L) Theory, operation and maintenance procedures of industrial robots are included along with a project (utilizing an industrial robot system) designed and constructed by students. Offered spring term. (2 theory and 3 lab hours per week) Course fee: $25

PC 211 Power RF (7.5 weeks) 2 credit hours
(Prerequisite: ELEC 114L) RF energy and its applications in manufacturing industries are presented. Topics include plasma physics, RF applications, safety, RF generators, transmission lines and RF interference. (2 theory + 3 lab hours a week) Course fee: $25

PC 212L Vacuum Systems (7.5 weeks) 2 credit hours
(Prerequisite: ELEC 118L) This is a study of vacuum technology and vacuum systems. Topics include gas laws and properties, operation and applications of vacuum pumps, gauges and valves and systems leak detection. (2 theory + 3 lab hours a week) Course fee: $25

MANUFACTURING TECHNOLOGY

The Manufacturing Technology program, offering both certificate and associate degree options, provides students with a broad base of skills in analog and digital electronics along with a good communication and science background. The program offers concentrations in Semiconductor Manufacturing, Facilities Maintenance and General Manufacturing, one of which a student must complete along with core courses for an associate degree. To receive a certificate in Manufacturing Technology with a Semiconductor concentration, the student must complete all defined courses.

Training is provided in the fundamental concepts of electronics and mechanical components. Circuits which have application in the semiconductor, digital equipment manufacturing, measurement and control are covered.

Laboratory facilities containing modern equipment for testing, troubleshooting, calibrating, analyzing and designing electronic systems and for processing wafers are used in the Semiconductor concentration. Such systems include computers, electronic instruments, wafer processing equipment and electro-mechanical equipment. Other laboratory facilities provide the ability to analyze and test various materials and components.

Students entering Manufacturing Technology courses must meet the prerequisites of MATH 100B and reading at a minimum of eighth-grade level. If a student takes MATH 100B, it is recommended that he or she also take ELEC 100 from the Adult & Developmental Education Department, CSCI 101 and ENG 100 before taking courses within the major.

Entry into a course without the prerequisite may be allowed with the permission of the program advisor.

CERTIFICATE PROGRAM

SEMICONDUCTOR MANUFACTURING CONCENTRATION

			Credit Hours
ELEC	104	Electronics Mathematics	5
ENG	101	College Writing	3
CSCI	101	Computer Literacy	4
*MT	102	Manufacturing Applications	4
*MT	103	Technical Skills	4
MT	104	Applied Science I	4
DDET	281	Statistical Controls	3
SMT	201/201L	Semiconductor Manufacturing I	3
MT	204	Applied Science II	3
COMM 221 or COMM 225 or COMM 232			3
		Total Credit Hours	**36**

*A student can receive a Manufacturing Skills certificate upon completion of MT 102 and MT 103.

DEGREE PROGRAM

Prerequisites

CSCI	101	Computer Literacy	4
ELEC	104	Electronics Mathematics	5
	or		
MATH	120	Intermediate Algebra	4

Degree Core Requirements

CHEM	121/121L	General Chemistry I	4
*CHEM	122/122L	General Chemistry II	4
DDET	281	Statistical Controls	3
ELEC	103L	Electronics Fundamentals	8
ELEC	105L	Digital Circuits	4
*ELEC	114L	Semiconductor Devices	7
ELEC	118L	Electromechanical Devices	6
ENG	101	College Writing	3
ENG	119	Technical Communications	3
MATH	121	College Algebra	3
*PC	201	Electromechanical Systems	3
PC	212L	Vacuum Systems (7.5 weeks)	2
PHYS	151/153L	Physics I with Lab	4
Technical Elective			3
Communication Electives (see list below)			6
Humanities and Social Sciences Elective			3

* Courses are not required for the Facilities Maintenance and General Manufacturing concentrations.

FACILITIES MAINTENANCE CONCENTRATION

ACHR	118/118L	Electromechanical Principles Theory/Lab	4
ACHR	119/119L	Intermediate Service Procedures Theory/Lab	4
ACHR	207/207L	Advanced Service Procedures	4
ACHR	208/208L	Advanced Applications Lab	4
ELTR	212/213L	PLC Theory and Installation	6
ELTR	202	Commercial Blueprint Reading II	3
PLMB	102/102L	Plumbing Theory/Lab	3
		Credit Hours	**28**

SEMICONDUCTOR MANUFACTURING CONCENTRATION

PC	211	Power RF (7.5 weeks)	2
SMT	201/201L	Semiconductor Manufacturing Technology I Theory/Lab	3
SMT	211/211L	Semiconductor Manufacturing Technology II Theory/Lab	3
		Credit Hours	**8**

GENERAL MANUFACTURING CONCENTRATION

PC	203	PLC Theory and Applications (7.5 weeks)	2
MATT	102	MATT Blueprint Reading I	2
MATT	103L	Basic Lathe Principles	2
MATT	104L	Basic Milling Machine Principles	2
MATT	117L	Intermediate Lathe Principles	2
MATT	120L	Intermediate Milling Machine Principles	2
MATT	122L	Computer Numerical Control I	2
MATT	218L	Computer Numerical Control II	2
WELD	106L	Introduction to SMAW	2
DDET	106L	Basic CADD	3
		Credit Hours	**21**

Add **Total Required for Associate Degree 73–80**

COMMUNICATION ELECTIVES

Comm 130 Public Speaking 3

COMM	221	Interpersonal Communication Studies	3
COMM	223	Introduction to Nonverbal Communication Studies	3
COMM	225	Small-Group Communication Studies	3
COMM	232	Business and Professional Communication Studies	3
COMM	240	Organizational Communication Studies	3
COMM	290	Gender Communication Studies	3
COMM	291	Intercultural Communication Studies	3

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TECHNOLOGIES ELECTIVES

CP	175L	C Language Programming	3
DDET	280	Introduction to Quality Assurance	3
ELEC	111L	Introduction to Photonics	4
ELEC	203L	Introduction to Microprocessors	6
ELEC	205L	Analog Circuits	6
ELEC	214L	Troubleshooting Techniques	3
ELEC	276L	Soldering Techniques (7.5 weeks)	2
ELEC	296	Topics	Variable
ELEC	297	Special Problems	Variable
ELEC	298	Internship	3
ELEC	299	Cooperative Education	3

Vendor Specific Courses ..... Variable

MT 102 Manufacturing Applications **4 credit hours**

(Prerequisites: MATH 99, ENG 100, CSCI 101) Introduces variety of concepts commonly used in a manufacturing environment. Topics include an introduction to quality control, statistical process control, teams, problem-solving and manufacturing terminology. (3 theory hours + 3 lab hours)

MT 103 Technical Skills **4 credit hours**

(Prerequisites: MATH 99, ENG 99) Exploration of a variety of manufacturing methods and their applications. Students are introduced to DC and AC electronics, digital electronics, pneumatic and vacuum systems, automation systems, units of measurement and mechanical concepts. (3 theory hours + 3 lab hours)

MT 104 Applied Science I **4 credit hours**

(Prerequisite: ELEC 104 or MATH 120) Students study some of the basic principles of chemistry and physics and how these principles apply to technology and industry. (3 theory hours + 3 lab hours)

MT 204 Applied Science II **3 credit hours**

(Prerequisite: MT 104) This course continues to explore the applications of chemistry and physics in high-tech industries, specifically semiconductor industries. The mechanical, chemical and thermal properties of materials are studied. (2 theory hours + 3 lab hours)

SMT 201 Semiconductor Manufacturing Technology I Theory **2 credit hours**

(Prerequisites: ELEC 103L, ELEC 105L and CHEM 111/112L or CHEM 121/121L or MT 103 and MT 104. Corequisite: SMT 201L) Students are introduced to integrated circuit manufacturing, including the basics of semiconductor materials and devices, integrated circuits, cleanroom technology and topics in wafer processing. Laboratory exercises are conducted in a cleanroom.

SMT 201L Semiconductor Manufacturing Technology I Lab **1 credit hour**

(Pre- or corequisite: SMT 201) This is the lab course for SMT 211. Students meet once per week. (3 lab hours) Course fee: $60

SMT 211 Semiconductor Manufacturing Technology II Theory **2 credit hours**

(Prerequisites: SMT 201, SMT 201L, ELEC 114L. Corequisite: SMT 211L) Students study the topics presented in SMT 201 with greater detail. Laboratory experiments include the process steps to construct and test simple PMOS field effect transistor devices.

SMT 211L Semiconductor Manufacturing Technology II Lab **1 credit hour**

(Pre- or corequisite: SMT 211) This is the lab course for SMT 211. (3 lab hours) Course fee: $60

PRE-ENGINEERING

The Pre-Engineering program includes general background courses in mathematics and science and an introduction to the concepts and methods of engineering. The associate degree represents a halfway point for those seeking a bachleor's degree in engineering, as graduates may continue their studies in a specialized area of engineering at a four-year college. Students may contact the program chair for information on course articulation agreements with the New Mexico universities offering engineering degrees.

This is not a professional degree and does not prepare one for specific job opportunities; rather, it provides a broad educational background on which to build a career through further education or work experience. The student who is interested in a two-year program that will provide specific work skills should consider other programs at TVI.

Degree requirements include completion of all courses in the curriculum (or equivalent), a total of 68 hours, and two courses at UNM (these and any UNM electives will require UNM tuition).

			Credit Hours
Term 1			
MATH	162	Calculus I	4
ENG	101	College Writing	3
CHEM	121/121L	General Chemistry I	4
CSCI	155	Intro to Computer Programming	3
[2]Humanities and Social Science Elective			3
		Subtotal	**17**
Term 2			
DDET	102L	Manufacturing Methods	3
PHYS	160	General Physics I	4
MATH	163	Calculus II	4
ENG	102	Analytic and Argumentative Writing	3
CHEM	122/122L	General Chemistry II	4
		Subtotal	**18**
Term 3			
MATH	264	Calculus III	4
PHYS	161	General Physics II	4
DDET	281	Statistical Controls	3
[2]Humanities and Social Science Elective			3
[1]Technical Elective			3
		Subtotal	**17**

Term 4

[3]CE	202	Engineering Statics (UNM)	3
PHYS	262	General Physics III	4
[3]EECE	203	Circuit Analysis (UNM)	3
[1]Technical Elective			3
[2]Humanities & Social Science Elective			3
		Subtotal	**16**

[1]The technical electives may be chosen from computer software, computer hardware or other engineering courses at TVI or UNM. Electives may be chosen in conference with the program chair who can guide selections according to articulation agreements.

[2]The Humanities and Social Science electives may be chosen from a variety of Arts & Sciences courses in the TVI Catalog. Students planning to transfer to complete degree programs are advised to refer to the catalogs of their receiving institution.

[3]The courses at UNM were required in the Pre-Engineering degree and are currently required in UNM's bachelor's engineering degree programs. They are recommended as electives in the Commission on Higher Education's core program for the associate degree in pre-engineering. TVI may replace these courses later with courses offered in the Technologies Department.

TRADES & SERVICE OCCUPATIONS

The Trades & Service Occupations Department provides a technical learning environment dedicated to the preparation of individuals for challenging positions in the community work force. Classes are held at the Main Campus, and there are opportunities for hands-on learning at off-campus sites. The department offers certificates and degrees that prepare individuals for entry-level positions, for job advancement and for technical skill upgrading.

Commercial Carpentry Apprenticeship	Apprenticeship
Electrical Trades Apprenticeship	Apprenticeship
Plumbing	Apprenticeship
Sheet Metal Apprenticeship	Apprenticeship
Air Conditioning, Heating and Refrigeration	Certificate
Automotive Technology	Certificate
Baking	Certificate
Carpentry	Certificate
Commercial Printing	Certificate and Associate of Applied Science Degree
Construction Technology	Associate of Applied Science Degree
Criminal Justice	Associate of Applied Science Degree
Culinary Arts	Associate of Applied Science Degree
Diesel Equipment Technology	Certificate
Electrical Trades	Certificate
Environmental Technology	Associate of Applied Science Degree
Fire Science	Associate of Applied Science Degree

Fitness Technician	Certificate
Food Service Management	Certificate
Machine Tool Technology	Certificate
Mechanical Technology	Associate of Applied Science Degree
Metals Technology	Associate of Applied Science Degree
Plumbing	Certificate
Quantity Food Preparation	Certificate
Transportation Technology	Associate of Applied Science Degree
Truck Driving	Certificate
Welding	Certificate

Students are encouraged to participate in Vocational Industrial Clubs of America (VICA), the student organization. VICA activities and programs are an integral part of the curriculum.

Cooperative education allows qualified students the option to complete course work via a related entry-level-wage job. A written agreement with specific objectives is signed by the student, TVI and the employer. The cooperative education option may not qualify students for financial aid. The pre- or corequisite for co-op is SSKL 211, 212 or 213.

Students must provide their own personal protective equipment (hard hat and safety glasses or goggles) and lab clothes which are appropriate and comply with Trades & Service Occupations Department and/or Occupational Safety and Health Act (OSHA) standards. Hard hats must meet ANSI Standard Z89.1-1969. Safety glasses or goggles must meet ANSI Standard Z87.1-1979. Students are trained to OSHA safety standards for their respective area.

Most Trades & Service Occupations programs require that students be in good physical condition and be free of allergies or health conditions that could endanger themselves or others.

Most programs require basic hand tools. Tool lists with approximate costs and purchase deadlines are provided by instructors at the beginning of each term.

All occupational courses must be passed with a minimum grade of C to qualify for graduation. Trades & Service Occupations students must meet TVI's computer literacy requirement (see page 29) to earn certificates or associate degrees.

APPRENTICESHIPS

Note: Students enrolled in apprenticeships may not qualify for financial aid or Veterans Administration benefits.

COMMERCIAL CARPENTRY APPRENTICESHIP

The Commercial Carpentry Apprenticeship for persons currently employed in the industry is offered in conjunction with the Rio Grande Chapter of Associated Builders and Contractors Inc. (ABC).

The program provides related classroom instruction.

There is a TVI registration fee each term. Students must purchase textbooks and instructional materials through the local ABC chapter.

CCAP 198 Commercial Carpentry Apprenticeship 40 credit hours

(Prerequisite: current full-time employment in the carpentry industry or department approval) This course consists of 600 hours of related classroom instruction covering 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.

ELECTRICAL TRADES APPRENTICESHIP

The Electrical Trades Apprenticeship, for persons currently employed full-time in the electrical industry, is offered in conjunction with the Independent Electrical Contractors (IEC).

The program provides related classroom instruction.

There is a TVI registration fee each term. Students must purchase books and instructional materials through the IEC office.

ETAP 198 Electrical Trades Apprenticeship 40 credit hours

(Prerequisite: current full-time employment in the electrical trades industry or department approval) This course consists of 600 hours of related classroom instruction covering safety, electrical theory, blueprint reading and layout, National Electrical Code interpretation, tool usage and motor controls.

PLUMBING APPRENTICESHIP

The Plumbing Apprenticeship, for persons currently employed full-time in the mechanical trades (plumbing) industry, is offered in conjunction with the Rio Grande Chapter of Associated Builders and Contractors Inc. (ABC).

The four-year program combines on-the-job experience with classroom instruction and provides the opportunity for qualified participants to become journeymen.

There is a TVI registration fee each term. Students must purchase textbooks and instructional materials through the local ABC chapter.

PLAP 198 Plumbing Apprenticeship 40 credit hours

(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

The Sheet Metal Apprenticeship, for persons currently employed full-time in the sheet metal industry, is offered in conjunction with the Rio Grande Chapter of Associated Builders and Contractors Inc. (ABC).

The program provides related classroom instruction.

There is a TVI registration fee each term. Students must purchase textbooks and instructional materials through the local ABC chapter.

SMAP 198 Sheet Metal Apprenticeship 40 credit hours

(Prerequisite: current full-time employment in the sheet metal industry or department approval) This course consists of 600 hours of related classroom instruction. Instruction covers safety, shop and trade math, sheet metal processes for shop machinery, triangulation layout, radial line layout, parallel line layout, blueprint reading and Sheet Metal and Air Conditioning National Assn. (SMACNA) manuals.

ELECTIVE COURSES

At least 15 students must sign up and instructional space and budget must be available before an elective course can be offered. As a result, elective courses may be canceled because of budget or low enrollment. Most are offered only at the Main Campus. Descriptions for most elective courses are included in their respective programs.

			Credit Hours
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
AUTC	173	Air Care Mechanic	2
*BT	177L	Metal Framing	3
*BT	178	Remodeling	3
*BT	179	Advanced Remodeling	3
CARP	170	Carpentry Fundamentals and Cabinetmaking	3
CARP	171	Construction Trades Blueprint/Math	3
FITT	170	Physical Fitness I	1
FITT	171	Physical Fitness II	1
CMPR	170	Basic Commercial Printing Skills Improvement	3
ELTR	170	Electrical Wiring Circuitry	2
ELTR	171L	Conduit Hand Bending Fundamentals	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
EPT	170	Introduction to OSHA Compliance	3
EPT	171	Introduction to Safety Management	3
EPT	172	Introduction to Soil Science	3
EPT	174	Basic Site Remediation Technology	3
EPT	175	Pest Management	3
EPT	176	Food Resources and the Environment	3
EPT	177	Business Aspects of Environmental Technology	3

EPT	178	Industrial Hygiene for Environmental Technicians	3
EPT	179	Sampling Design	3
EPT	270	Air Pollution Meteorology	3
EPT	271	Ambient Air Monitoring and the Clean Air Act	3
MATT	173	Machine Tool Technology Skills	3
MATT	174	Advanced Machine Tool Technology Skills	3
PLMB	170	Mechanical Trades Math	1
PLMB	171	Journeyman Preparation	3
PLMB	174L	Polyvinlediene Fluoride (PVDF) Welding Systems	4
SCSE	170L	Small Engine Skills Improvement I	3
SCSE	171L	Small Engine Skills Improvement II	3
SSKL	211	Employment Skills—General	1
SSKL	213	Employment Skills for High-Tech Industry	1
TRDR	171	Material Handling	2
VICA	174	Professional Development	1
VICA	175	Leadership	1
VICA	176	Career Planning	1
VICA	178	Civic Responsibility	1
WELD	170	Welding Skills	3
WELD	171	Advanced Welding Skills	3

* Students must supply personal safety equipment and hand tools.

BT 177L Metal Framing **3 credit hours**

(Prerequisite: CARP 103 or department approval) Commercial and residential construction design, Uniform Building Code requirements, job site and tool safety and erection of metal buildings are studied and applied. (15 theory + 75 lab hours a term)

BT 178 Remodeling **3 credit hours**

Students are introduced to hand and power tools and the safety measures associated with their use. OSHA regulations and job safety are emphasized. Basic structural, electrical, plumbing and other typical remodeling repair principles and techniques are provided. (15 theory + 75 lab hours a term)

BT 179 Advanced Remodeling **3 credit hours**

(Prerequisite: BT 178 or department approval) Instruction in job site safety, OSHA regulations, design and construction techniques for remodeling and additions to existing buildings is provided. (15 theory + 75 lab hours a term)

SCSE 170L Small Engine Skills Improvement I **3 credit hours**

Instruction in the diagnosis and repair of small four-stroke air-cooled engines, safety, engine identification, special tools, ignition, cooling, lubrication, engine rebuilding and fuel systems are studied. (15 theory + 75 lab hours a term)

SCSE 171L Small Engine Skills Improvement II **3 credit hours**
(Prerequisite: SCSE 170L or department approval) Instruction and safe practices in the diagnosis and repair of small two-stroke powered equipment, chain saw service and chain sharpening, blower and line trimmer service are presented. (15 theory + 75 lab hours a term)

SSKL 211 Employment Skills—General **1 credit hour**
Job portfolios that include cover letter, resumés and follow-up letters. Along with meeting employer expectations, interview techniques and communicating with business and industry are covered. Employability and job retention skills are stressed.

SSKL 213 Employment Skills for High-Tech Industry **1 credit hour**
Techniques for drafting computer-readable resumés and applications, composing letters and interview scripts which magnify technical skills and knowledge, and creating a portfolio, communication, job retention skills and interaction with modern industry are stressed.

VICA 174 Professional Development **1 credit hour**
Development of goals and commitments, personal awareness, time management, organization and communication are emphasized.

VICA 175 Leadership **1 credit hour**
Committee work including agenda setting, parliamentary procedures, team building; participation in community service projects and improvement of communication skills are reviewed.

VICA 176 Career Planning **1 credit hour**
Career information, report writing, conducting interviews, communication improvement and interaction with business and industry are included.

VICA 178 Civic Responsibility **1 credit hour**
Involvement in various community services as volunteers, and local government and community leaders' roles in the operation of the city are covered. Planning and carrying out a community project are included.

AIR CONDITIONING, HEATING AND REFRIGERATION

The Air Conditioning, Heating and Refrigeration certificate program prepares students for entry into the installation, maintenance and service field. With on-the-job experience and field training, the graduate of this program should be able to advance quickly.

Training includes safety, installing mechanical equipment, piping and electrical controls, servicing various air conditioning, heating and refrigeration components, troubleshooting systems and performing required preventive maintenance.

Most activities take place on campus, but some take place at off-campus building sites and are an integral part of the curriculum.

Students must be free of chronic respiratory diseases and allergies to sheet metal fluxes and metals and must have normal color differentiation.

There is an EPA required certification fee for all refrigeration and air conditioning technicians. The certification is required before graduates enter the work force.

A suggested schedule includes:

Term 1: ACHR 131, 132,133,134,135,136
Term 2: ACHR 151,152,153,154,155,156,SSKL 211 or SSKL 213
Term 3: ACHR 210,211,212,213,214,215

			Credit Hours
ACHR	131	Refrigeration Fundamentals	2
ACHR	132	Basic Electricity	2
ACHR	133	Refrigerant Management	2
ACHR	134	Motors and Controls	2
ACHR	135	Refrigeration Applications	2
ACHR	136	Control Circuit Application	2
ACHR	137	Code & Safety Requirements I	1
ACHR	151	Air Conditioning	2
ACHR	152	Air Conditioning Controls	2
ACHR	153	Gas Heating Systems	2
ACHR	154	Gas Heating Control Systems	2
ACHR	155	Commercial Refrigeration	2
ACHR	156	System Design	3
SSKL 211 or 213		Employment Skills	1
ACHR	210	Pumps and Valves	2
ACHR	211	Basic Hydronic Principles	2
ACHR	212	Hot Water and Steam Generation Systems	2
ACHR	213	Controls I	2
ACHR	214	Chilled Water Systems	2
ACHR	215	Controls II	2
ACHR	216	Code & Safety Requirements II	1
		Total	**40**

ACHR 131 Refrigeration Fundamentals **2 credit hours**
(Prerequisites: RDG 099 or equivalent, MATH 099 or equivalent or department approval) Fundamentals of refrigeration, including components, refrigerants and accessories and hands-on competencies, are included. (15 theory + 37.5 lab hours a term)

ACHR 132 Basic Electricity **2 credit hours**
(Prerequisites: RDG 099 or equivalent, MATH 099 or equivalent or department approval) Principles of electricity, measurements, safety, wiring procedures, schematics, components of basic circuits and principles and practices in electricity are presented. (15 theory + 37.5 lab hours a term)

ACHR 133 Refrigerant Management **2 credit hours**
(Prerequisites: RDG 099 or equivalent, MATH 099 or equivalent or department approval) Accepted practices and procedures of refrigerant handling, containment, safety, leak detection, evacuation, recovery and charging systems are included. Students take the EPA Universal CFC Certification exam. (15 theory + 37.5 lab hours a term)

ACHR 134 Motors and Controls **2 credit hours**
(Pre- or corequisite: ACHR 132 or department approval) Primary and control circuits in various applications, troubleshooting and components are covered. Attention to motors and their starting devices is emphasized. (15 theory + 37.5 lab hours a term)

ACHR 135 Refrigeration Application **2 credit hours**
(Pre- or corequisite: ACHR 131 or department approval) System design, accessories, performance characteristics and problem diagnosis are reinforced. (15 theory + 37.5 lab hours a term)

ACHR 136 Control Circuit Applications **2 credit hours**
(Pre- or corequisite: ACHR 134 or department approval) Electrical schematics, diagrams, troubleshooting of circuits and problem diagnosis are stressed. (15 theory + 37.5 lab hours a term)

ACHR 137 Code & Safety Requirements I **1 credit hour**
(Prerequisites: RDG 099 or equivalent or department approval) Code requirements and safety practices related to refrigeration are investigated. Code and safety searches are an integral part of this course.

ACHR 151 Air Conditioning **2 credit hours**
(Prerequisite: ACHR 135, ACHR 136 or department approval) Installation, service and maintenance of air conditioning and heat pump systems are covered. (15 theory + 37.5 lab hours a term)

ACHR 152 Air Conditioning Control **2 credit hours**
(Prerequisite: ACHR 135, ACHR 136 or department approval) Installation, service and maintenance of air conditioning and heat pump systems controls are covered. (15 theory + 37.5 lab hours a term)

ACHR 153 Gas Heating Systems 2 credit hours
(Prerequisite: ACHR 135, ACHR 136 or department approval) Installation, service and maintenance of forced fossil fuel furnaces are covered. (15 theory + 37.5 lab hours a term)

ACHR 154 Gas Heating Control Systems 2 credit hours
(Prerequisite: ACHR 135, ACHR 136 or department approval) Forced fossil fuel furnace controls installation and maintenance are emphasized. (15 theory + 37.5 lab hours a term)

ACHR 155 Commercial Refrigeration 2 credit hours
(Prerequisite: ACHR 135, ACHR 136 or department approval) Installation, service and maintenance of reach-in refrigeration systems are covered. (15 theory + 37.5 lab hours a term)

ACHR 156 System Design 3 credit hours
Air properties, air movement, heat load calculations and water as a secondary refrigerant are topics. (30 theory + 37.5 lab hours a term)

ACHR 210 Pumps and Valves 2 credit hours
(Prerequisites: ACHR 151, ACHR 152 and ACHR 154 or department approval) The types of valves and pumps used in hydronic systems, the sizing, selection and internal construction, disassembling, assembling and measurement of impellers are covered. (15 theory + 37.5 lab hours a term)

ACHR 211 Basic Hydronic Principles 2 credit hours
(Prerequisites: ACHR 151, ACHR 152 and ACHR 154 or department approval) Basic flow, nomenclature, physical principles of typical systems, piping layout and design are covered. Actual operating systems are investigated. (15 theory + 37.5 lab hours a term)

ACHR 212 Hot Water and Steam Generation Systems 2 credit hours
(Prerequisite: ACHR 210, ACHR 211 or department approval) Types, design, construction of typical systems, sizing and controls of units are included. (15 theory + 37.5 lab hours a term)

ACHR 213 Controls I 2 credit hours
(Prerequisite: ACHR 210, ACHR 211 or department approval) Pneumatic, electronic and electric control systems with computer interfacing are stressed. (15 theory + 37.5 lab hours a term)

ACHR 214 Chilled Water Systems 2 credit hours
(Prerequisite: ACHR 210, ACHR 211 or department approval) Commercial and industrial chilled water systems are emphasized. (15 theory + 37.5 lab hours a term)

ACHR 215 Controls II 2 credit hours
(Prerequisite: ACHR 213 or department approval) Advanced building controls using interfaced operating monitor equipment are covered. (15 theory + 37.5 lab hours a term)

ACHR 216 Code & Safety Requirements II **1 credit hour**

(Prerequisite: ACHR 137 or department approval) Code requirements and safety practices related to refrigeration are investigated. Code and safety searches are an integral part of this course.

AUTOMOTIVE TECHNOLOGY

The Automotive Technology certificate program is designed to prepare individuals to diagnose and repair problems on automobiles and light trucks. Safety procedures and work ethics along with the correct use and selection of hand tools and test equipment are stressed. The program is designed to qualify the successful student as an entry-level general automobile technician.

This program is certified by the National Automotive Technicians Education Foundation Inc. (NATEF) as a master certified program in all eight specialty areas: automatic transmission/transaxle, brakes, electrical system, engine performance, engine repair, heating and air conditioning, manual drive train and axles, and suspension and steering.

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.

A suggested schedule per term includes:

Term 1: AUTC 101, 101L, 102, 102L, 103, 103L, 106
Term 2: AUTC 111, 111L, 112, 112L, 113, 114, 114L, SSKL 211 or SSKL 213
Term 3: AUTC 201, 201L, 202, 202L, 203, 203L

			Credit Hours
AUTC	101	Braking Systems Theory	1
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	106	Automotive Electricity	4
AUTC	111	Engine Overhaul Theory	2
AUTC	111L	Engine Overhaul Lab	2
AUTC	112	Automatic Transmissions and Transaxles Theory	2
AUTC	112L	Automatic Transmissions and Transaxles Lab	2
AUTC	113	Transportation Electronics	3
AUTC	114	Heating and Air Conditioning Theory	1
AUTC	114L	Heating and Air Conditioning Lab	2
SSKL 211 or 213		Employment Skills	1
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	**43**

AUTC 101 Braking Systems Theory **1 credit hour**
(Prerequisites: RDG 099 or equivalent, MATH 099 or equivalent or department approval) Mechanical, hydraulic and electrical brake systems and equipment used in brake repair are introduced.

AUTC 101L Braking Systems Lab **2 credit hours**
(Prerequisites: RDG 099 or equivalent, MATH 099 or equivalent or department approval. Corequisite: AUTC 101 or department approval) Repair, replacement and adjustment of automotive brake systems and components are introduced. (90 lab hours a term)

AUTC 102 Suspension and Alignment Theory **2 credit hours**
(Prerequisites: RDG 099 or equivalent, MATH 099 or equivalent or department approval) Suspension systems and determination of repairs needed are emphasized. Two- and four-wheel alignment methods and procedures are included.

AUTC 102L Suspension and Alignment Lab **2 credit hours**
(Prerequisites: RDG 099 or equivalent, MATH 099 or equivalent or department approval. Corequisite: AUTC 102 or department approval) Skills for repairing suspension systems and performing two- and four-wheel alignments are the focus. (75 lab hours a term)

AUTC 103 Manual Transmissions and Axles Theory **2 credit hours**
(Prerequisites: RDG 099 or equivalent, MATH 099 or equivalent or department approval) Design and operation of front and rear drive manual transmissions, differentials and drive lines, maintenance, service procedures and troubleshooting methods are emphasized.

AUTC 103L Manual Transmissions and Axles Lab **2 credit hours**
(Prerequisites: RDG 099 or equivalent, MATH 099 or equivalent or department approval. Corequisite: AUTC 103 or department approval) Skills required to service, repair or overhaul automotive manual transmissions, clutches, drive lines and differentials on front and rear drive vehicles are developed. (75 lab hours a term)

AUTC 106 Automotive Electricity **4 credit hours**
(Prerequisites: RDG 099 or equivalent, MATH 099 or appropriate arithmetic Accuplacer score) Basic fundamentals of electricity and its application to the automobile are covered. Ohm's Law and circuit rules, meter use, starting and charging circuits, electrical schematics and diagnostic routines are reveiwed.

AUTC 111 Engine Overhaul Theory **2 credit hours**
(Prerequisites: RDG 099 or equivalent, MATH 099 or equivalent or department approval) Theory of engine systems and the use of measuring tools to determine necessary repairs and servicing, the operation of the internal combustion engine, and the basic principles of engine overhaul are studied.

AUTC 111L Engine Overhaul Lab **2 credit hours**
(Prerequisites: RDG 099 or equivalent, MATH 099 or equivalent or department approval. Corequisite: AUTC 111 or department approval) Topics include skills needed to perform normal engine maintenance, including fluid changes, adjustments and minor repairs and the correct use of precision measuring tools and the testing, removal, replacement and overhauling of engines. (90 lab hours a term)

AUTC 112 Automatic Transmissions and Transaxles Theory **2 credit hours**
(Prerequisites: RDG 099 or equivalent, MATH 099 or equivalent or department approval) The design and operating theory of automotive transmissions and transaxles. Servicing and troubleshooting procedures are emphasized.

AUTC 112L Automatic Transmissions and Transaxles Lab **2 credit hours**
(Prerequisites: RDG 099 or equivalent, MATH 099 or equivalent or department approval. Corequisite: AUTC 112 or department approval) Hands-on experience in servicing, overhaul and troubleshooting of automatic transmissions and transaxles is provided. (90 lab hours a term)

AUTC 113 Transportation Electronics **3 credit hours**
(Prerequisites: RDG 099 or equivalent, MATH 099 or equivalent or department approval, AUTC 106 or department approval) Testing and replacing malfunctioning electronic components and the theory of solid-state devices and basic principles of electronics are included. Bench top experiments are conducted using full wave rectifiers, voltage rectifiers, transistors and other electronic components.

AUTC 114 Heating and Air Conditioning Theory **1 credit hour**
Instruction in safety, environmental concerns, tools, equipment, operation of parts and servicing and repair of automotive air conditioning systems is presented.

AUTC 114L Heating and Air Conditioning Lab **2 credit hours**
(Prerequisites: RDG 099 or equivalent, MATH 099 or equivalent or department approval. Corequisite: AUTC 114 or department approval) This course is designed to teach safety, servicing and repair of automotive heating and air conditioning systems. (75 lab hours a term)

AUTC 170 Transportation Trades Machining **3 credit hours**
Basic machine shop repair practices as they relate to gasoline and diesel engine repairs, safety, hand tools, lathe, mill and drill press are included. (15 theory + 75 lab hours a term)

AUTC 172 Air Care Inspector 1 credit hour
Topics include the procedures for becoming a certified air care inspector for the City of Albuquerque's Vehicle Pollution Management program as well as city and federal regulations governing air pollution and emissions inspections. (7.5 theory + 37.5 lab hours a term)

AUTC 201 Automotive Ignition Systems Theory 2 credit hours
(Prerequisites: RDG 099 or equivalent, MATH 099 or equivalent or department approval, AUTC 113 or department approval) Design, operation and troubleshooting of standard, electronic and distributor-less ignition systems are the focus.

AUTC 201L Automotive Ignition Systems Lab 3 credit hours
(Prerequisites: RDG 099 or equivalent, MATH 099 or equivalent or department approval. Corequisite: AUTC 201 or department approval) Diagnostic equipment and troubleshooting techniques for various types of ignition systems are applied. (112.5 lab hours a term)

AUTC 202 Automotive Fuel Systems Theory 2 credit hours
(Prerequisites: RDG 099 or equivalent, MATH 099 or equivalent or department approval and AUTC 113 or department approval) Design, operation, diagnosis and repair of fuel systems are covered.

AUTC 202L Automotive Fuel Systems Lab 2 credit hours
(Prerequisites: RDG 099 or equivalent, MATH 099 or equivalent or department approval. Corequisite: AUTC 202 or department approval) Diagnosing, testing and repairing fuel systems are covered. (90 lab hours a term)

AUTC 203 Automotive Computer Systems Theory 2 credit hours
(Prerequisites: RDG 099 or equivalent, MATH 099 or equivalent or department approval, AUTC 113 or department approval) Design, operation and repair of various automotive computer systems are covered.

AUTC 203L Automotive Computer Systems Lab 2 credit hours
(Prerequisites: RDG 099 or equivalent, MATH 099 or equivalent or department approval. Corequisite: AUTC 203 or department approval) The focus is on troubleshooting, operation and repair of automotive computer systems are practiced. (75 lab hours a term)

AUTC 296 Special Topics 1–6 credit hours
(Prerequisite: department approval) Various problems and advanced automotive subjects are presented.

BAKING

This program prepares students for entry-level employment in restaurants, bake shops and institutional kitchens. Students learn safety and professional skills in a bake shop furnished with modern equipment.

Students must be free of chronic allergies. A physician's certificate must be presented to TVI before the start of lab classes stating that the student is free from tuberculosis in a transmissible form.

A suggested schedule per term includes:

Term 1: BKNG 101, 103L, 104L, 105L, 106L, SSKL 211 or SSKL 213, FSMG 101
Term 2: BKNG 111, 112L, 113L, 114L, 115L, FSMG 104L

			Credit Hours
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
FSMG	101	Operations Management	3
SSKL 211 or 213		Employment Skills	1
BKNG	111	Baking Theory II	2
BKNG	112L	Yeast Doughs	2
BKNG	113L	Advanced Cake Batters	2
BKNG	114L	Pastries and Cookies	2
BKNG	115L	Icings and Fillings	2
FSMG	104L	Computers in Food Service	3
		Total	**27**

BKNG 101 Baking Theory I **2 credit hours**

(Pre- or corequisites: RDG 099 or equivalent, MATH 099 or equivalent or department approval) Baking fundamentals through scratch production of breads, sweet yeast goods and assorted pastries are introduced. Ingredient function and storage and basic math principles are included.

BKNG 103L Breads **2 credit hours**

(Pre- or corequisite: FSMG 101; prerequisites: RDG 099 or equivalent, MATH 099 or equivalent or department approval) Fundamentals of mixing and processing ingredients in a variety of pan, Pullman and hearth breads, rolls and buns are covered. (75 lab hours a term)

BKNG 104L Sweet Yeast Goods **2 credit hours**

(Pre- or corequisite: FSMG 101; prerequisites: RDG 099 or equivalent, MATH 099 or equivalent or department approval) Retail production of donuts, sweet rolls, cinnamon rolls,

coffee cake and danish, as well as portion control, safety techniques and costing skills, are included. (75 lab hours a term)

BKNG 105L Cake Batters **2 credit hours**
(Pre- or corequisite: FSMG 101; prerequisites: RDG 099 or equivalent, MATH 099 or equivalent or department approval) The processing of ingredients in a variety of cake batters, icings and fillings is presented. Emphasis is on basic cake decorating skills, ingredient storage, proper formulation, and care and use of bakery equipment. (75 lab hours a term)

BKNG 106L Pies and Pastries **2 credit hours**
(Pre- or corequisite: FSMG 101; prerequisites: RDG 099 or equivalent, MATH 099 or equivalent or department approval) A variety of specialized pastries with emphasis on roll-in doughs and leavening agents are presented. Retail operations and merchandising are stressed. 75 lab hours a term)

BKNG 111 Baking Theory II **3 credit hours**
(Prerequisite: BKNG 101, 103L, 104L, 105L, 106L or department approval) The principles of Baking I with emphasis on baking chemistry and advanced production procedures are covered. International pastries and desserts with advanced decorating techniques are covered.

BKNG 112L Yeast Doughs **2 credit hours**
(Pre- or corequisite: BKNG 111 or department approval) Supervision, safety techniques and advanced production procedures of a variety of breads, sweet doughs and croissants are covered. (75 lab hours a term)

BKNG 113L Advanced Cake Batters **2 credit hours**
(Pre- or corequisite: BKNG 111 or department approval) Topics include advanced production procedures of a variety of international cakes and tortes with emphasis on baking chemistry and safety as well as production of tiered, special-occasion and scultpured cakes and decorations. (75 lab hours a term)

BKNG 114L Pastries and Cookies **2 credit hours**
(Pre- or corequisite: BKNG 111 or department approval) Advanced production techniques of international pastries, pies and petit fours are presented. The seven different methods of cookie production are emphasized. (75 lab hours a term)

BKNG 115L Icings and Fillings **2 credit hours**
(Pre- or corequisite: BKNG 111 or department approval) Advanced production techniques of international buttercreams, fondants, ganache and marzipan are presented. (75 lab hours a term)

BKNG 296 Special Topics **1–6 credit hours**
(Prerequisite: department approval) Food Service Management and Quantity Foods students pursue specialized needs. The class may be taken as independent or directed study.

CARPENTRY

The Carpentry certificate program provides students with entry-level job skills for the construction industry. Tool safety and job-site safety training in compliance with OSHA standards are stressed. Classes meet on- and off-campus in labs designed for residential and commercial construction.

Lab classes teach the fundamentals of site layout, foundations, framing, roof systems, exterior coverings, installation of doors and windows, interior finish, cabinet construction and installation, remodeling and tools. Theory classes present technical information, Uniform Building Code (UBC) regulations, blueprint reading and material analysis.

Students must be free of chronic respiratory disease and allergies or reactions to wood or wood products, construction adhesives, paints and solvents. Students must be able to lift 50 pounds. A valid driver's license and a good driving record are required by most employers. Students purchase all textbooks for this program.

A suggested schedule per term includes:

Term 1: CARP 101, 102, 102L, 103, 103L, 104, 104L, SSKL 211 or SSKL 213

Term 2: CARP 111, 112, 112L, 113, 113L, 114, 114L

			Credit Hours
CARP	101	Carpentry Blueprint Reading I	4
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
SSKL 211	or 213	Employment Skills	1
CARP	111	Carpentry Blueprint Reading II	4
CARP	112	Interior Finish Theory	1
CARP	112L	Interior Finish Lab	2
CARP	113	Cabinet-making and Millwork Theory	1
CARP	113L	Cabinet-making and Millwork Lab	2
CARP	114	Carpentry Remodel Theory	1
CARP	114L	Carpentry Remodel Lab	2
		Total	**27**

CARP 101 Carpentry Blueprint Reading I 4 credit hours

(Prerequisites: RDG 099 or equivalent, MATH 099 or equivalent or department approval)

Topics include lumber sizing, scaling, centering and triangle theory, interpretation of elevation drawings, floor plans, symbols, notations, dimensions and structural information.

CARP 102 Foundations Theory **1 credit hour**

(Prerequisites: RDG 099 or equivalent, MATH 099 or equivalent or department approval) This course provides instruction in the safety and use of hand and power tools, site layout and various methods of concrete foundation construction.

CARP 102L Foundations Lab **2 credit hours**

(Pre- or corequisite: CARP 101, 102 or department approval) This course provides hands-on training in the safety and use of hand and power tools. Site layout, footing, stemwall and concrete slab construction are covered. (75 lab hours a term)

CARP 103 Framing Theory **1 credit hour**

(Prerequisite: CARP 101, 102 or department approval) The layout of floor, wall, ceiling and roof structural members is covered, as well as blueprint reading and calculation of structural materials in accordance with the Uniform Building Code (UBC).

CARP 103L Framing Lab **2 credit hours**

(Pre- or corequisite: CARP 103 or department approval) Students cut and assemble the structural material to construct floor, wall, ceiling and roof systems in accordance with the UBC. Safety is stressed. (75 lab hours a term)

CARP 104 Exteriors Theory **1 credit hour**

(Pre- or corequisite: CARP 101, 102, 103 or department approval) This course provides instruction in the installation of exterior wall and roof finishes, windows and exterior doors in accordance with the UBC.

CARP 104L Exteriors Lab **2 credit hours**

(Pre- or corequisite: CARP 104 or department approval) This course provides experience in installing exterior wall and roof finishes, windows and exterior doors in accordance with the UBC. (75 lab hours a term)

CARP 111 Carpentry Blueprint Reading II **4 credit hours**

(Prerequisite: CARP 101, 102, 102L, 103, 103L, 104, 104L or department approval) Blueprint applications for residential homes, multiple family dwellings and commercial buildings are introduced, along with material estimating and volume measure.

CARP 112 Interior Finish Theory **1 credit hour**

(Pre- or corequisite: CARP 111 or department approval) The focus is on the UBC requirements for the installation of thermal insulation and drywall. Methods of painting, trimming and finishing interiors are covered.

CARP 112L Interior Finish Lab **2 credit hours**

(Pre- or corequisite: CARP 112 or department approval) Hands-on activities are provided in a safety-focused environment: insulation techniques, drywall installation, taping and texture of drywall, painting, trimwork and finishing of the interiors of residential and commercial buildings. (75 lab hours a term)

CARP 113 Cabinet-making and Millwork Theory **1 credit hour**
(Pre- or corequisite: CARP 111 or department approval) This course provides instruction in the design, layout and construction of wood cabinets.

CARP 113L Cabinet-making and Millwork Lab **2 credit hours**
(Pre- or corequisite: CARP 113 or department approval) Hands-on experiences are assigned in the safe use of equipment and power tools used in the construction and finish of wooden cabinets. (75 lab hours a term)

CARP 114 Carpentry Remodel Theory **1 credit hour**
(Pre- or corequisite: CARP 111 or department approval) Uniform Building Code requirements for remodeling an existing structure are covered.

CARP 114L Carpentry Remodel Lab **2 credit hours**
(Pre- or corequisite: CARP 114 or department approval) This course offers hands-on experiences in the safe use of power equipment and problem solving in remodeling. (75 lab hours a term)

CARP 170 Carpentry Fundamentals and Cabinet-making **3 credit hours**
Carpentry and cabinet-making field, job, shop and hand/power tool safety are introduced. Students are construct and finish a project. (15 theory + 75 lab hours a term)

CARP 171 Construction Trades Blueprints **3 credit hours**
Instruction is provided in reading and interpreting residential blueprints with emphasis on terminology, symbols, notations, scaling, dimensioning and drawing techniques. Construction methods, materials, calculations for material take-off and estimates are reviewed.

CARP 296 Special Topics **1–6 credit hours**
(Prerequisite: department approval) This course includes an in-depth study of methods and advanced techniques.

COMMERCIAL PRINTING

This certificate and associate degree program provides students with safety training and entry-level skills for jobs in the offset printing industry or in-plant print and duplication shops.

The commercial printing lab contains paste-up and stripping tables, process cameras, platemakers, offset duplicators, paper cutters, folders, 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.

A suggested schedule for the certificate includes:
Term 1: CMPR 102, 104L, 105L, 108L 109L, SSKL 211 or 213, VICA 174, 175, 176 or 178
Term 2: CMPR 114L, 117L, 205L, 206L, EPT 213, VICA 174, 175, 176 or 178

			Credit Hours
CMPR	102	Offset Theory I	2
CMPR	104L	Pre-press Lab	2
CMPR	105L	Press and Bindery Lab	2
CMPR	108L	Basic Press Work	2
CMPR	109L	Intermediate Press Work	2
SSKL 211 or 213		Employment Skills	1
*VICA 174, 175, 176 or 178 (two courses)			2
CMPR	114L	Estimating	2
CMPR	117L	Advanced Pre-press Lab	2
CMPR	205L	Advanced Press Work	2
CMPR	206L	Process Press Work	2
EPT	213	Occupational Safety	3
		Total required for certificate	**24**

*Must be taken during terms 1 and 2.

ADDITIONAL DEGREE REQUIREMENTS

Business Occupation Courses

MMS	255	Desktop Publishing	3
MMS	256	Advanced Page Layout	3
MMS	280	Postscript Illustration	3
MMS	281	Image Manipulation/Painting	3
MMS	282	Digital Pre-press	3
AA	101	Beginning Keyboarding	3
AA	102	Intermediate Keyboard Applications	3

Arts & Sciences Courses

ENG	101	College Writing	3
ENG	102	Analytic and Argumentative Writing	3
ENG	219	Technical Writing	3
COMM	130 or higher		3
Humanities/Social and Behavioral Science Elective			3
MATH	119 or higher		3

Trades & Service Occupations Courses

CM	132	Construction Graphics	3
		Total required for degree	**66**

BA 150 Introduction to Computer Processing

4 credit hours

(Prerequisite: 25 words per minute typing skill) Students gain skills in using automated information systems, computer hardware, data entry and business software applications. Hands-on experience with microcomputers is provided. Course fee: $15

CP 176L Introduction to Technology Computer Applications

4 credit hours

(Recommended prerequisite: typing proficiency) Introductory computer hardware and software topics are covered with a mix of lecture and hands-on instruction. Students are introduced to operating systems (MS-DOS, Windows), software applications (word processing, spreadsheets) and database concepts with an emphasis on technology applications. Course fee: $15

TVI
COMMUNITY
COLLEGE

ADDENDUM

Two introductory computer classes for occupational students—BA 150, Introduction to Computer Processing, and CP 176L, Introduction to Technology Computer Applications—are being offered in 1997–98 but are not in this Catalog.

The Arts & Sciences course CSCI 101 is listed as a requirement in some certificate and associate degree programs in all departments. BA 150 and CP 176L also may be used to meet the requirement in occupational programs.

BA 150, CP 176L and CSCI 101 are four credit hours each. All three courses meet TVI's graduation requirement for computer literacy.

For course descriptions for BA 150 and CP176L, lift up this sheet.

CMPR 102 Offset Theory I **2 credit hours**

(Prerequisites: RDG 099 or equivalent, MATH 099 or equivalent or department approval) This course covers the entire process of offset lithography including basic composition, layout and paste-up techniques, film processing on the process camera, film assembly, platemaking, press and bindery.

CMPR 104L Pre-press Lab **2 credit hours**

(Prerequisites: RDG 099 or equivalent, MATH 099 or equivalent or department approval) The printing process, including paste-up techniques, process camera, film assembly and platemaking, are covered, along with shooting halftones and lineshots and stripping for color jobs. Personal safety is stressed. (75 lab hours a term)

CMPR 105L Press and Bindery Lab **2 credit hours**

(Prerequisites: RDG 099 or equivalent, MATH 099 or equivalent or department approval) Procedures for set-up, operation, clean-up and maintenance of offset lithography presses are presented. Initial training is offered in custom ink mixing and basic bindery and finishing, including the operation of the folder and the power cutter. Safety is stressed. (75 lab hours a term)

CMPR 108L Basic Press Work **2 credit hours**

(Prerequisites: RDG 099 or equivalent, MATH 099 or equivalent or department approval) Press adjustments, roller pressure adjustments, cylinder pressure (plate to blanket) and packing cylinders and changing blankets are essentials of the lab experience. Mechanical types and weights of paper stock that affect offset running ability are also covered. (75 lab hours a term)

CMPR 109L Intermediate Press Work **2 credit hours**

(Prerequisites: RDG 099 or equivalent, MATH 099 or equivalent or department approval) This course simulates working conditions. Time is spent to improve competencies and increase skill level and speed. A final project is taken from design to bindery. (75 lab hours a term)

CMPR 114L Estimating **2 credit hours**

(Prerequisites: CMPR 102, 104L, 105L, 108L and 109L or department approval) The basics of handling customer jobs, estimating cost and labor for a variety of printing jobs are covered. Making up work orders and charging jobs in a simulated business environment using both catalog and computer methods are presented. (75 lab hours a term)

CMPR 117L Advanced Pre-press Lab **2 credit hours**

(Prerequisites: CMPR 102, 104L, 105L, 108L and 109L or department approval) Topics include hairline, multiple burn stripping using chokes and spreads, creating camera-ready art, flowing graphics from an existing file into a publication and printing finished document. Basic entry-level electronic pre-press techniques are stressed. (75 lab hours a term)

CMPR 170 Commercial Printing Skills Improvement: Basic 3 credit hours
Individuals with industry experience who need to update their knowledge may review the entire range of offset experience with emphasis on improving quality. (15 theory + 75 lab hours a term)

CMPR 205L Advanced Press Work 2 credit hours
(Prerequisites: CMPR 102, 104L, 105L, 108L and 109L or department approval) This course offers advanced training in press work with emphasis on efficiency and quality, including reducing make-ready and wash-up time. (75 lab hours a term)

CMPR 206L Process Press Work 2 credit hours
(Prerequisites: CMPR 102, 104L, 105L, 108L and 109L or department approval) Producing process color on the press, including control densities and fit, is the focus. (75 lab hours a term)

CMPR 296 Special Topics 1–6 credit hours
(Prerequisite: department approval) Various problems and the advanced techniques of commercial printing are presented.

CONSTRUCTION TECHNOLOGY

The Construction Technology associate of applied science degree has concentrations in construction management, general construction and electrical. Required courses are designed to develop professionalism, leadership and technical skills necessary for students to gain employment in the construction industry or a related field.

The program provides instruction in safety, graphics, materials, computer estimating, statistics, management, equipment, blueprint reading, drafting, business law, accounting, economics, communications, math and technical skills related to the residential and commercial construction industry.

CONSTRUCTION MANAGEMENT CONCENTRATION

REQUIRED TRADES & SERVICE OCCUPATIONS COURSES

			Credit Hours
CM	130	Construction Detailing	3
CM	132	Construction Graphics	3
CM	171	Construction Materials and Techniques	3
CM	175	Contractor Preparation	3
CM	201	Commercial Construction Theory	2
CM	201L	Commercial Construction Lab	
	or		3
CM	299	Cooperative Education	

CM	256	Statics	3
CM	257	Computer Estimating	3
CM	258	Construction Management	2
CM	260	Construction Job Costing	3
CM	261L	Construction Surveying	3
CM	263	Construction Equipment and Methods	3
CM	278	Mechanical and Electrical Blueprint Reading	2
EPT	213	Occupational Safety	3
SSKL	211 or 213	Employment Skills	1

REQUIRED BUSINESS OCCUPATIONS COURSE

BA	211	Business Law	3

REQUIRED ARTS & SCIENCES COURSES

CSCI	101 or higher		3–4
COMM	130 or higher		3
ENG	101	College Writing	3
ENG	102 or higher		3
Humanities/Social and Behavioral Science Elective			3
MATH	120	Intermediate Algebra	4
MATH	121	College Algebra	3
PHYS	102 or higher		3
		Total	**68–69**

GENERAL CONSTRUCTION CONCENTRATION

REQUIRED TRADES & SERVICE OCCUPATIONS COURSES

CARP	101	Carpentry Blueprint Reading I	4
CARP	102	Foundations Theory	1
CARP	102L	Foundations Lab	2
CARP	103	Framing Theory	1
CARP	103L	Framing Lab	2
CARP	104	Exteriors Theory	1
CARP	104L	Exteriors Lab	2
CARP	111	Carpentry Blueprint Reading II	4
CARP	112	Interior Finish Theory	1
CARP	112L	Interior Finish Lab	2
CARP	113	Cabinet-making and Millwork Theory	1
CARP	113L	Cabinet-making and Millwork Lab	2
CARP	114	Carpentry Remodel Theory	1
CARP	114L	Carpentry Remodel Lab	2
CM	132	Construction Graphics	3

CM	171	Construction Materials and Techniques	3
CM	175	General Contractor Preparation	3
CM	201	Commercial Construction Theory	2
CM	201L	Commercial Construction Lab	3
CM	257	Computer Estimating	3
CM	260	Construction Job Costing	3
CM	263	Construction Equipments and Methods	3
CM	278	Mechanical and Electrical Blueprint Reading	2
EPT	213	Occupational Safety	3
SSKL	211 or 213	Employment Skills	1

REQUIRED ARTS & SCIENCES COURSES

CSCI	101 or higher		3–4
COMM	130 or higher		3
ENG	101	College Writing	3
ENG	102 or higher		3
Humanities/Social and Behavioral Science Elective			3
MATH	120 or higher		3–4
PHYS	102 or higher		3
		Total	**76–78**

ELECTRICAL CONCENTRATION

REQUIRED TRADES & SERVICE OCCUPATIONS COURSES

ELTR	101	Electrical Theory I	4
ELTR	102	Electrical Math I	3
ELTR	103L	Electrical DC/AC Lab	3
ELTR	104L	AC Circuitry, Motors, Generators	3
ELTR	112	Residential Blueprint Reading I	3
ELTR	113	Electrical Theory II	4
ELTR	114L	Residential Wiring Lab	3
ELTR	115L	Residential Services	3
ELTR	201	Electrical Theory III	4
ELTR	203	Electrical Motor Control Theory	3
ELTR	204L	Industrial Motor Control Lab	3
ELTR	205L	Industrial Power Distribution	3
ELTR	211	Industrial Electrical Circuitry and Safety	3
ELTR	212	Programmable Logic Controller Theory	4
ELTR	213L	PLC Installation and Operation	3
ELTR	214L	PLC Systems Operation and Troubleshooting	3
SSKL	211 or 213	Employment Skills	1

REQUIRED ARTS & SCIENCES COURSES

CSCI	101 or higher	3–4
COMM	130 or higher	3
ENG	101 College Writing	3
ENG	102 or 119	3
Humanities/Social and Behavioral Science Elective		3
MATH	120 or higher	3–4
PHYS	102 or higher	3
	Total	**74–76**

CM 130 Construction Detailing **3 credit hours**
Basics of construction detailing and working drawing sets. (30 theory + 37.5 lab hours a term)

CM 132 Construction Graphics **3 credit hours**
(Prerequisite: CM 130 or department approval) Principles and techniques of graphics used in the construction industry, with topics including geometry, multi-view projects and visualization with applications in structural and presentation problems. (15 theory + 75 lab hours a term)

CM 171 Construction Materials and Techniques **3 credit hours**
Plan reading, elementary construction techniques, materials and construction documents; primary emphasis is on Uniform Building Code plan check.

CM 175 General Contractor Preparation **3 credit hours**
Licensing requirements, rules and regulations, business law, the UBC, construction methods and contract management are covered.

CM 201 Commercial Construction Theory **2 credit hours**
An introduction to commercial drawing sets, including UBC, code compliance and cost per square foot. Commercial and residential buildings are contrasted.

CM 201L Commercial Construction Lab **3 credit hours**
(Corequisite: CM 201 or department approval) Costs, specifications, codes and personal safety.

CM 256 Statics **3 credit hours**
(Prerequisite: MATH 120 or department approval) Through the use of graphic and algebraic formulas, static forces, equilibrium, moments, stress and stain are introduced. Beams and columns in wood, steel and concrete are covered in reference to the UBC and institutional manuals.

CM 257 Computer Estimating 3 credit hours
(Prerequisite: CM 201, 201L or department approval) Using software, students complete cost estimates on buildings based on Construction Specifications Institute formatted budgets and take-off techniques. (15 theory + 75 lab hours per term)

CM 258 Construction Management 2 credit hours
(Prerequisite: CM 257 or department approval) State-of-the-art scheduling techniques are surveyed, including computer-assisted packages. Students break down a job into its basic tasks and reassemble it in a framework that controls time, work, materials and related activities.

CM 260 Construction Job Costing 3 credit hours
(Prerequisite: CM 257 or department approval) The process of setting up an accounting system for construction firms is reviewed. Bookkeeping organization to track cash flow and manage finances is covered.

CM 261L Construction Surveying 3 credit hours
(Pre-or corequisite: permission of program advisor) An introduction to the basic techniques and equipment used in surveying, including tape, level and theodolite; leveling, distance and angle measurement; traversing; and note-keeping. (15 theory + 75 lab hours a term)

CM 263 Construction Equipment and Methods 3 credit hours
(Prerequisite: CM 258 or department approval) Large equipment used to move, lift and assemble components of commercial buildings is presented. Earth work, concrete forms and construction are covered, along with steel, wood and masonry methods, productivity, licenses and contract options.

CM 278 Mechanical and Electrical Blueprint Reading 2 credit hours
Materials and equipment used in the electrical and mechanical systems of commercial buildings, and associated codes and costs, are introduced.

CM 296 Special Topics 1–6 credit hours
(Prerequisite: department approval) In-depth study of topics related to construction management.

CM 299 Cooperative Education 3 credit hours
(Prerequisite: SSKL 211 or SSKL 213) The student is employed at an approved course-related work site and applies learned theory based on goals and objectives.

CRIMINAL JUSTICE

This associate degree program provides comprehensive instruction in criminal justice for students who plan careers in criminal justice agencies (such as law enforcement, courts and corrections) or in the private sector (security, investigations). Students who have already received a certificate from an approved New Mexico criminal justice academy may be granted credit if their academy experience coincides with a model academy curriculum and they have successfully passed a final examination with a grade of 85 percent or better.

Some employers may require a high school diploma, two years of college, an associate or bachelor's degree or in some instances a law degree.

REQUIRED CORE COURSES

			Credit Hours
CJ	101	Criminal Law	3
CJ	102	Juvenile Law and Procedure	3
CJ	103	Probation and Parole	
	or		3
CJ	104	Patrol Procedures*	
CJ	107	Criminal Procedure	3
CJ	108	Community-Oriented Policing	3
*CJ	111	Traffic Investigation and Enforcement	
	or		3
CJ	116	Correctional Services	
CJ	112	Criminal Investigation	3
CJ	113	Organized and White Collar Crime	
	or		3
CJ	109	Introduction to Security Services	
CJ	118	Report Writing	3
CJ	117	Public Policies and Strategies	3
FITT	170	Physical Fitness I	1
SSKL	211 or 213	Employment Skills	1

*CJ 299 may be substituted for CJ 111.

REQUIRED ARTS & SCIENCES COURSES

CSCI	101 or higher		3–4
ENG	101	College Writing	3
COMM	221	Interpersonal Communication Studies	3
ENG	119	Technical Communications	3
MATH	120	Intermediate Algebra	4
PSY	105	Introduction to Psychology	3
SOC	101	Introduction to Sociology	3
SOC	111	Criminal Justice System	3
SOC	211	Social Problems	3

SOC	212	Juvenile Delinquency	3
SOC	214	Sociology of Corrections	
	or		3
PSY	271	Social Psychology	
SOC	215	Criminology	3
SOC	216	Ethnic and Minority Groups	3
		Total	**72–73**

CJ 101 Criminal Law **3 credit hours**
(Prerequisites: RDG 099 or equivalent, MATH 099 or equivalent or department approval)
Studies include the historical development, purposes and goals of common and statutory criminal laws which control actions in the criminal justice system.

CJ 102 Juvenile Law and Procedure **3 credit hours**
(Prerequisites: RDG 099 or equivalent, MATH 099 or equivalent or department approval)
The juvenile court and justice system including the Children's Code and the Rules of Procedure are covered.

CJ 103 Probation and Parole **3 credit hours**
(Prerequisites: RDG 099 or equivalent, MATH 099 or equivalent or department approval)
The history, philosophy and legal basis governing investigation and supervision of juvenile offenders and adult violators placed on probation and parole are presented.

CJ 104 Patrol Procedures **3 credit hours**
(Prerequisites: RDG 099 or equivalent, MATH 099 or equivalent or department approval)
Basic patrol function and the problems faced by law enforcement officers are introduced.

CJ 107 Criminal Procedure **3 credit hours**
(Prerequisites: RDG 099 or equivalent, MATH 099 or equivalent or department approval)
This course examines the method of enforcing the substantive criminal law. It includes the process of applying the established law, constitutional law, rules of evidence, case law and an understanding of the logic used by the courts.

CJ 108 Community-Oriented Policing **3 credit hours**
(Prerequisites: RDG 099 or equivalent, MATH 099 or equivalent or department approval)
This course examines the history of policing, problems with some of the earlier methods, a re-thinking of the basic role of police and using police for problem solving, improving relations with the public and crime prevention with the public.

CJ 109 Introduction to Security Services **3 credit hours**
Topics include history and development of security services, relationships to the legal process, career roles and operational processes in security operations. The course also helps homeowners make living quarters more secure and covers personal defense, report writing, emergency procedures and defensive driving.

CJ 111 Traffic Investigation and Enforcement 3 credit hours
(Prerequisite: CJ 101, 104, 118 or department approval) Included in this course is the study of traffic law enforcement and basic wreck checking. The course progresses to the complete investigation of major accidents.

CJ 112 Criminal Investigation 3 credit hours
(Prerequisite: CJ 101, 107, 118 or department approval) Basic criminal investigation is studied from the preliminary investigation to final preparation and presentation in court.

CJ 113 Organized and White Collar Crime 3 credit hours
(Prerequisites: CJ 101 and 107 or department approval) Illegal activities of people and institutions whose purpose is profit through legitimate gain through illegal enterprise are studied in this course.

CJ 116 Correctional Services 3 credit hours
(Prerequisite: CJ 101 or department approval) The duties and authorities of correctional officers, admission procedures, cell searches, lockdown, penal terminology, key control measures and operations are covered, as well as court decisions dealing with corrections.

CJ 117 Public Policies and Strategies 3 credit hours
(Prerequisite: CJ 108 or department approval) Issues and strategies involved in implementing community-oriented policing are examined, including problems in standard operating procedures, police discretion, cadet training, in-service training, community input strategies, civilian review boards and problem solving.

CJ 118 Report Writing 3 credit hours
(Prerequisites: RDG 099 or equivalent, MATH 099 or equivalent or department approval) Police reports, including writing and use of forms, are covered.

CJ 296 Special Topics 1–6 credit hours
(Prerequisite: department approval) The in-depth study of problems and the advanced techniques that criminal justice experts use in responding to them are included.

CJ 299 Cooperative Education 3 credit hours
(Prerequisite: SSKL 211 or 213) The student is employed at an approved course-related work site and applies learned theory based on goals and objectives.

CULINARY ARTS

Food service is an excellent field for students seeking a challenging career in a rapidly growing industry. The Culinary Arts associate degree program provides comprehensive training in safety, sanitation, quantity food preparation, food service nutrition, equipment use, human relations, supervisory skills and business practices. This program is nationally accredited by the American Culinary Federation Educational Institute's Accrediting Commission.

Students must be free of chronic allergies. Each student must present a physician's certificate to TVI before the start of classes stating that the student is free from tuberculosis in a transmissible form.

			Credit Hours
QUFD	101	Quantity Food Theory I	2
QUFD	103L	Buffet Procedures	2
QUFD	105L	Breakfast/Lunch	2
QUFD	107L	Cold Food Preparation	2
QUFD	108L	Quantity Food Production	2
QUFD	111	Quantity Food Theory II	2
QUFD	112L	Dining Room Skills	2
QUFD	113L	Cold Food Preparation II	2
QUFD	114L	Stocks and Sauces—Sous Chef	2
QUFD	115L	Entree (Meat and 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	2
BKNG	112L	Yeast Doughs	2
BKNG	113L	Advanced Cake Batters	2
BKNG	114L	Pastries and Cookies	2
BKNG	115L	Icings and Fillings	2
FSMG	101	Operations Management	3
FSMG	102	Human Resource Management	3
FSMG	103	Product Management	3
SSKL	211 or 213	Employment Skills	1

REQUIRED ARTS & SCIENCES COURSES

CSCI	101 or higher		3–4
COMM	130 or higher		3
ENG	101	College Writing	3
ENG	102 or higher		3

Humanities/Social and Behavioral Science Elective			3
MATH	120 or higher		3–4
NUTR	120	Personal and Practical Nutrition	3
		Total	**71–73**

Course descriptions are found under Baking, Food Service Management and Quantity Foods.

DIESEL EQUIPMENT TECHNOLOGY

This certificate program prepares students to work on a variety of diesel-powered equipment used in the trucking, heavy equipment and extraction industries.

The program meets in labs where students are introduced to safety and a variety of diesel engines, electrical and hydraulic test equipment, air conditioning equipment, drive train components, fuel injection test and calibration devices and related equipment.

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.

A suggested schedule per term includes:

Term 1: DETC 101, 103L, 104L, 105L, SSKL 211 or SSKL 213
Term 2: AUTC 113, DETC 111, 111L, 112L, 113L
Term 3: DETC 201, 201L, 202, 202L, 203, 203L, EPT 213

			Credit Hours
DETC	101	Diesel Drive Train Theory	4
DETC	103L	Manual Shift Transmissions Lab	2
DETC	104L	Drive Axles, Brakes and Automatic Transmissions Lab	3
DETC	105L	Hydraulic Systems	2
SSKL 211 or 213		Employment Skills	1
#AUTC	113	Transportation Electronics	3
DETC	111	Diesel Engine Theory	2
DETC	111L	Diesel Engine Overhaul	3
DETC	112L	Precision Measurement and Component Repair Lab	2
DETC	113L	Engine Tune-up and Testing Lab	2
DETC	201	Diesel Electrical Theory	2
DETC	201L	Diesel Electrical Lab	3
DETC	202	Diesel Fuel Injection Theory	1
DETC	202L	Diesel Fuel Injection Lab	2
DETC	203	Transport Refrigeration/Air Conditioning Theory	1
DETC	203L	Transport Refrigeration/Air Conditioning Lab	2
EPT	213	Occupational Safety	3
		Total	**38**

#Automotive Technology course

DETC 101 Diesel Drive Train Theory **4 credit hours**

(Prerequisites: RDG 099 or equivalent, MATH 099 or equivalent or department approval)
Emphasis is on safety, disassembly, evaluation, reassembly, adjustment, troubleshooting and testing of drive train components. Lessons are presented on air brake troubleshooting and repair, final drive units, hydraulic system components and circuits.

DETC 103L Manual Shift Transmissions Lab **2 credit hours**

(Prerequisites: RDG 099 or equivalent, MATH 099 or equivalent or department approval)
Shop safety, disassembly, evaluation, assembly and adjustment of manual shift transmissions used in trucks are included in this course. Also covered are single and twin countershaft transmissions, auxiliary transmissions and transfer gear cases. (75 lab hours a term)

DETC 104L Drive Axles, Brakes and Automatic Transmissions Lab **3 credit hours**

(Prerequisites: RDG 099 or equivalent, MATH 099 or equivalent or department approval)
Shop safety and disassembly, evaluation, assembly and adjustment of automatic transmissions, drive axles, clutches and other drive train components are presented. Air and hydraulic brake system components are disassembled, evaluated and reassembled. (112.5 lab hours a term)

DETC 105L Hydraulic Systems **2 credit hours**

(Prerequisites: RDG 099 or equivalent, MATH 099 or equivalent or department approval)
Shop safety, disassembly, evaluation and assembly of hydraulic pumps, valves, actuators and hydraulic circuits used in the heavy-equipment industry are presented. Hydrostatic transmissions and in-line circuit testers are covered. (75 lab hours a term)

DETC 111 Diesel Engine Theory **2 credit hours**

(Prerequisites: RDG 099 or equivalent, MATH 099 or equivalent or department approval)
Emphasis is placed on two- and four-stroke cycle diesel engine operating principles. Operation, troubleshooting and repair procedures are covered for blocks, crankshafts, camshafts, rods, bearings, pistons, cylinder heads, lubrication systems, cooling systems, fuel systems, air induction and exhaust systems. Job seeking and retention skills are stressed.

DETC 111L Diesel Engine Overhaul **3 credit hours**

(Prerequisites: RDG 099 or equivalent, MATH 099 or equivalent or department approval)
Engine disassembly, evaluation and reassembly techniques are covered in this course. Engines are assembled to manufacturer's recommended specifications then operated and adjusted on a test stand. (112.5 lab hours a term)

DETC 112L Precision Measurement and Component Repair Lab **2 credit hours**

(Prerequisites: RDG 099 or equivalent, MATH 099 or equivalent or department approval)
The uses of micrometers and dial indicators are presented. Measurements are done on engines then compared to manufacturer's specifications. Component repair involves disas-

sembly, evaluation and reassembly of units such as blowers, turbochargers, oil pumps, water pumps and fuel transfer pumps. (75 lab hours a term)

DETC 113L Engine Tune-Up and Testing Lab **2 credit hours**
(Prerequisites: RDG 099 or equivalent, MATH 099 or equivalent or department approval)
Engine adjustments and tune-ups are performed on major brands of engines. Troubleshooting skills are practiced on engines in operating condition. (75 lab hours a term)

DETC 201 Diesel Electrical Theory **2 credit hours**
(Prerequisites: RDG 099 or equivalent, MATH 099 or equivalent or department approval)
Students study shop safety and diagnosis and troubleshooting procedures of electrical systems and diesel components.

DETC 201L Diesel Electrical Lab **3 credit hours**
(Prerequisites: RDG 099 or equivalent, MATH 099 or equivalent or department approval)
Students practice shop safety and diagnostic and troubleshooting procedures of electrical components and diesel systems. (75 lab hours a term)

DETC 202 Diesel Fuel Injection Theory **1 credit hour**
(Prerequisites: RDG 099 or equivalent, MATH 099 or equivalent or department approval)
Safety, diagnosis, troubleshooting and repair of fuel injection systems and diesel components are reviewed.

DETC 202L Diesel Fuel Injection Lab **2 credit hours**
(Prerequisites: RDG 099 or equivalent, MATH 099 or equivalent or department approval)
Safety and diagnosis, troubleshooting and repair procedures on fuel injection systems and diesel components are practiced. (75 lab hours a term)

DETC 203 Transport Refrigeration/Air Conditioning Theory **1 credit hour**
(Prerequisites: RDG 099 or equivalent, MATH 099 or equivalent or department approval)
Shop safety and diagnostic, troubleshooting and repair procedures of transport refrigeration and air conditioning systems are studied.

DETC 203L Transport Refrigeration/Air Conditioning Lab **2 credit hours**
(Prerequisites: RDG 099 or equivalent, MATH 099 or equivalent or department approval)
Students practice shop safety while learning diagnostic, troubleshooting and repair procedures on transport refrigeration and air conditioning systems. (75 lab hours a term)

DETC 296 Special Topics **1–6 credit hours**
(Prerequisite: department approval) This course includes an in-depth study of problems and the advanced techniques diesel technicians use in responding to them.

ELECTRICAL TRADES

The Electrical Trades certificate program provides the student with job-site safety training, OSHA compliance and entry-level skills for employment in electrical construction, maintenance or related fields.

Lab instruction is conducted on- and off-campus, enabling students to gain on-the-job experience in electrical installation. Electrical safety, circuitry, residential electrical materials, residential wiring, residential services, commercial/industrial materials, industrial power distribution, motor control and PLC (programmable logic controller) installation, operation and troubleshooting are covered in the lab activities. Theory instruction includes NEC (National Electrical Code) compliance, technical information, math, residential and commercial blueprint reading, and material analysis.

Students must have normal color differentiation, be free from chronic respiratory diseases and allergies and be able to lift 50 pounds. A valid drivers's license and a good driving record are required by most employers.

A suggested schedule per term includes;

Term 1: BA 111, 131, ELTR 101, 102, 103L, 104L
Term 2: ELTR 111, 112, 113, 114L, 115L, EPT 213
Term 3: ELT 201, 202, 203, 204L, 205L, SSKL 211 or SSKL 213
Term 4: ELTR 211, 212, 213L, 214L

			Credit Hours
#BA	131	Human Relations (7.5 weeks)	2
	or		
*PSY	105	Introduction to Psychology	
	or		3
*SOC	101	Introduction to Sociology	
#BA	111	Communications (7.5 weeks)	2
	or		
*ENG	101	College Writing	3
ELTR	101	Electrical Theory I	4
ELTR	102	Electrical Math I	3
ELTR	103L	Electrical DC/AC Lab	3
ELTR	104L	AC Circuitry, Motors, Generators	3
ELTR	112	Residential Blueprint Reading I	3
ELTR	113	Electrical Theory II	4
ELTR	114L	Residential Wiring Lab	3
ELTR	115L	Residential Services	3
EPT	213	Occupational Safety	3
ELTR	201	Electrical Theory III	4
ELTR	203	Electrical Motor Control Theory	3
ELTR	204L	Industrial Motor Control Lab	3
ELTR	205L	Industrial Power Distribution	3
SSKL 211 or 213		Employment Skills	1

ELTR	211	Industrial Electrical Circuitry and Safety	3
ELTR	212	Programmable Logic Controller Theory	4
ELTR	213L	PLC Installation and Operation	3
ELTR	214L	PLC Systems Operation and Troubleshooting	3
		Total	**60–62**

#Business Occupations course
*Arts & Sciences course

ELTR 101 Electrical Theory I **4 credit hours**
(Prerequisites: RDG 099 or equivalent, MATH 099 or equivalent or department approval; pre- or corequisite: ELTR 102) This 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 credit hours**
(Prerequisites: RDG 099 or equivalent, MATH 099 or equivalent or department approval) Topics include basic arithmetic functions, electrical formulas, 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 credit hours**
(Pre- or corequisite: ELTR 101, 102 or department approval) Emphasis is placed on safety. Topics include electrical circuitry, meters, power sources, conductors, insulators, reactive circuits and application of the National Electrical Code. (112.5 lab hours a term)

ELTR 104L AC Circuitry, Motors, Generators **3 credit hours**
(Pre- or corequisite: ELTR 101, 102 or department approval) 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. Safety is stressed. (112.5 lab hours a term)

ELTR 112 Residential Blueprint Reading I **3 credit hours**
(Pre- or corequisite: ELTR 101 or department approval) Instruction is provided in reading and interpreting blueprints and specifications. Emphasis is on terminology, symbols, notations, scaling, dimensioning and basic blueprint drawing techniques.

ELTR 113 Electrical Theory II **4 credit hours**
(Pre- or corequisite: ELTR 112 or department approval) This course covers the application of the National Electrical Code, local codes and regulations for installation of branch circuits, services, feeders, temporary services and associated materials and equipment for residential and light commercial applications.

ELTR 114L Residential Wiring Lab **3 credit hours**
(Pre- or corequisite: ELTR 112, 113 or department approval) This course covers safety, tools, materials, single pole switches, receptacles, overcurrent protection, three- and four-way switches, pilot switches, door chimes, dryer and range receptacles and swamp coolers, as well as NEC requirements for residential and light commercial applications. (112.5 lab hours a term)

ELTR 115L Residential Services **3 credit hours**
(Pre- or corequisite: ELTR 112, 113 or department approval) This course allows students to study and build residential services, install circuit panels, cut and thread rigid conduit, hand bend and install EMT conduit in adherence to the National Electrical Code. (112.5 lab hours a term)

ELTR 170 Electrical Wiring Circuitry **2 credit hours**
This course provides instruction in the interpretation, design and wiring of common switch, receptacle and related circuitry in accordance with the NEC and state and local codes.

ELTR 171L Conduit Hand Bending Fundamentals **1 credit hour**
This theory/lab course provides instruction in the computation and placement of conduit hand benders to bend and install conduit systems in accordance with the NEC and state and local codes. (7.5 theory + 37.5 lab hours a term)

ELTR 173 Industrial Motor Control Circuitry **2 credit hours**
The design, interpretation, drawing and installation of electromechanical relay type motor controls in accordance with the National Electrical Code are presented.

ELTR 174L Industrial PC Motor Control **3 credit hours**
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 are reviewed and applied. (1 theory + 5 lab hours a week)

ELTR 175 Fiber Optical Cable Installation **2 credit hours**
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 credit hours**
The use and application of the National Electrical Code and the duties encountered by journeymen on typical job sites are reviewed in preparation for the New Mexico journeyman's electrical exam.

ELTR 201 Electrical Theory III **4 credit hours**
(Prerequisite: ELTR 111, 112, 113, 114L or 115L or department approval) This course introduces students to the commercial/industrial aspects of electrical safety, tools, materials, power distribution systems, services, hazardous locations, intrusion/fire alarm systems in accordance with the National Electrical Code and blueprint reading.

ELTR 203 Electrical Motor Control Theory 3 credit hours
(Prerequisite: ELTR 112 or department approval; pre- or corequisite: ELTR 201) This course introduces students to the symbology and method of interpreting and drawing electromechanical motor control circuitry. NEMA standards are studied in detail.

ELTR 204L Industrial Motor Control Lab 3 credit hours
(Pre- or corequisite: ELTR 203, 205L or department approval) Topics include safety, electromechanical relay-type motor control, momentary push button switches, limit switches, proximity switches, pneumatic timers, forward/reverse starters, three-phase motors and National Electrical Code requirements. (112.5 lab hours a term)

ELTR 205L Industrial Power Distribution 3 credit hours
(Pre- or corequisite: ELTR 201, 204L or department approval) This lab covers safety, use of mechanical and hydraulic benders, use of power threaders, knock-out punches, hammer drills and powder actuated fasteners, drop-in anchors, cable installation, cutting, splicing and termination, wire pulling and the application of the NEC. (112.5 lab hours a term)

ELTR 211 Industrial Electrical Circuitry and Safety 3 credit hours
(Prerequisite: ELTR 201, 203, 204L, 205L or department approval) Instruction in safety principles and standards used in the electrical field and techniques for electrical troubleshooting are emphasized.

ELTR 212 Programmable Logic Controller Theory 4 credit hours
(Pre- or corequisite: ELTR 211 or ELEC 103L, 105L, 118L or department approval) Topics include 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 credit hours
(Pre- or corequisite: ELTR 211, 212 or ELEC 103L, 105L, 118L or department approval) Students install and program programmable logic controllers in accordance with manufacturer's specifications and NEC requirements. Simulating fundamental industrial control processes with various input and output devices is also covered. (112.5 lab hours a term)

ELTR 214L PLC Systems Operation and Troubleshooting 3 credit hours
(Pre- or corequisite: ELTR 211, 212 or department approval) This course covers intricate industrial wiring, motor controls and motor troubleshooting, programmable controller timer, counter and sequence program operations and the troubleshooting techniques involved. (112.5 lab hours a term)

ELTR 296 Special Topics 1–6 credit hours
(Prerequisite: department approval) This course provides advanced, in-depth study and research into methods and current technological equipment used in the electrical trades.

ENVIRONMENTAL TECHNOLOGY

The Environmental Technology associate of applied science degree program provides basic classroom instruction in the diverse field of environmental and occupational safety from a health and safety perspective. The curriculum also provides coursework designed to upgrade skills of individuals already employed in the field.

The student receives a broad, general understanding of environmental problems, as well as physical science instruction, in preparation for entry-level jobs. Instruction is provided in biology, chemistry, physics, ecology, environmental legislation, regulation compliance and abatement. The program addresses key areas of environmental protection including biological and hazardous waste, water quality protection, air quality protection, soil, domestic and industrial waste control, workplace safety, energy management and recycling.

			Credit Hours
EPT	102	Emergency Response	3
EPT	111	Environmental Technology I	4
EPT	112	Hazards and Protection Training	3
EPT	173	Water Quality Protection	3
EPT	299	Cooperative Education or approved elective	3
EPT	211L	Environmental Technology II/Lab	4
EPT	212	Energy and Waste Management	3
EPT	213	Occupational Safety	3
EPT	215	Environmental Instrumentation and Analysis	3
EPT	131	Materials Categorization and Analysis	4
EPT	232	Air Quality Protection	1
EPT	233	Environmental Bioremediation	4
SSKL	211 or 213	Employment Skills	1

REQUIRED ARTS & SCIENCES COURSES

BIO	111	Environmental Science	3
BIO	123	Biology for Health Sciences	3
BIO	124L	Biology Lab for Health Sciences	1
CHEM	111	Introduction to Chemistry	3
CHEM	112L	Introduction to Chemistry Lab	1
CHEM	212L	Integrated Organic Chemistry and Biochemistry	4
CSCI	101 or higher		3–4
Communications Elective (oral communications course)			3
ENG	101	College Writing	3
ENG	102 or higher		3
Math Electives (MATH 120 and/or higher)			6–7
PHYS	102 or higher		3
Humanities/ Social or Behavioral Science Elective			3
		Total	**78–80**

EPT 102 Emergency Response **3 credit hours**
Standard first aid and cardiopulmonary resuscitation are offered with Red Cross certification. Other topics are emergency management, hazardous materials, DOT labeling and placarding, decontamination protocols and personal safety.

EPT 111 Environmental Technology I **4 credit hours**
(Prerequisites: MATH 100, ENG 100 or department approval) 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 credit hours**
(Prerequisite: EPT 101, EPT 213, CHEM 111, CHEM 112L, computer elective or department approval) Training is provided in safe work practices at hazardous waste sites. 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 are covered. (112.5 lab hours a term)

EPT 131 Materials Categorization and Analysis **4 credit hours**
(Prerequisite: CHEM 111/112L or department approval) This course introduces fundamentals of analysis of hazardous and non-hazardous materials. Emphasis is on the use of proper techniques and protocols.

EPT 170 Introduction to OSHA Compliance **3 credit hours**
Everyday application of Occupational Safety and Health Administration (OSHA) standards required in today's workplace is covered.

EPT 171 Introduction to Safety Management **3 credit hours**
Behavioral and management techniques for safety in today's demanding workplace are presented. Topics include planning, budgeting, communications, motivation and people skills.

EPT 172 Introductory Soil Science **3 credit hours**
Soil profiles, standard soil classification systems, elementary soil biology and chemistry, root zone interactions, nutrient cycling and agricultural considerations are reviewed.

EPT 173 Water Quality Protection **3 credit hours**
(Prerequisite: EPT 111, CHEM 111, CHEM 112L, math elective, computer elective or department approval) Students study water supply system operations, distribution systems and basic hydraulics and become familiar with water quality protection and treatment techniques including backflow prevention and cross connection control. (15 theory plus 75 lab hours a term)

EPT 174 Basic Site Remediation Technology **3 credit hours**
Major remedial technologies for site cleanup under federal, state and local regulations are emphasized. Physical, biological, chemical and thermal treatments in common use are presented.

EPT 175 Pest Management 3 credit hours
Multiple pest types—insects, weeds, rodents and fungal pests—are addressed, along with control techniques and impacts on the environment.

EPT 176 Food Resources and the Environment 3 credit hours
The impact of food resource choices on the quality of the environment and human health is presented. Economic, ecological and social aspects of food resource production and consumption are explored.

EPT 177 Business Aspects of Environmental Technology 3 credit hours
(Prerequisites: EPT 111, ENG 101 and ENG 119) Business aspects of environmental services and consulting are included in the course. The increasingly competitive nature of the environmental business arena is emphasized.

EPT 178 Industrial Hygiene for Environmental Technicians 3 credit hours
(Prerequisites: CHEM 111 and CHEM 112L) Recognition, evaluation and control of health hazards encountered during hazardous waste clean-up and emergency responses are presented. Personnel monitoring, chemistry, toxicology, pathology and air surveillance are covered.

EPT 179 Sampling Design and Polychlorinated Biphenyl 3 credit hours
(Prerequisite: EPT 111 or department approval) Practice sampling technique and statistically superior field environmental sampling designs are provided. EPA's Polychlorinated biphenyl (PCB) sampling grid design is covered, as well as regulations, spills and cleanups.

EPT 211L Environmental Technology II/Lab 4 credit hours
(Prerequisite: EPT 111, BIO 231L, CHEM 212L, physics elective, math elective or department approval) Technical, operational and regulatory aspects of environmental technology are presented. Identification and handling of biological, chemical and nuclear wastes are presented, as well as site sampling, characterization and assessment, waste removal and site remediation methods. (30 theory + 75 lab hours a term)

EPT 212 Energy and Waste Management 3 credit hours
(Prerequisite: EPT 111, CHEM 111, CHEM 112L, physics elective, math elective, computer elective or department approval) This course provides an orientation to energy and waste management focusing on energy requirement assessments, energy conservation techniques and waste reduction and control.

EPT 213 Occupational Safety 3 credit hours
Principles and standards of safety are introduced. Basic safety concepts and monitoring procedures are emphasized, culminating in inspections and projects that contribute to the TVI safety program.

EPT 215 Environmental Instrumentation and Analysis 3 credit hours
(Prerequisite: EPT 111, math elective or department approval; corequisite: EPT 211L) Contemporary environmental instrumentation and analytical techniques are explored in this hands-on introduction to the care and use of laboratory and field-portable instruments. Maintenance, calibration and operation of instruments and meters are covered, along with EPA protocols. (75 theory + 37.5 lab hours a term)

EPT 232 Air Quality Protection 1 credit hour
(Prerequisite: EPT 111, CHEM 111, CHEM 112L, math elective, computer elective or department approval) Topics include the fundamentals of vehicle pollution control, city, state and federal rules and regulations governing air pollution, general and point-source emissions and standard air pollution control methods. (7.5 theory + 37.5 lab hours a term)

EPT 233 Environmental Bioremediation 4 credit hours
(Prerequisite: BIOL 121/121L or department approval) This is an introduction to the basic concepts of bioremediation to detoxify hazardous contaminants.

EPT 270 Air Pollution Meteorology 3 credit hours
Basic meteorology and climatology, mainly in the Southwest United States, are presented. Applications to ambient air monitoring, dispersion modeling, air discharge permitting, air quality and hazardous waste transport and sampling considerations are emphasized.

EPT 271 Ambient Air Monitoring and Clean Air Act 3 credit hours
The federal Clean Air Act (CAA) and the EPA's and NMED's regulations and enforcement actions are the focus of this course. Also covered are criteria for the location, construction, instrumentation and operation of meteorological and air chemistry monitoring stations operated for data collection and permit compliance.

EPT 296 Special Topics 1–6 credit hours
(Prerequisite: department approval) This course includes an in-depth study of problems and advanced techniques.

EPT 299 Cooperative Education 3 credit hours
(Prerequisite: SSKL 211 or 213) The student is employed at an approved course-related work site and applies learned environmental theory based on goals and objectives.

FIRE SCIENCE

The Fire Science program offers career preparation for students with a strong interest in the fields of fire protection and emergency response. Upon completion of the associate of applied science degree, graduates will be qualified for a variety of fire service and emergency response positions in the fields of fire protection services, industrial fire protection,

hazardous materials, insurance services, fire protection systems service and fire prevention. This program maintains a close working relationship with area providers of fire protection and emergency response services.

The program consists of a comprehensive core courses supplemented by a wide range of electives. In addition, the student will complete Arts & Sciences courses. It is recommended that entering students meet with the faculty to discuss their career and educational objectives.

			Credit Hours
FITT	170	Physical Fitness I	1
EPT	213	Occupational Safety	3
FS	102	Fire Service Organization	3
FS	103	Introduction to Fire Science	3
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
SSKL	211 or 213	Employment Skills	1
*#EMS	160L	Basic Emergency Medical Technician Skills	6
*FS	212	Fire Investigation	3
*FS	213	Industrial Fire Protection	3
*FS	214	Facilities Inspection	3
*FS	215	Tactics I	3
*FS	216	Tactics II	3
*FS	299	Cooperative Education	3
		(FS 299 may be repeated for up to 9 credits.)	

*Students have the option of any of these courses for a total of 15 credit hours.
#Health Occupations course

REQUIRED ARTS & SCIENCES COURSES

CHEM	111/112L	Introduction to Chemistry/Lab	4
COMM	130 or higher		3
CSCI	101 or higher		3–4
ENG	101	College Writing	3
English Elective (writing course)			3
MATH	120	Intermediate Algebra	4
PHYS	102	Introduction to Physics	3
PSY	105 or higher		3
SOC	101	Introduction to Sociology	3
SOC	216	Ethnic and Minority Groups	3
		Total	**76–77**

FS 102 Fire Service Organization 3 credit hours
(Prerequisites: RDG 099 or equivalent, MATH 099 or equivalent or department approval)
In an orientation to basic management principles used in modern fire protection organizations, topics include the fire protection system, fire department organization and management, planning and evaluating systems, data collection, resource management and budgeting.

FS 103 Introduction to Fire Science 3 credit hours
(Prerequisites: RDG 099 or equivalent, MATH 099 or equivalent or department approval)
This course presents an overview of the fire protection system focusing on the history of the fire service, fire protection careers and employment requirements, fire service organizations, firefighting equipment and facilities, and chemistry and behavior of fire.

FS 111 Fire Prevention 3 credit hours
(Prerequisites: RDG 099 or equivalent, MATH 099 or equivalent or department approval)
A basic overview is presented of fire prevention programs and specific techniques used to reduce the occurrence of fire. Public fire safety education programs and basic concepts of installed fire protection and detection systems are covered.

FS 112 Building Construction 3 credit hours
(Prerequisites: RDG 099 or equivalent, MATH 099 or equivalent or department approval)
Building construction is introduced with emphasis on structural elements, construction materials, construction techniques, fire loading, fire resistance, fire spread and growth in buildings and fire department operations in various building types.

FS 201 Fire Protection Systems 3 credit hours
(Prerequisites: RDG 099 or equivalent, MATH 099 or equivalent or department approval)
This course presents an in-depth study of fire protection system design and operation. A variety of fire suppression systems are discussed including water, carbon dioxide, halon, dry chemical and foam.

FS 202 Managing Community Fire Protection 3 credit hours
(Prerequisite: FS 102 or department approval) Topics include legal aspects, program and personnel management, emergency management, EMS and rescue services, code administration, alternative delivery systems, training and trends in the fire service.

FS 203 Hazardous Materials 3 credit hours
(Prerequisites: RDG 099 or equivalent, MATH 099 or equivalent or department approval)
(Note: Students are required to wear respiratory protection equipment and participate in simulated hazardous materials incidents. Students must complete a pulmonary function test and medical review at the student's expense. Documentation of the medical evaluation must be submitted prior to simulations.) Topics include recognition and identification of hazardous materials and defensive actions to prevent additional injuries and property and/or environmental damage. This course meets selected NFPA and OSHA requirements at the Hazardous Materials Operations level.

FS 211 Incident Command and Control 3 credit hours
(Prerequisites: RDG 099 or equivalent, MATH 099 or equivalent or department approval) Specific incident management techniques for a variety of emergency incidents are covered. The course includes basic fireground and emergency incident operations, incident management systems and multi-agency/multi-jurisdiction response.

FS 212 Fire Investigation 3 credit hours
(Prerequisites: RDG 099 or equivalent, MATH 099 or equivalent or department approval) The course focuses on investigative techniques to determine fire cause and origin for structural, vehicle, wildland and hazardous materials fires as well as explosions.

FS 213 Industrial Fire Protection 3 credit hours
(Prerequisites: RDG 099 or equivalent, MATH 099 or equivalent or department approval) In-depth information is presented regarding industrial loss control concepts focusing on industrial fire and safety hazards, hazardous materials, industrial fire brigades, fire department operations at industrial facilities, and NFPP, ISFSI and OSHA fire brigade standards.

FS 214 Facilities Inspection 3 credit hours
(Prerequisites: RDG 099 or equivalent, MATH 099 or equivalent or department approval) Emphasis is placed on inspections conforming to NFPA 101: Life Safety Code and applicable NFPA fire codes. General and occupancy-specific requirements are covered.

FS 215 Tactics I 3 credit hours
(Prerequisites: RDG 099 or equivalent, MATH 099 or equivalent or department approval) In-depth information is provided on strategy and tactics used by fire officers at emergency incidents. Topics include structural firefighting, rescue, apparatus placement, water supply, ventilation, fire suppression systems, forcible entry and making fireground decisions.

FS 216 Tactics II 3 credit hours
(Prerequisites: FS 215 or department approval) Topics include high-rise operations, urban search and rescue, wildland fires, aircraft emergencies, hazardous materials, mass casaulty incidents and firefighter safety.

FS 296 Special Topics 1–6 credit hours
(Prerequisite: department approval) Current topics in fire protection and emergency services are presented.

FS 299 Cooperative Education 3 credit hours
(Prerequisite: SSKL 212) The student is employed at an approved course-related work site and applies learned theory based upon goals and objectives of the Fire Science program.

FITNESS TECHNICIAN

The Fitness Technician (FITT) certificate program's intent is to increase the availability of qualified professionals who assess an apparently healthy individual's present physical fitness level and health status as well as design and implement an appropriate exercise program. The goals are:

1. To prepare individuals for employment in the health and fitness industry as personal fitness trainers.
2. To prepare individuals to sit for the American College of Sports Medicine's Health/Fitness Instructor and the National Strength and Conditioning Association's Certified Personal Trainer certification exams.
3. To provide course work for continuing education units (CEUs) required by certifying organizations to maintain certification as a personal fitness trainer.

In order to graduate from the Fitness Technician program, a student must have current American Red Cross or American Heart Association CPR certification.

A new class begins every fall term.

The program also offers fitness classes that are required for other programs and are open to all students.

			Credit Hours
FITT	209	Introduction to Exercise Physiology	3
FITT	211	The Business of Personal Fitness Training	3
FITT	225	Fitness and Weight Control	3
FITT	277	Designing Resistance Training Programs	3
FITT	289	Fitness Assessment and Exercise Prescription	3
FITT	290	Exercise Prescription for Special Populations	3
FITT	298	Fitness Technician Field Experience	
	or		3
FITT	299	Cooperative Education	
SSKL	211 or 213	Employment Skills	1
		Total	**22**

FITT 170 Physical Fitness I **1 credit hour**

Assessment of muscular strength, muscular endurance, cardiorespiratory fitness, flexibility and body composition is introduced. Based on the assessments, the student designs and participates in a self-paced exercise program. (7.5 theory + 37.5 lab hours per term)

FITT 171 Physical Fitness II **1 credit hour**

(Prerequisite: FITT 170) Based on fitness assessments, the student designs and participates in an advanced, self-paced exercise program. (7.5 theory + 37.5 lab hours per term)

FITT 173 Circuit Training 1 credit hour
Structured strength training and aerobics to provide a total body workout within a single format. (7.5 theory + 37.5 lab hours per term)

FITT 174 Weight Training for Women 1 credit hour
This introductory weight training course designed for women focuses on the use of free weights and machine exercises to develop muscle endurance, hypertrophy and muscular strength. (7.5 theory + 37.5 lab hours per term)

FITT 209 Introduction to Exercise Physiology 3 credit hours
(Prerequisite: RDG 100 or equivalent) How the human body responds and adapts to exercise and physical training is introduced. Scientifically based exercise programs are covered with applications to individual and team sports. (30 theory + 37.5 lab hours per term; fall term only)

FITT 211 The Business of Personal Training 3 credit hours
(Prerequisite: ENG 100 or equivalent) This course focuses on the business of personal training, including marketing services and programs, day-to-day operations, documentation, financial considerations, liability concerns, and trends and issues in the health/fitness industry. (30 theory + 37.5 lab hours per term; fall term only)

FITT 225 Fitness and Weight Control 3 credit hours
(Prerequisite: ENG 100 or equivalent) This course provides basic understanding of the interrelationship among exercise, weight control and nutrition. Applications are made to dietary analysis, energy balance, fat loss and weight gain programs. (30 theory + 37.5 lab hours per term; spring term only)

FITT 277 Designing Resistance Training Programs 3 credit hours
The physiological and kinesiological aspects of muscular fitness training are covered. Special emphasis is placed on designing strength, endurance, hypertrophy and power resistance/weight training programs. (15 theory + 37.5 lab hours per term; spring term only)

FITT 289 Fitness Assessment and Exercise Prescription 3 credit hours
(Prerequisites: FITT 209, 225, 277 and MATH 100A) Methods of assessing health status, cardiorespiratory and muscular fitness, flexibility and body composition in apparently healthy individuals are covered and appropriate exercise programs are prescribed. (30 theory + 37.5 lab hours per term; summer term only)

FITT 290 Exercise Prescription for Special Populations 3 credit hours
(Pre- or corequisite: FITT 289) The indications and contraindications are reviewed for assessing and prescribing exercise programs for special populations (elderly, prepubescent children, pregnancy, low back pain, diabetes, spinal cord injury, etc.). (30 theory + 37.5 lab hours per term; summer term only)

FITT 296 Special Topics **1–6 credit hours**
(Prerequisite: department approval) Fitness problems and the advanced techniques that fitness professionals use in responding to them are covered.

FITT 298 Fitness Technician Field Experience **3 credit hours**
(Prerequisite: department approval) This course provides students with a supervised field experience (112.5 hours per term) in a fitness setting.

FITT 299 Cooperative Education **3 credit hours**
(Prerequisite: SSKL 211 or department approval) The student is employed at an approved course-related work site and applies learned theory based on goals and objectives.

FOOD SERVICE MANAGEMENT

This certificate program is available to persons interested in the hospitality/food service field who want to learn the skills necessary to become entry-level supervisors or managers. Safety and sanitation procedures are stressed.

Classroom instruction includes theory in human relations, supervision and business practices. A cooperative education portion is available under the supervision of the instructor.

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

			Credit Hours
FSMG	101	Operations Management	3
FSMG	102	Human Resource Management	3
FSMG	103	Product Management	3
FSMG	104L	Computers in Food Service	3
FSMG	299	Cooperative Education	3
		Total	**15**

FSMG 101 Operations Management **3 credit hours**
(Prerequisites: RDG 099 or equivalent, MATH 099 or equivalent or department approval) Food safety and sanitation are covered. HACCP models including purchasing, receiving, storage and production controls are reviewed. Certification is available in sanitation and standard first aid/adult CPR.

FSMG 102 Human Resource Management **3 credit hours**
(Prerequisites: RDG 099 or equivalent, MATH 099 or equivalent or department approval) Human relations management skills are covered. Students are prepared for interviewing,

customer service, disciplining, training, evaluations and effective communications. Job seeking and retention skills are emphasized.

FSMG 103 Product Management **3 credit hours**
(Prerequisites: RDG 099 or equivalent, MATH 099 or equivalent or department approval)
Topics include food label design and production, advertising, beverage management and business development. Public speaking and team-coordinated projects are assigned.

FSMG 104L Computers in Food Service Management **3 credit hours**
(Prerequisites: RDG 099 or equivalent, MATH 099 or equivalent or department approval)
The use of computers in food service is emphasized. Windows programs are utilized to prepare documents and spreadsheets. Computerized nutrient analysis is available. (15 theory + 75 lab hours per term)

FSMG 296 Special Topics **1–6 credit hours**
This course enables Culinary Arts students to pursue expanded studies in management skills in the hospitality industry. It also may be taken as an independent or guided study or refresher course. Hours are by arrangement.

FSMG 299 Cooperative Education **3 credit hours**
The student is employed at an approved course-related work site and applies management theory learned in FSMG 102 and 103 based on goals and objectives.

MACHINE TOOL TECHNOLOGY

The Machine Tool Technology certificate program qualifies students for job entry as machine tool operators. All courses emphasize safe operations of various machine tools. Classes meet in well equipped labs where students are introduced to micrometers, gauges, drill presses, hand tools, engine lathes, milling machines, computer controlled machining centers and other equipment commonly 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 the length of a standard work shift and must have depth perception correctable in both eyes.

A suggested schedule includes:

Term 1: MATT 101, 102, 103L, 104L, 105L, 108L
Term 2: MATT 111, 113, 117L, 120L, 121L, 122L, SSKL 211 or 213
Term 3: MATT 202, 208L, 214, 216L, 217L, 218L

			Credit Hours
MATT	101	Metals Math I	2
MATT	102	Metals Blueprint Reading I	2
MATT	103L	Basic Lathe Principles	2

MATT	104L	Basic Milling Machine Principles	2
MATT	105L	Basic Supporting Machine Tool Principles	2
MATT	108L	Basic Measurement and Inspection	2
MATT	111	Metals Math II	2
MATT	113	Metals Blueprint Reading II	2
MATT	117L	Intermediate Lathe Principles	2
MATT	120L	Intermediate Milling Machine Principles	2
MATT	121L	Intermediate Supporting Machine Tool Principles	2
MATT	122L	Computer Numerical Control I	2
SSKL	211 or 213	Employment Skills	1
MATT	202	Metallurgy	2
MATT	208L	Advanced Lathe Principles	2
MATT	214	Machine Tool Technology CAD	2
MATT	216L	Advanced Milling Machine Principles	2
MATT	217L	Advanced Supporting Machine Tool Principles	2
MATT	218L	Computer Numerical Control II	2
		Total	**37**

MATT 101 Metals Theory I **2 credit hours**
(Prerequisites: RDG 099 or equivalent, MATH 099 or equivalent or department approval)
Whole numbers, fractions and decimals, shop geometry and algebra, formulas and equations, and the Pythagorean theorem are presented. Emphasis is on developing problem solving skills.

MATT 102 Metals Blueprint Reading I **2 credit hours**
(Prerequisites: RDG 099 or equivalent, MATH 099 or equivalent or department approval)
The interpretation of basic manufacturing and fabrication drawings, terminology, orthographic projection, sectional views, dimensions, tolerances, symbols and drawing standards are covered.

MATT 103L Basic Lathe Principles **2 credit hours**
(Prerequisites: RDG 099 or equivalent, MATH 099 or equivalent or department approval)
This is an introduction to basic engine lathe principles and operations. Safety, setup, speeds and feeds, workholding devices and tooling, facing, turning, chamfering, shouldering and tailstock operations are included. (75 lab hours a term)

MATT 104L Basic Milling Machine Principles **2 credit hours**
(Prerequisites: RDG 099 or equivalent, MATH 099 or equivalent or department approval)
Basic milling machine principles and operations are introduced. Safety, basic setup, speeds and feeds, tooling, workholding devices, squaring, step milling, drilling, reaming, and tapping are covered. (75 lab hours a term)

MATT 105L Basic Supporting Machine Tool Principles 2 credit hours
(Prerequisites: RDG 099 or equivalent, MATH 099 or equivalent or department approval) Drill press, bandsaw, pedestal grinder and handtool principles and operations are introduced. Safety, care and use of hand tools, layout, toolbit grinding and machine care and maintenance are covered. (75 lab hours a term)

MATT 108L Basic Measurement and Inspection 2 credit hours
(Prerequisites: RDG 099 or equivalent, MATH 099 or equivalent or department approval) Practical exercises are provided in basic metal shop measurement and inspection techniques, including use of rules, calipers, micrometers, comparison instruments and inspection reports. (75 lab hours a term)

MATT 111 Metals Math II 2 credit hours
(Prerequisite: MATT 101 or department approval) Basic shop algebra, formulas, geometry and triangulation are reviewed. Calculation of areas, volumes, material requirements, angles, applied trigonometry and advanced shop math applications are covered.

MATT 113 Metals Blueprint Reading II 2 credit hours
(Prerequisite: MATT 102 or department approval) Following a review of basic shop blueprint interpretation, instruction is provided in interpretation of complex manufacturing and fabrication drawings including sectional views, tolerances and allowances, surface texture and assembly drawings.

MATT 117L Intermediate Lathe Principles 2 credit hours
(Prerequisite: MATT 103L or department approval) Basic engine lathe principles and operations are reviewed, with training in safety, precision turning and facing, production turning, taper turning, carbide tooling applications, power cutoff, boring, single point threading and basic CNC turning set up and operation. (75 lab hours a term)

MATT 120L Intermediate Milling Machine Principles 2 credit hours
(Prerequisite: MATT 104L or department approval) Following a review of basic milling principles and operations, training is offered in safety, climb and conventional milling methods, hole production, slotting, pocket milling, rotary table work and basic CNC milling setup and operation. (75 lab hours a term)

MATT 121L Intermediate Supporting Machine Tool Principles 2 credit hours
(Prerequisite: MATT 105L or department approval) Concentrated training is offered in safety, surface grinding, tool reconditioning, production support and advanced quality assurance methods. (75 lab hours a term)

MATT 122L Computer Numerical Control I 2 credit hours
(Prerequisite: MATT 101 and 102 or department approval) Basic computer skills necessary to program, set up and operate CNC milling and turning centers are presented. CNC manuscript and tape preparation, program troubleshooting and editing, tooling and workholding and fundamentals of CNC operation are covered. (75 lab hours a term)

MATT 173 Machine Tool Technology Skills **3 credit hours**
Basic knowledge and upgrade skills in the machine tool industry are covered, including safety, hand tools, lathe, mill, bench work, measurement, blueprint reading and shop math. (15 theory + 75 lab hours a term)

MATT 174 Advanced Machine Tool Technology Skills **3 credit hours**
(Prerequisite: MATT 173 or department approval) Advanced instruction is offered in safety, lathe, mill, blueprint reading and shop math. (15 theory + 75 lab hours a term)

MATT 202 Metallurgy **2 credit hours**
The basic science of metals is introduced, including structure, properties, alloying, weldability and testing of ferrous and non-ferrous metals with emphasis on machining performance and applications.

MATT 208L Advanced Lathe Principles **2 credit hours**
(Prerequisite: MATT 117L or department approval) A review of carbide tooling applications, boring and threading is presented. Safety, setup and use of soft jaws and advanced production and CNC turning techniques are covered. (75 lab hours a term)

MATT 214 Machine Tool Technology CAD **2 credit hours**
Computer-assisted drafting as applied in machine tool technology is presented on hardware typically found in the machine shop with specific instruction offered in CADKEY software.

MATT 216L Advanced Milling Machine Principles **2 credit hours**
(Prerequisite: MATT 120L or department approval) Rotary table work and locational operations are reviewed. Concentrated training is offered in safety, carbide shell mills, complex milling set-ups and advanced production and CNC milling techniques. (75 lab hours a term)

MATT 217L Advanced Supporting Machine Tool Principles **2 credit hours**
(Prerequisite: MATT 121L or department approval) Production support, safety, advanced surface grinding set ups and operations, assembly techniques, production inspection techniques to ANSI standards and CNC set-up and operation for production applications are covered. (75 lab hours a term)

MATT 218L Computer Numerical Control II **2 credit hours**
(Prerequisite: MATT 122L or department approval) Programming, manuscript and tape preparation, and editing are reviewed. Various programming languages, subroutines and interactive graphic programming are presented. (75 lab hours a term)

MATT 296 Special Topics **1–6 credit hours**
(Prerequisite: department approval) This flexible course enables students to pursue studies in specialized areas. This class may also be taken as an independent or guided study, as a refresher course or to sharpen skills prior to employer exams.

MECHANICAL TECHNOLOGY

The Mechanical Technology associate of applied science degree is available with two concentrations: air conditioning and plumbing. Cross training in both programs is provided.

All courses must be passed with a minimum grade of C to qualify for graduation.

AIR CONDITIONING, HEATING AND REFRIGERATION CONCENTRATION

			Credit Hours
ACHR	131	Refrigeration Fundamentals.	2
ACHR	132	Basic Electricity	2
ACHR	133	Refrigerant Management	2
ACHR	134	Motors and Controls	2
ACHR	135	Refrigeration Applications	2
ACHR	136	Control Circuit Application	2
ACHR	137	Code & Safety Requirements I	1
ACHR	151	Air Conditioning	2
ACHR	152	Air Conditioning Controls	2
ACHR	153	Gas Heating Systems	2
ACHR	154	Gas Heating Electrical Systems	2
ACHR	155	Commercial Refrigeration	2
ACHR	156	System Design	3
SSKL	211 or 213	Employment Skills	1
ACHR	210	Pumps and Valves	2
ACHR	211	Basic Hydronic Principles	2
ACHR	212	Hot Water and Steam Generation Systems	2
ACHR	213	Controls I.	2
ACHR	214	Chilled Water Systems	2
ACHR	215	Controls II.	2
ACHR	216	Code & Safety Requirements II	1

ADDITIONAL REQUIRED TRADES & SERVICE OCCUPATIONS COURSES

EPT	213	Occupational Safety	3
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

REQUIRED ARTS & SCIENCE COURSES

Communications Elective (oral communications course)			3
CSCI	101 or higher		3–4
ENG	101	College Writing	3
ENG	102 or ENG 119		3
Humanities/Social and Behavioral Science Elective			3
MATH	120 or higher		3–4
PHYS 102 or higher			3
		Total	**73–74**

PLUMBING CONCENTRATION

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	115	Plumbing Blueprint Reading II	2
PLMB	116L	Building Maintenance, Heating and Cooling	1
PLMB	173L	Orbital Automated Welding Systems	3
ACHR	131	Refrigeration Fundamentals	2
ACHR	132	Basic Electricity	2
ACHR	133	Refrigerant Management	2
ACHR	134	Motors and Controls	2
ACHR	135	Refrigeration Applications	2
ACHR	136	Control Circuit Application	2
ACHR	151	Air Conditioning	2
ACHR	152	Air Conditioning Controls.	2
ACHR	153	Gas Heating Systems	2
ACHR	154	Gas Heating Electrical Systems	2

OTHER REQUIRED TRADES & SERVICE OCCUPATIONS COURSES

CM	132	Construction Graphics	3
EPT	213	Occupational Safety	3
SSKL 211 or 213		Employment Skills	1
WELD	170	Welding Skills Improvement	3

REQUIRED ARTS & SCIENCES COURSES

Communications Elective (oral communications course)			3
CSCI	101 or higher		3–4
ENG	101	College Writing	3
ENG	102 or ENG 119		3
Humanities/Social and Behavioral Science Elective			3
MATH	120 or higher		3–4
PHYS	102 or higher		3
		Total	**74–76**

METALS TECHNOLOGY

The Metals Technology associate of applied science degree is available with two concentrations: Machine Tool Technology and Welding.

The program prepares individuals for entry-level positions in the metal working industry. The program also provides the opportunity to transfer to a four-year program. Personal safety is stressed.

Courses are from the Machine Tool Technology and Welding certificate programs along with Business Occupations, Technologies and Arts & Sciences.

MACHINE TOOL TECHNOLOGY CONCENTRATION

			Credit Hours
MATT	101	Metals Math I	2
MATT	102	Metals Blueprint Reading I	2
MATT	103L	Basic Lathe Principles	2
MATT	104L	Basic Milling Machine Principles	2
MATT	105L	Basic Supporting Machine Tool Principles	2
MATT	108L	Basic Measurement and Inspection	2
MATT	111	Metals Math II	2
MATT	113	Metals Blueprint Reading II	2
MATT	117L	Intermediate Lathe Principles	2
MATT	120L	Intermediate Milling Machine Principles	2
MATT	121L	Intermediate Supporting Machine Tool Principles	2
MATT	122L	Computer Numerical Control I	2
SSKL	211 or 213	Employment Skills	1
MATT	202	Metallurgy	2
MATT	208L	Advanced Lathe Principles	2
MATT	214	Machine Tool Technology CADD	2
MATT	216L	Advanced Milling Machine Principles	2

MATT	217L	Advanced Supporting Machine Tool Principles	2
MATT	218L	Computer Numerical Control II	2
WELD	170	Welding Skills	3
WELD	171	Advanced Welding Skills	3
Business Occupations and/or Technologies Elective			3

REQUIRED ARTS & SCIENCES COURSES

CSCI	101 or higher		3–4
COMM	130 or higher		3
ENG	101	College Writing	3
ENG	102 or higher		3
Humanities/Social and Behavioral Science Elective			3
MATH	120 or higher		3–4
PHYS 102 or higher			3
		Total	**67–68**

WELDING CONCENTRATION

MATT	101	Metals Math I	2
MATT	102	Metals Blueprint Reading I	2
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
MATT	111	Metals Blueprint Reading II	2
MATT	113	Metals Math II	2
WELD	114L	Advanced SMAW	2
WELD	115L	Introduction to GMAW and Fabrication	2
WELD	116L	Introduction to GTAW and Fabrication	2
WELD	117L	Qualifications for SMAW and GMAW	2
SSKL 211 or 213		Employment Skills	1
MATT	202	Metallurgy	2
WELD	202	Advanced Blueprint Reading	2
WELD	205L	Pipe Layout and Welding	2
WELD	206L	Advanced GMAW and Fabrication	2
WELD	207L	Advanced GTAW and Fabrication	2
WELD	208L	Qualifications for GTAW	2
MATT	173	Machine Tool Technology Skills	3
MATT	174	Advanced Machine Tool Technology Skills	3
Business Occupations and/or Technologies Elective			3

COMM	130 or higher		3
CSCI	101 or higher		3–4
ENG	101	College Writing	3
ENG	102 or higher		3
Humanities/Social or Behavioral Science Elective			3
MATH	120 or higher		3–4
PHYS	102 or higher		3
		Total	**67–68**

PLUMBING

The Plumbing certificate program provides safety training, technical knowledge and occupational skills necessary to enter the plumbing industry. Fundamentals of layout, assembly and installation are covered, as well as nomenclature of tools and materials and practice with the tools of the trade.

Emphasis is on new construction, 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, and must be able to lift 50 pounds.

A suggested schedule per term includes:

Term 1: PLMB 101, 101L, 102, 102L, 103, 103L, 105, 106L, SSKL 211 or SSKL 213

Term 2: PLMB 111, 111L, 112L, 115, 116L, 117L, VICA 176

			Credit Hours
PLMB	101	Basic Plumbing Theory	1
PLMB	101L	Basic Plumbing Lab	2
PLMB	102	Plumbing Systems Teory	1
PLMB	102L	Plumbing Systems Lab	2
PLMB	103	Heating Control Circuitry Theory	1
PLMB	103L	Heating Control Circuitry Lab	1
PLMB	105	Plumbing Blueprint Reading I	1
PLMB	106L	Backflow Prevention	2
SSKL 211 or 213		Employment Skills	1
PLMB	111	Systems Layout/Maintenance Theory	1
PLMB	111L	Systems Layout Lab	2
PLMB	112L	Systems Maintenance Lab	2
PLMB	115	Plumbing Blueprint Reading II	2

PLMB	116L	Building Maintenance, Heating and Cooling	1
PLMB	173L	Orbital Welding Systems	3
VICA 174, 175, 176 or 178			1
		Total	**24**

PLMB 101 Basic Plumbing Theory **1 credit hour**
(Prerequisites: RDG 099 or equivalent, MATH 099 or equivalent or department approval)
Procedures for installing plastic, steel, cast iron and copper pipe are covered. Installation, addition, repair, replacement or maintenance of plumbing and gas piping systems are also covered. Personal safety is stressed.

PLMB 101L Basic Plumbing Lab **2 credit hours**
(Prerequisites: RDG 099 or equivalent, MATH 099 or equivalent or department approval)
Identification of plumbing fittings and pipe nomenclature is covered. The correct procedures for soldering copper pipe, threading and cutting iron pipe, flaring copper pipe and making diagonal offsets are covered.

PLMB 102 Plumbing Systems Theory **1 credit hour**
(Prerequisites: RDG 099 or equivalent, MATH 099 or equivalent or department approval)
Design of drainage and vent systems, sprinkler and water supply systems is covered, as well as methods to rough in and top out of an installation.

PLMB 102L Plumbing Systems Lab **2 credit hours**
(Prerequisites: RDG 099 or equivalent, MATH 099 or equivalent or department approval)
Correct procedures for installation, repair and service of drainage and vent, sprinkler and water supply systems are introduced. Rough-ins and top outs are also covered. (75 lab hours a term)

PLMB 103 Heating Control Circuitry Theory **1 credit hour**
(Prerequisites: RDG 099 or equivalent, MATH 099 or equivalent or department approval)
Troubleshooting of heating control circuitry, control theory, terminology and symbols are covered with emphasis on electrical control devices from various manufacturers.

PLMB 103L Heating Control Circuitry Lab **1 credit hour**
(Prerequisites: RDG 099 or equivalent, MATH 099 or equivalent or department approval)
The focus is on installation and troubleshooting of heating control circuitry. The correct use of electrical test instruments is stressed, as is safety. (45 lab hours a term)

PLMB 105 Plumbing Blueprint Reading I **1 credit hour**
(Prerequisites: RDG 099 or equivalent, MATH 099 or equivalent or department approval)
Topics include sketching and reading blueprint working drawings for new construction, maintenance and remodeling.

PLMB 106L Backflow Prevention **2 credit hours**
(Prerequisites: RDG 099 or equivalent, MATH 099 or equivalent or department approval) Identification, testing and repair of backflow prevention assemblies is the focus. (75 lab hours a term)

PLMB 111 Systems Layout/Maintenance Theory **1 credit hour**
(Prerequisite: PLMB 103L, PLMB 106L or department approval) This course covers design, layout and installation of water, soil and vent lines; inspecting and testing systems; maintenance and repair of plumbing, solar systems and yard irrigation; and swimming pool, hot tub and spa installation and service.

PLMB 111L Systems Layout Lab **2 credit hours**
(Pre- or corequisite: PLMB 106L, PLMB 111 or department approval) The emphasis is on layout and installation of water, soil and vent lines, related fixtures and fittings, inspecting and testing systems and soldering. (75 lab hours a term)

PLMB 112L Systems Maintenance Lab **2 credit hours**
(Pre- or corequisite: PLMB 111, PLMB 111L or department approval) This course covers maintenance and repair of plumbing and yard irrigation as well as swimming pool, hot tub and spa installation and service. (75 lab hours a term)

PLMB 115 Plumbing Blueprint Reading II **2 credit hours**
(Prerequisite: PLMB 105 or department approval) Content includes drawings, isometric pipe layouts, interpreting blueprints, application of plumbing codes, and planning and coordinating the job.

PLMB 116L Building Maintenance, Heating and Cooling **1 credit hour**
(Pre- or corequisite: PLMB 101L, PLMB 103L or department approval) This course presents requirements for installation, pre-fabrication and maintenance of heating, sheet metal, cooling and ventilating systems. (45 lab hours a term)

PLMB 170 Mechanical Trades Math **1 credit hour**
Topics include basic arithmetic, whole numbers, fractions and decimals. Volumes, weight measurements and basic algebra as it applies to electricity are also covered.

PLMB 171 Journeyman Preparation **3 credit hours**
Licensing requirements, rules and regulations and the Uniform Plumbing Code are covered for persons interested in becoming journey level plumbers and natural gas fitters in New Mexico.

PLMB 173L Orbital Welding Systems **3 credit hours**
(Pre- or corequisite: PLMB 101 or department approval) Instruction is in pipe ultra-pure stainless steel welding. Students operate, lay out and analyze welding applications for testing sequences. (15 theory + 75 lab hours a term)

PLMB 174L Polyvinlediene Fluoride (PVDF) Welding Systems 3 credit hours
(Prerequisite: PLMB 173L) Asahi Butt Fusion System, UF 2000 infra-red fusion and bead and crevice free system are presented. (15 theory + 75 lab hours a term)

PLMB 296 Special Topics 1–6 credit hours
This flexible course is designed to enable students currently in the plumbing trades to pursue studies in specialized areas. This class also may be taken as an independent or guided study or as a refresher to sharpen skills prior to licensing.

QUANTITY FOOD PREPARATION

The Quantity Foods Preparation program emphasizes preparation and presentation of flavorful, nutritional meals, and occupational safety/sanitation. Speed and efficiency are stressed in hands-on kitchen/restaurant situations. Students are prepared for entry as food service workers into the rapidly growing food and hospitality industry.

Classes are held in modern commercial kitchens where students prepare food and operate a cafeteria line including cash registers. Advanced students operate the Student Specialties dinner program, a fine dinning restaurant open to the public (advanced reservations required).

Students must be free of chronic allergies. A physician's certificate must be presented to TVI before the start of lab classes stating that the student is free from tuberculosis in a transmissible form.

A suggested schedule per term includes:
Term 1: QUFD 101, 103L, 104L, 105L, 106L, SSKL 211 or 213, FSMG 101
Term 2: QUFD 111, 112L, 113L, 114L, 115L, FSMG 104L

			Credit Hours
QUFD	101	Quantity Food Theory I	2
QUFD	103L	Buffet Procedures	2
QUFD	105L	Breakfast/Lunch	2
QUFD	107L	Cold Food Preparation	2
QUFD	108L	Quantity Food Production	2
FSMG	101	Operations Management	3
SSKL 211 or 213		Employment Skills	1
QUFD	111	Quantity Food Theory II	2
QUFD	112L	Dining Room Skills	2
QUFD	113L	Cold Food Preparation II	2
QUFD	114L	Stocks and Sauces—Sous Chef	2
QUFD	115L	Entree (Meat and Fish Preparation)	2
FSMG	104L	Computers in Food Service	3
		Total	**27**

QUFD 101 Quantity Food Theory I **2 credit hours**
(Prerequisites: RDG 099 or equivalent, MATH 099 or equivalent or department approval) Food service tools, equipment, cooking methods and techniques, weights and measures, food costs and other math are presented. Breakfast through lunch operations are emphasized.

QUFD 103L Buffet Procedure **2 credit hours**
(Pre- or corequisite: FSMG 101, QUFD 101 or department approval) Buffet procedures, catering, introductory serving techniques, customer service and cashiering are covered. (75 lab hours a term)

QUFD 105L Breakfast/Lunch Production **2 credit hours**
(Pre- or corequisite: FSMG 101, QUFD 101 or department approval) Breakfast/lunch preparation techniques and methods of cooking are covered. (75 lab hours a term)

QUFD 107L Cold Food Preparation I **2 credit hours**
(Pre- or corequisite: FSMG 101, QUFD 101 or department approval) Garnishing, Garde Manger, appetizers, hors d'oeuvres, salads, dressings, sandwiches, fruits and vegetable preparation are covered. (75 lab hours a term)

QUFD 108L Quantity Food Production **2 credit hours**
(Pre- or corequisite: FSMG 101, QUFD 101 or department approval) Food service entrees, starches, vegetables, stocks, soups, and basic sauce production are covered. Methods of cooking are applied. (75 lab hours a term)

QUFD 111 Quantity Food Theory II **2 credit hours**
(Prerequisite: QUFD 101, 103L, 105L, 107L, 108L or department approval) Cooking methods, fabrication, presentation, stocks, sauces, soups, beef, poultry, seafood, game, lamb, pork, potatoes, grains, pasta and vegetables/fruits, are covered. Professionalism is stressed.

QUFD 112L Dining Room Skills **2 credit hours**
(Pre- or corequisite: QUFD 111 or department approval) Topics include table setting, napkin folding, table service, money management, managing a staff in the dining room, banquet service, restaurant service and operation, and customer service. (75 lab hours a term)

QUFD 113L Cold Food Preparation II **2 credit hours**
(Pre- or corequisite: QUFD 111 or department approval) Safe, sanitary and creative pantry techniques are practiced. Appetizers, salads, dressings, fruits/vegetables and starches are produced for the Student Specialties Restaurant. (75 lab hours a term)

QUFD 114L Stock and Sauces **2 credit hours**
(Pre- or corequisite: QUFD 111 or department approval) Students prepare white and brown stocks from scratch and prepare primary and secondary sauces and soups from these stocks. Practice is provided for using various thickening agents. (75 lab hours a term)

QUFD 115L Entree (Meat and Seafood) Preparation 2 credit hours
(Pre- or corequisite: QUFD 111 or department approval) Topics include production of fabricated cuts of meats and a variety of cooking methods for wholesome, flavorful entrees for the Student Specialties Restaurant. Plate presentation and timely production are stressed. (75 lab hours a term)

TRANSPORTATION TECHNOLOGY

The Transportation Technology associate degree is available to students with two concentrations: Automotive Technology and Diesel Equipment Technology. The program prepares individuals for entry-level positions, including management and supervision, in the transportation industry.

AUTOMOTIVE TECHNOLOGY CONCENTRATION

			Credit Hours
AUTC	101	Braking Systems Theory	1
AUTC	101L	Braking Systems Lab	2
AUTC	102	Suspension and Alignment Theory	2
AUTC	102L	Suspension and Alignment Lab	2
AUTC	103	Manual Transmissions and Axles Theory	2
AUTC	103L	Manual Transmissions and Axles Lab	2
AUTC	106	Automotive Electricity	4
AUTC	111	Engine Overhaul Theory	2
AUTC	111L	Engine Overhaul Lab	2
AUTC	112	Automatic Transmissions and Transaxles Theory	2
AUTC	112L	Automatic Transmissions and Transaxles Lab	2
AUTC	113	Transportation Electronics	3
AUTC	114	Heating and Air Conditioning Theory	1
AUTC	114L	Heating and Air Conditioning Lab	2
SSKL 211 or 213		Employment Skills	1
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

ADDITIONAL REQUIRED TRADES & SERVICE OCCUPATIONS COURSES

EPT	102	Emergency Response	3
EPT	213	Occupational Safety	3
Welding Elective			3

REQUIRED ARTS & SCIENCES COURSES

COMM	130 or higher		3
CSCI	101 or higher		3–4
ENG	101	College Writing	3
ENG	102 or higher		3
Humanities/Social and Behavioral Science Elective			3
MATH	120 or higher		3–4
PHYS	102 or higher		3
		Total	**73–74**

DIESEL EQUIPMENT TECHNOLOGY CONCENTRATION

DETC	101	Diesel Drive Train Theory	4
DETC	103L	Manual Shift Transmissions Lab	2
DETC	104L	Drive Axles, Brakes, Automatic Transmissions Lab	3
DETC	105L	Hydraulic Systems	2
SSKL	211 or 213	Employment Skills	1
AUTC	113	Transportation Electronics	3
DETC	111	Diesel Engine Theory	2
DETC	111L	Diesel Engine Overhaul	3
DETC	112L	Precision Measurement and Component Repair Lab	2
DETC	113L	Engine Tune-up and Testing Lab	2
DETC	201	Diesel Electrical Theory	2
DETC	201L	Diesel Electrical Lab	3
DETC	202	Diesel Fuel Injection Theory	1
DETC	202L	Diesel Fuel Injection Lab	2
DETC	203	Transport Refrigeration/Air Conditioning Theory	1
DETC	203L	Transport Refrigeration/Air Conditioning Lab	2

ADDITIONAL REQUIRED TRADES & SERVICE OCCUPATIONS COURSES

EPT	102	Emergency Response	3
EPT	213	Occupational Safety	3
MATT	105	Basic Supporting Machine Tool Theory	2
MATT	105L	Basic Supporting Machine Tool Principles	2
Welding Elective			3

REQUIRED ARTS & SCIENCES COURSES

COMM	130 or higher	3
CSCI	101 or higher	3–4
ENG	101 College Writing	3
ENG	102 or higher	3
MATH	120 or higher	3–4
PHYS	102 or higher	3
Humanities/Social and Behavioral Science Elective		3
	Total	**69–71**

TRUCK DRIVING

The Truck Driving certificate program provides students who are already licensed drivers the basic instruction required to become professional commercial truck drivers.

Students learn how to operate a tractor trailer safely and efficiently. The goal is to prepare students to earn the commercial driver's license needed to operate tractor trailers professionally.

The program is certified by the Professional Truck Driver Institute of America (PTDIA).

Students must meet the following requirements to be eligible for TRDR 102L and TRDR 103L:

- ☐ not have been convicted of or forfeited bond for more than four moving violations in the past three years;
- ☐ not have more than one at-fault, preventable accident in the past three years;
- ☐ not have been convicted of or forfeited bond for reckless driving;
- ☐ not have more than one DWI conviction;
- ☐ not have any DWI convictions in the last five years;
- ☐ have a valid New Mexico driver's license;
- ☐ have a physical examination at a qualified testing facility;
- ☐ obtain pre-qualification testing for controlled substances use;
- ☐ be at least 21 years old by graduation day; and
- ☐ provide a certified copy of his or her driving record for the past three years.

Students are subject to all Federal Highway Administration drug and alcohol testing rules. Tests (pre-qualification, random, post-accident, reasonable suspicion, return-to-duty and follow-up) are performed when applicable for alcohol and controlled substances. Instructors will provide students detailed information regarding federal drug and alcohol testing and physical examination requirements when they enter TRDR 101.

Students pay a non-refundable course fee of $220 prior to entering TRDR 101, $110 prior to entering TRDR 102L and $110 prior to entering TRDR 103L.

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

			Credit Hours
TRDR	101	Basic Operational Theory	6
TRDR	102L	Basic Operational Lab	4
TRDR	103L	Advanced Operational Practices	3
SSKL 211 or 213		Employment Skills	1
		Total	**14**

TRDR 101 Basic Operational Theory **6 credit hours**
(Prerequisites: RDG 099 or equivalent, MATH 099 or equivalent or department approval) Fundamentals of control systems, hours of service requirements, trip planning, public and employer relations, accident procedures, defensive driving techniques, written commercial driver's licensing needs and state and federal regulations governing the professional truck driver are covered. (Course fee: $220)

TRDR 102L Basic Operational Lab **4 credit hours**
(Pre- or corequisite: TRDR 101, CDL learner's permit or department approval) On the driving range, topics include vehicle inspection, basic control, shifting, backing, coupling and uncoupling, hazard perception, visual search, speed and space management, preventive maintenance and handling cargo. (Course fee: $110)

TRDR 103L Advanced Operational Practices **3 credit hours**
(Prerequisite: TRDR 101, 102L or passing score on basic operational skills test) Skills needed to cope with hazards of the roadway environment are presented during day and evening hours on mountain grades, urban and rural roads, interstates and docking facilities. (Course fee: $110)

TRDR 171 Material Handling **2 credit hours**
Basic forklift/hand truck operation and basic material handling are covered, along with forklift safety inspections and cost factors of improper handling. (15 theory + 37.5 lab hours a term)

TRDR 296 Special Topics **1–6 credit hours**
This course includes an in-depth study of problems and the advanced techniques that experts in the trucking industry use to solve them.

WELDING

The Welding certificate program qualifies students for entry-level employment in the metals-processing industry. All courses emphasize safe operations of various welding equipment. Classes meet in well equipped labs where students study, practice and simulate qualifying exercises in oxyacetylene, shielded metal-arc (SMAW), gas metal-arc (GMAW), gas tungsten-arc (GTAW) and pipe welding processes. Instruction is also offered in welding fabrication and materials testing. The program conforms to the American Welding Society EG 2.0-95 training standard for training of entry-level welders.

Students must be free of chronic respiratory diseases and have depth perception correctable in both eyes.

A suggested schedule includes:

Term I: MATT 101, MATT 102, WELD 104L, 105L, 106L, 107L
Term 2: SSKL 211 or 213, MATT 111, MATT 113, WELD 114L, 115L, 116L, 117L
Term 3: MATT 202, WELD 202, 205L, 206L, 207L, 208L

			Credit Hours
MATT	101	Metals Math I	2
MATT	102	Metals Blueprint Reading I	2
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
SSKL 211 or 213		Employment Skills	1
MATT	111	Metals Math	2
MATT	113	Metals Blueprint Reading II	2
WELD	114L	Advanced SMAW	2
WELD	115L	Introduction to GMAW and Fabrication	2
WELD	116L	Introduction to GTAW and Fabrication	2
WELD	117L	Qualifications for SMAW and GMAW	2
MATT	202	Metallurgy	2
WELD	202	Advanced Blueprint Reading	2
WELD	205L	Pipe Layout and Welding	2
WELD	206L	Advanced GMAW and Fabrication	2
WELD	207L	Advanced GTAW and Fabrication	2
WELD	208L	Qualifications for GTAW	2
		Total	**37**

WELD 104L Oxyacetylene Welding and Cutting **2 credit hours**
(Prerequisites: RDG 099 or equivalent, MATH 099 or equivalent or department approval) Safety and use of oxyacetylene equipment are presented. Training is provided in thermal cutting torches, brazing techniques, fusion welding, welding of alloys and general all position welding. (75 lab hours a term)

WELD 105L Oxyacetylene Brazing/Soldering and Fabrication **2 credit hours**
(Prerequisites: RDG 099 or equivalent, MATH 099 or equivalent or department approval) Instruction in safety, brazing and soldering is presented. Fluxes are applied to various metal and filler metals. Basic fabrication and repair problems are used for practical applications. (75 lab hours a term)

WELD 106L Introduction to SMAW **2 credit hours**
(Prerequisites: RDG 099 or equivalent, MATH 099 or equivalent or department approval) Topcs in shielded metal-arc welding (SMAW) include safety, beading, build-ups and welding various types of joints. (75 lab hours a term)

WELD 107L Introduction to SMAW Qualifications and Fabrication **2 credit hours**
(Prerequisites: RDG 099 or equivalent, MATH 099 or equivalent or department approval) This course provides instruction in safety and proper procedure for arc welding qualifications using basic fabrication and repair problems for practical applications. (75 lab hours a term)

WELD 114L Advanced SMAW **2 credit hours**
(Prerequisites: WELD 106L and 107L or department approval) Advanced instruction in SMAW with a strong emphasis on safety is offered. Students practice stringers, weaves and wash passes. (75 lab hours a term)

WELD 115L Introduction to GMAW and Fabrication Lab **2 credit hours**
(Prerequisite: WELD 106L or department approval) Mig welding safety, spray and short-circuiting transfer are covered. Fabrication and repairs are assigned. (75 lab hours a term)

WELD 116L Introduction to GTAW and Fabrication Lab **2 credit hours**
(Prerequisite: WELD 106L or department approval) Basic instruction is provided in safety and TIG welding on aluminum and stainless steel. Fabrication and repairs are assigned. (75 lab hours a term)

WELD 117L Qualifications for SMAW and GMAW **2 credit hours**
(Pre- or corequisites: WELD 114L and 115L or department approval) Simulated qualification procedures are provided for arc and mig welding in all positions. (75 lab hours a term)

WELD 170 Welding Skills **3 credit hours**
Safety practices, basic tools and equipment, operating procedures and applications of oxyacetylene and arc welding are covered. (15 theory + 75 lab hours a term)

WELD 171 Advanced Welding Skills **3 credit hours**
(Prerequisite: WELD 170 or department approval) Mig and tig welding, basic math and blueprint reading are included. (15 theory + 75 lab hours a term)

WELD 202 Advanced Blueprint Reading **2 credit hours**
(Prerequisite: MATT 113 or department approval) Pipe layout and development, structural print reading and design and layout considerations related to fabrication are covered.

WELD 205L Pipe Layout and Welding **2 credit hours**
(Prerequisite: WELD 114L or department approval) Topics include basic pipe welding and layout, materials testing and industrial safety, as well as welding problems for carbon steels. (75 lab hours a term)

WELD 206L Advanced GMAW and Fabrication **2 credit hours**
(Prerequisite: WELD 117L or department approval) This course provides instruction in advanced carbon steel wire feed welding, AWS lab inspection and fabrication/repair. (75 lab hours a term)

WELD 207L Advanced GTAW and Fabrication **2 credit hours**
(Prerequisite: WELD 116L or department approval) Advanced aluminum and stainless steel wire feed welding and specialized fabrication/repair are covered. (75 lab hours a term)

WELD 208L Qualifications for GTAW **2 credit hours**
(Pre- or corequisite: WELD 207L or department approval) Simulated qualification procedures for tig welding in all positions are covered. (75 lab hours a term)

WELD 296 Special Topics **1–6 credit hours**
(Prerequisite: department approval) This flexible course enables students to pursue studies in specialized areas. This class may also be taken as an independent or guided study, as a refresher course, or to sharpen skills prior to certification or recertification exams.

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Kathleen Waymire, art instructor; Ph.D.
Chris Wheland, mathematics instructor; M.A.
Mark Williams, computer science instructor; M.S.
Shawn Wright, biology instructor; M.S.

BUSINESS OCCUPATIONS

Don Adams, microcomputer management instructor; M.S.Mgt.
Dawn Addington, CPA, accounting instructor; M.S.Acc.
Joyce Barefoot, administrative assistant instructor; B.B.A.
Cheryl Bartlett, CPA, accounting instructor; M.B.A.
David Bency, CPA, accounting instructor; B.B.A.
David Bergsland, business graphics and communications instructor; B.F.A.
Mary Burt, administrative assistant instructor; M.A.
Louise Chappy, microcomputer management instructor; M.A.O.M.
Leigh Anne Chavez, legal assistant studies instructor; J.D.
Paul Clark, microcomputer management instructor; M.S.
Susie Cutler, administrative assistant instructor; M.A.
Dennis Emmerich, microcomputer management instructor; M.B.A.
Anita H. Frantz, legal assistant studies instructor; J.D.
Jean Gallegos, accounting instructor; M.B.A.
Marianne Gardner, administrative assistant instructor; M.S.
Hossein Giahi, business administration instructor; M.B.A.
Fred Gordon, accounting instructor; M.A.
Marcella Green, microcomputer management instructor; M.A.
Nadine Grosjean, administrative assistant instructor; M.A.
Sue Gunckel, CPA, accounting instructor; M.S.W.
Gary Hays, business administration instructor; B.S.
Mary Carole Helton, microcomputer management instructor; M.P.A.
Debbie Hester-Rael, CPA, accounting instructor; B.S.
Bob Hildenbrand, CPA, accounting instructor; M.S.
Jim Holmes, accounting instructor; M.B.A.
Judy Johnson, administrative assistant instructor; M.A.
Marilyn Konnick, administrative assistant instructor; M.A.
Deborah LaPointe, court reporting instructor; M.S.
Fannie B. Lujan, administrative assistant instructor; B.S.
Marilyn Maclay, administrative assistant instructor; M.A.
Gail Maddoux, business administration instructor; M.A., M.B.A.
Gloria Madrid, administrative assistant instructor; M.A.
Linda Maggart, administrative assistant instructor; B.S.
Joyce Matthews, accounting instructor; M.A.
Judy McCutcheon, administrative assistant instructor; M.A.
Jerry Pacheco, business administration instructor; M.A., M.B.A.
Robert Peaslee, international business instructor; M.A., M.B.A.
William Price, accounting instructor; M.Ac.
William H. Putman, legal assistant studies instructor; J.D.
Shirley Quintana, court reporting instructor; B.S.
Robert T. Reeback, legal assistant studies instructor; J.D.
David Steele, business administration instructor; M.B.A.

Anita Sterchi, administrative assistant instructor; M.A.
Wallace Van Dusen, microcomputer management instructor; M.B.A.
Anita Vaughn, administrative assistant instructor; M.P.A.
John Warns, business administration instructor; B.A.
Joe Webster, CMA, accounting instructor; M.B.A.
Kim Wong, business administration instructor; J.D.
Anna Wormald, CRI, court reporting instructor; M.A.

HEALTH OCCUPATIONS

John Blewett, RRT, RCP, respiratory therapy instructor, BUS
Teresa Brito-Asenap, program director, child development, MA
Marsha Brown, RN, nursing instructor, MSN
Karen Connors, RN, nursing instructor, MSN
Lynne Curtis, RN, chair health unit clerk program, BSN
Patricia Everett, RN, chair of the surgical programs, MSN
Charles Fatta, RRT, RCP, clinical coordinator, respiratory therapy program, MBA
Pamela Fletcher, R.D./L.D., nutrition instructor, MA
Richard Gentile Jr., RRT, RCP, director, respiratory therapy program, M.Ed.
David Gordon, RRT, RCP, respiratory therapy instructor, MA
Monya Kmetz, MT (ASCP), CLS (NCA), program director, medical laboratory technician, MA
Patricia Loflin, RN, nursing instructor, MSN
Lorraine Lowen, RN, nursing instructor, MSN
Ruth McCall, MT (ASCP), CLS (NCA), program director, phlebotomy and clinical lab assistant, BS
Paulette McNeill, RN, nursing instructor, MSN
Susan Michalske, RN, nursing instructor, MSN
Gloria Monek-Kovanis, RN, nursing instructor, MSN
Susan Morgan, RN, nursing instructor, MN
Mary Moser-Gautreaux, RN, nursing instructor, MSN
Delores Pederson, RN, nursing assistant instructor, BSN
Lori Ponge, RN, nursing instructor, BSN
Marie Rea-Trujillo, RN, nursing instructor, MSN
Marian Sawyier, RN, nursing instructor, MSN
Douglas Scribner, CPhT, chair of the pharmacy technician program, BA
Ann E. Sims, RN, program director, nursing assistant, BSN
Penelope Stanley, RN, nursing instructor, MN
Patricia Stephens, RN, director of nursing programs, MA, MSN
Carol Winkles, RN, nursing instructor, MSN

TECHNOLOGIES

Jamie Barr, assistant dean; M.P.A.
Steve Benavidez, design drafting engineering technology instructor; M.A.
Joseph Black, electronics technology instructor; M. P. A., M.S.E.E.
William Boettcher, electronics engineering technology instructor; M.S.E.E.
Bruce Bush, electronics technology instructor; B.S.
Phyllis Cece, architectural/engineering drafting technology instructor; B.A.
David Clauss, electronics technology instructor; B.A.
Steven Fraker, architectural/engineering drafting technology instructor; M.A.
Hayward Franklin, computing technology instructor; Ph.D.
Eileen Garcia, computing technology instructor; B.S.
Joel Gellman, electronics technology instructor; B.S.I.E.
Beverly Gersema, computing technology instructor; B.S.
Terry Gonzales, computing technology instructor; B.A.
Ed Green, manufacturing technology instructor; B.S.I.E
Gordon Hall, registered architect, architectural/engineering drafting technology instructor; M.Arch.
James Hart, electronics technology and computer networking instructor; B.U.S.
Raymond Isengard, electronics technology instructor
Barbara Johnston, computing technology instructor; M.A., M.S.
Brenda Judd, computing technology instructor; M.B.A.
Peter Kalitsis, registered architect, architectural/engineering technology instructor; B.A.
Andrew Kerr, architectural/engineering drafting technology instructor; B.S. Arch.
Paul Kirkpatrick, architectural/engineering drafting technology and computing technology instructor; B.U.S.
Eric Krosche, manufacturing technology instructor; M.S.
Fabian Lopez, electronics/manufacturing technology instructor
Earnestine Mitchell, computing technology instructor; B.A.
JoAnn Poe, manufacturing technology instructor; M.A.
Jimmy Reed, computing technology instructor; B.S.
Laurence Rose, computer animation instructor; M.S.
Daniel Shaffer, design drafting engineering technology instructor; M.A., M.S.
Fred Streit, manufacturing technology instructor; M.S.
Susan Sujka, math/electronics technology instructor; B.S.
Theodore Trujillo, electronics technology and manufacturing technology instructor; B.S.
Ramon Vigil, electronics technology instructor; B.B.A.
Thomas Walling, electronics technology instructor; B.S.
Gary Walters, computing technology instructor; M.S.
Wesley Wesbrooks, electronics technology instructor; M.S.E.E.
Michael White, electronics engineering technology instructor; M.S.E.E
Elizabeth Wilkinson, design drafting engineering technology instructor; B.A.
Mary Jane Willis, manufacturing technology instructor; M.A.

TRADES & SERVICE OCCUPATIONS

Edward Abeita, fire science instructor
Alain Archuleta, VICA chair; B.S.
Earnest Arko, construction technology program director; B.A.
Paul Baxter, truck driving instructor; B.S.
Paul Beck, machine tool technology instructor; B.S.
Noel Binford, construction management instructor; B.S.
Richard Birkey, assistant dean; Ed.D.
Timothy Brown, electrical trades instructor; B.S.
Thomas Bryant, diesel equipment technology instructor; B.S.
Glen Bugge, automotive technology instructor; B.S.
Darcy Buland, quantity foods instructor; B.S.
Darrell Creel, truck driving chair; B.A.
James DeMarcus, mechanical technology program director; B.S.
Frederick Downum, construction management chair; B.S.
John P. Gabaldon, electrical trades instructor; B.S.
Rudy Garcia, food service management instructor; M.A.
Donald D. Groghan, criminal justice instructor; M.A., M.S.
Scott Henrickson, automotive technology instructor; B.U.S.
Dave Hinchcliffe, carpentry instructor; B.S.
Joyce Jones, quantity foods instructor; B.S.
Robert Kho, automotive technology instructor; B.A.
Barry King, environmental technology instructor; M.S.
Mario Lazoya, welding instructor; B.U.S.
Samuel E. Lovelette, electrical trades instructor; B.S.
James Marshall, air conditioning, heating and refrigeration instructor; Ph.D.
Ronald Marshall, commercial printing instructor; B.S.
Elizabeth McGeehan, baking instructor; B.A.
Thomas J. Morris III, physical fitness/exercise science instructor; M.S.
Larry Mounger, automotive technology chair; B.S.
John Murray, air conditioning, heating and refrigeration instructor; B.A.
Walter Niederberger, public safety program director; M.S.
Simon Nunez, Jr., plumbing instructor; B.S.
John Pierce, carpentry instructor; B.A.
Carmine Russo, culinary arts program director; B.S.
Harold Senke, environmental technology instructor; B.S.
Lewis Steinberg, ACHR instructor
Richard Warren, machine tool technology instructor; B.S.
Charles R. Yonker, student academic achievement chair; B.S.

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