

# CATALOG UPDATE

1986-87

Albuquerque Technical-Vocational Institute

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### **Equal Opportunity Policy**

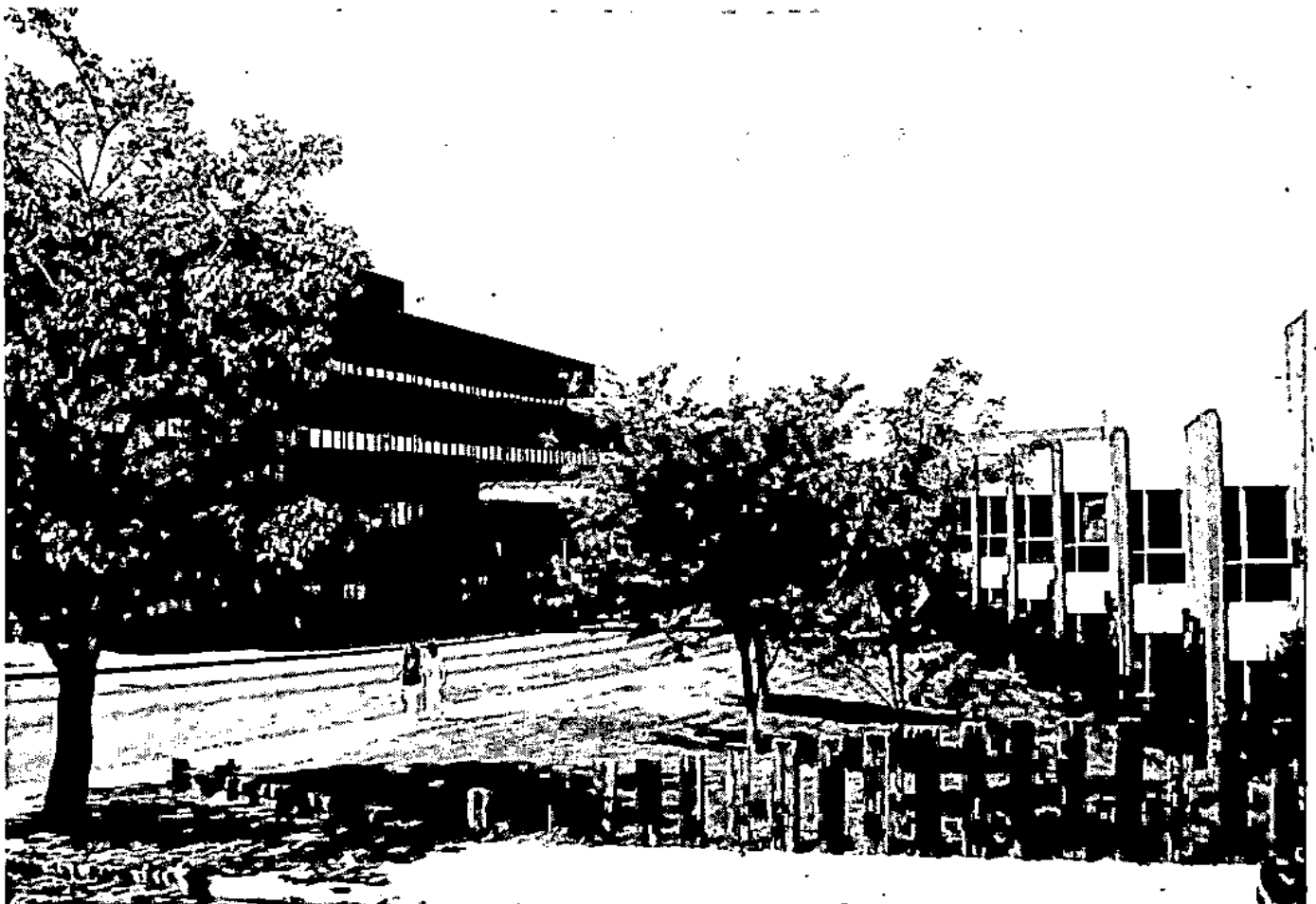
The Albuquerque Technical-Vocational Institute, in compliance with Title VI of the Civil Rights Act of 1964, Title IX of the Education Amendments of 1972 and Section 504 of the Rehabilitation Act of 1973, does not discriminate on the basis of race, color, national origin, handicap, age or sex in any of its policies, practices or procedures. The provision includes, but is not limited to, admissions, employment, financial aid and educational services.

Any person who wants to file a complaint based on these laws should contact the T-VI equal opportunity officer, Tony Galaz, Room A-25 Main Campus.

Information contained in this Catalog Update is subject to change without notice at any time by proper administrative directive.

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## About the Institute

(Refer to Catalog, page 2.)

On July 1, 1986, T-VI became a degree-granting institution as permitted by laws passed by the 1986 New Mexico Legislature. Four associate degrees and a program of general education will be offered by the Institute beginning with the fall 1986 trimester. Most of the changes listed in this *Catalog Update* have resulted from the addition of associate degrees to T-VI's offerings.

**ACCREDITATION:** Accreditation by the North Central Association of Colleges and Schools is pending for associate degree programs. Vocational programs are accredited by NCACS.

**NAME CHANGES:** The name of the Day Division has been changed to Instructional Division; Evening Division, to Continuing Education Division.

## Instructional Programs

(Refer to Catalog, page 3.)

### INSTRUCTIONAL DIVISION

The T-VI Instructional Division includes 38 full-time vocational programs in business, health, technology and trades occupations, and four associate degree programs.

The Preparatory Program now includes college prep courses in English, math, natural and social sciences for students planning to enter one of T-VI's associate degree programs or the University of New Mexico.

## Fees and Tuition

### CONTINUING EDUCATION DIVISION

(Refer to Catalog, pages 10-11.)

**APPLICATION FEE:** Application fee is \$10 for Skill Improvement classes.

### INSTRUCTIONAL DIVISION

(Refer to Catalog, page 11.)

**TUITION:** Courses offered by the College Division are \$15 per credit hour for residents, \$45 per credit hour for nonresidents. Tuition for nonresident students in occupational programs is \$500 per trimester. No tuition is charged to resident students in occupational programs.

**FEES:** For vocational program fees, see Catalog, page 12. For general education course fees, see page 5 of this Catalog Update.

## Financial Aid

(Refer to Catalog, pages 16-17.)

*The Financial Aid Office at Main Campus is now located on the first floor of the C Building, at the skywalk, 2000 Coal SE.*

**PELL GRANT:** Currently, the maximum Pell Grant award for eligible T-VI students enrolled in vocational programs for the entire year is \$930 (\$1830 for nonresidents paying tuition). For eligible students enrolled in associate degree programs, grant award amounts depend on the number of hours carried.

**GUARANTEED STUDENT LOAN (GSL):** United States citizens and permanent resident aliens or other eligible aliens may apply for the GSL if enrolled at least half time (12 clock hours per week) in a program consisting of at least 300 clock hours of instruction. Maximum loans are \$2500 a year.

New Mexico residents may select a lender from a state lender list available in the Financial Aid offices. Out-of-state residents may apply for the GSL through their state lenders or select certain lenders recommended by the Financial Aid offices. Eligibility for GSL funds is based on federal guidelines and the student remaining in good standing at T-VI.

Upon leaving school or ceasing to carry at least 12 clock hours per week, the borrower must begin to repay the loan within six months. The current interest rate is 8% and minimum payments are \$50 a month.

**NEW MEXICO NURSING STUDENT LOAN (NMNSL):** The NMNSL is a program for New Mexico residents who are enrolled in a nursing educational program preparing for an Associate Degree in Nursing. Maximum loans are \$2500 per year. Loans can be repaid with service in an underserved area within the state.

## Graduate Job Placement

Graduate placement statistics and specific information relating to each program are available at T-VI's Industrial Relations Office, 616 Buena Vista SE.

## Estimated Budget

An important matter to consider when planning to attend T-VI full-time is what it will cost. This estimated budget—including food, personal and transportation expenses, and T-VI school charges for a full-time student—is used by the Financial Aid Office to estimate financial aid needs.

### DEPENDENT STUDENT BUDGETS

<i>Student's Status</i>	<i>1 Trimester</i>	<i>2 Trimesters</i>	<i>3 Trimesters</i>
<b>DEPENDENT LIVING AT HOME (assumed for Albuquerque residents)</b>			
Tuition and Fees* .....	\$ 20 to \$ 120.....	\$ 30 to \$ 230.....	\$ 40 to \$ 320...
Room and Board .....	658 .....	1,317 .....	1,975 .....
Books and Supplies .....	25 .....	50 .....	75 .....
Personal Expenses .....	116 .....	233 .....	349 .....
Transportation.....	246 .....	493 .....	739 .....
<b>TOTAL*</b> .....	<b>\$1,065 to \$1,165</b>	<b>\$2,123 to \$2,323</b>	<b>\$3,178 to \$3,458</b>

### DEPENDENT LIVING OFF CAMPUS

Tuition and Fees* .....	\$ 20 to \$ 120.....	\$ 30 to \$ 230.....	\$ 40 to \$ 320...
Room and Board .....	1,220 .....	2,440 .....	3,660 .....
Books and Supplies .....	25 .....	50 .....	75 .....
Personal Expenses .....	473 .....	946 .....	1,420 .....
Transportation.....	398 .....	797 .....	1,195 .....
<b>TOTAL*</b> .....	<b>\$2,136 to \$2,236</b>	<b>\$4,263 to \$4,463</b>	<b>\$6,390 to \$6,670</b>

### INDEPENDENT STUDENT BUDGETS

#### SINGLE

Tuition and Fees* .....	\$ 20 to \$ 120.....	\$ 30 to \$ 230.....	\$ 40 to \$ 320...
Room and Board .....	1,543 .....	3,087 .....	4,630 .....
Books and Supplies .....	25 .....	50 .....	75 .....
Personal Expenses .....	473 .....	946 .....	1,420 .....
Transportation.....	398 .....	797 .....	1,195 .....
<b>TOTAL*</b> .....	<b>\$2,459 to \$2,559</b>	<b>\$4,910 to \$5,110</b>	<b>\$7,360 to \$7,640</b>

#### FAMILY OF TWO

Tuition and Fees* .....	\$ 20 to \$ 120.....	\$ 30 to \$ 230.....	\$ 40 to \$ 320...
Room and Board .....	2,564 .....	5,127 .....	7,691 .....
Books and Supplies .....	25 .....	50 .....	75 .....
Personal Expenses .....	946 .....	1,893 .....	2,839 .....
Transportation.....	600 .....	1,200 .....	1,800 .....
<b>TOTAL*</b> .....	<b>\$4,155 to \$4,255</b>	<b>\$8,300 to \$8,500</b>	<b>\$12,445 to \$12,725</b>

#### EACH ADDITIONAL

<b>MEMBER ADD</b> .....	<b>\$ 550</b> .....	<b>\$1,100</b> .....	<b>\$1,650</b>
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\*If student is paying nonresident tuition, add \$500 per trimester.

\*If student is paying resident associate degree tuition, add \$15 per credit hour.

\*If student is paying nonresident associate degree tuition, add \$45 per credit hour.

# COLLEGE DIVISION

(Associate Degree Programs)



## Admission Policies

Students applying for a degree program must hold a high school diploma or GED (high school equivalency). Students also are required to take the American College Test (ACT) or present their test scores. All degree programs require satisfactory ACT scores in English and math. Students who do not present satisfactory scores will be required to take the appropriate preparatory courses before being admitted to a degree program.

Individual degree programs have additional ACT requirements as follows: Instrumentation and Control Technology requires satisfactory scores in social and natural sciences; Law Enforcement requires a satisfactory social sciences score.

Satisfactory ACT scores are: English, 17; math, 12; natural sciences, 18; social sciences, 14.

Scholastic Aptitude Test (SAT) scores equivalent to satisfactory ACT scores will be accepted.

Students not declaring for a T-VI vocational program or degree may take up to six credit hours of general education without any previous testing. Students wanting to take more than six credit hours must complete the normal Instructional Division admission process (see Catalog, page 8), and take the math and reading vocabulary tests.

**RESIDENCY REQUIREMENT:** A student must satisfactorily complete 15 credit hours at T-VI in order to qualify for an associate degree.



**REFUNDS:** The *application fee* is a charge for processing the applicant's admission. It is not refundable.

*Tuition* is refundable only if the student withdraws before the tenth day of classes. Refunds are prorated as follows: withdrawal prior to the start of semester—100 percent; withdrawal during the first five days of classes—90 percent; withdrawal during second five days of classes—80 percent.

*Lab fees* are not refundable after the term begins.

## Tuition and Fees

**APPLICATION FEE:** There is a \$10 application fee per semester, payable before the applicant is admitted. Payment of the application fee and other required fees reserves the applicant a place in classes only through the close of the final registration day set for new students. Unless the applicant has requested a reservation extension in writing, his or her place in classes may be filled by another applicant during the late registration process.

**TUITION:** Courses offered by the College Division are \$15-per credit hour for residents, \$45 per credit hour for nonresidents. Tuition must be paid in full to register.

**FEES:** There is a \$7.50 fee to take the ACT.

A lab fee of \$15 is charged for the following general education courses: Anatomy and Physiology I, Anatomy and Physiology II, Biology, Chemistry, Microbiology.

## Grading

Associate degree candidates must have a 2.0 cumulative grade point average (GPA) to graduate.

General education courses are graded as follows:

		GPA
A	91-100	4.0
B	81-90	3.0
C	71-80	2.0
*D	61-70	1.0
F	Failing	0.0
I	Incomplete	—
W	Withdraw	—
N	Audit	—

\*A grade of D is not considered passing for a course that is a prerequisite for any other course.

Students may repeat a course for a better grade. All grades will appear on the permanent record/transcript, but only the highest grade will be used to compute cumulative grade point average.

# ASSOCIATE DEGREE PROGRAMS

## Accounting (Associate in Applied Science Degree)

The Associate in Applied Science Degree in Accounting is designed to prepare a student for a career as an accountant in business, industry and government. Emphasis is placed on internal accounting procedures and generally accepted accounting principles.

The degree is awarded to students who complete both vocational and general education components.

### ASSOCIATE IN APPLIED SCIENCE/ ACCOUNTING

#### General Education Requirements (15 credit hours)

##### Communications

English 101 .....	3 cr
Speech 221 .....	3 cr

##### Math/Science

Math 102 .....	3 cr
Math 120 .....	3 cr

##### Humanities/Social Science

Elective .....	3 cr
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#### Core Requirements (45 cr hrs)

<b>D P B W</b> Accounting Principles Lab I .....	3 cr
<b>D P B W</b> Accounting Math/Calculators .....	3 cr
<b>D P B W</b> Business Communications I .....	3 cr
<b>D P B W</b> Accounting Principles Lab II .....	3 cr
<b>D P B W</b> Introduction to Computer Concepts .....	3 cr
<b>D P B W</b> Business Communications II .....	3 cr
<b>D P B W</b> Intermediate Accounting Lab I .....	3 cr
<b>D P B W</b> Tax Accounting .....	3 cr
<b>D P B W</b> Accounting Computer Lab I .....	3 cr
<b>D P B W</b> Business Law .....	3 cr
<b>D P B W</b> Intermediate Accounting Lab II .....	3 cr
<b>D P B W</b> Cost Accounting .....	3 cr
<b>D P B W</b> Accounting Computer Lab II .....	3 cr
*Required Support Courses .....	6 cr

Total Degree Requirements: 60 cr hrs

### COURSE DESCRIPTIONS

#### 0410699—Introduction to Computer Concepts (3 cr)

This course covers manual and automated information systems, computer hardware, data entry, business software applications, BASIC programming language, and provides hands-on experience with microcomputers.

#### 0410213—Accounting Computer Lab I (3 cr)

This microcomputer lab is divided into two 7 1/2-week blocks including Electronic Spreadsheets and Microcomputer Accounting. Students use prepared business software to solve business problems.

*Prerequisite: Introduction to Computer Concepts*

#### 0410214—Accounting Computer Lab II (3 cr)

This microcomputer lab is divided into two 7 1/2-week blocks including Payroll and Inventory Control. Students use prepared business software.

*Prerequisite: Introduction to Computer Concepts*

*Other core requirement course descriptions are listed under Accounting in the Catalog, pages 33–34. General education course descriptions are on pages 12–13 of this Catalog Update.*

### SUPPORTING COURSES

#### \*0410215—Accounting II (3 cr)

This course examines corporations, estate and gift taxes, fiduciaries, tax planning and tax shelters.

*Prerequisite: Tax Accounting I* **D P B W**

#### 0410216—Principles of Finance (3 cr)

Basic understanding of concepts and theories of finance is the goal of this course. The history of money, monetary systems and credit are studied. Forms of business organizations, capital budgeting, source of funds, marketing securities, capital structure, foreign expansion and reorganization of a business firm are examined.

**D P B W**

#### 0410217—Investments (3 cr)

Students study investment analysis, management, objectives, values and risks.

#### \*0410218—Advanced Accounting (3 cr)

This course covers advanced topics in accounting which include accounting for installment and consignment sales, advanced partnership accounting, fund accounting, and accounting for business combinations.

*Corequisite: Intermediate Accounting II*

#### 0410219—Money and Banking (3 cr)

This course is concerned with the nature, history and functioning of money-creating institutions, including techniques developed for their control and the interrelations between monetary, price and employment theories.

**D P B W**

#### \*†0410846—Auditing

†0410133—Financial Analysis

\*†0410832—Governmental Accounting

†0410953—Internship

\*†0410200—Managerial Accounting

†0410856—Principles of Economics

†0410814—Principles of Management

*†Course descriptions are listed under Accounting in the Catalog, pages 33–34.*

**D P B W**  
**D P B W**  
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**D P B W**  
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**D P B W**



# Instrumentation and Control Technology

## (Associate in Applied Science Degree)

The Instrumentation and Control Technology degree program provides graduates with the science and engineering knowledge and technical skills to support engineering activities. The program includes a core curriculum of electronics coupled with mathematics, graphics, computers, robotics, hydraulics, and relevant science and engineering subjects. Students are prepared for jobs involving construction, repair and maintenance of systems and equipment designed by engineers.

There is a \$15 laboratory fee for Chemistry 121L to cover glass breakage and personal equipment.

### ASSOCIATE IN APPLIED SCIENCE/ INSTRUMENTATION AND CONTROL TECHNOLOGY

#### General Education Requirements (18 credit hours)

##### Communications

English 119 ..... 3 cr

##### Math/Natural Science

Math 162 ..... 4 cr

Chemistry 121L ..... 4 cr

Physics 160 ..... 4 cr

##### Humanities/Social Science

Elective ..... 3 cr

#### Core Requirements (52 cr hrs)

Electronics Lab/Theory I ..... 6 cr

Technical Mathematics ..... 5 cr

Semiconductors ..... 5 cr

Digital Circuits ..... 5 cr

Introduction to Robotics and

Automated Equipment ..... 3 cr

Industrial Electronics III ..... 5 cr

Instrumentation & Control ..... 5 cr

Feedback & Control ..... 3 cr

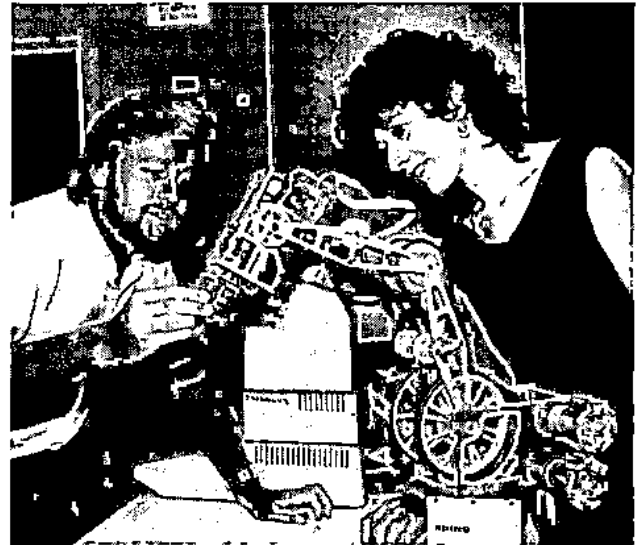
Industrial Electronics IV ..... 5 cr

Advanced Feedback & Control ..... 5 cr

Digital Applications ..... 5 cr

#### Total Degree Requirements: 70 cr hrs

General education course descriptions are on pages 12-13 of this Catalog Update. Core requirement course descriptions are listed under Instrumentation and Control Technology in the Catalog, pages 60-61.



#### SUPPORTING COURSES

##### 0133256—Computer Architecture and Operating Systems (3 cr)

This course introduces the architecture and operating system concepts that form the basis of microcomputer systems. Topics include the study of an eight-bit microcomputer and a 16-bit microcomputer. Architecture, operating systems, and I/O device drivers are studied.

*Pre- or Corequisite: Digital Applications (Trimester IV Instrumentation & Control)*

##### 0133255—Principles of Laser Electro-Optics (3 cr)

The student is introduced to the operation and principles of a laser, its output characteristics and safe operation practices. Applications studied include low power laser alignment, gauging and inspection, and low power laser application to interferometry and holography. Interaction of high power lasers is introduced.

*Prerequisite: Math 150*

##### 0133254—Telecommunications Techniques (3 cr)

Telecommunication transmission mediums (phone systems, microwaves, and fiber optics) are introduced. The course concentrates on how to process a digital signal for transmission. Topics include UARTs, USARTs, standard serial interfaces, synchronous and asynchronous protocols, and modems.

*Prerequisites: Industrial Electronics III and Instrumentation and Control III or equivalent.*

##### 0133252—Vacuum Systems (3 cr)

This course examines the various types of vacuum systems equipment used in industry. Laboratory work includes the assembly, maintenance and leak detection of various systems.

*Corequisite: General Physics 160*

##### 0133253—Pulse Power (3 cr)

The generation, transmission and measurement of high voltage, pulsed power systems are studied.

*Pre- or Corequisite: Trimester IV of Instrumentation and Control.*

## Law Enforcement (Associate in Applied Science Degree)

The Law Enforcement associate degree program provides basic instruction in the field of law enforcement and criminal justice. The training provided in the first and second semesters prepares the student for entry-level employment with a law enforcement agency.

Students who successfully complete training at an approved New Mexico law enforcement academy with which T-VI has articulation agreements are given block credit for the first and second semesters of the AAS degree program. Those students may enter the third semester after meeting T-VI admission requirements. They must also take English 101 and Math 120.

The curriculum covered in the third and fourth semesters provides advanced course work designed to give the graduate the abilities needed for higher level positions in the fields of security, law enforcement and corrections. Degree program credits may be transferred to four-year colleges or universities that have related programs.

To earn an Associate in Applied Science Degree in Law Enforcement, a student must successfully complete 1462 hours of which 330 are laboratory work and 1132 are related theory.

Students must pay personal equipment fees of \$5 for the first semester and \$35 for the second semester.

### ASSOCIATE IN APPLIED SCIENCE/ LAW ENFORCEMENT

#### *General Education Requirements (18 credit hours)*

##### *Communications*

English 101 .....	3 cr
English 119 .....	3 cr
Speech 221 .....	3 cr

##### *Math/Natural Science*

Math 120 .....	3 cr
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##### *Humanities/Social Science*

Psychology 101 .....	3 cr
Sociology 101 .....	3 cr

#### *Core Requirements (45 cr hrs)*

Criminal Justice System .....	4 cr
Law .....	3 cr
Criminal Law Procedures .....	2 cr
Patrol .....	2 cr
CPR/First Aid Multi-Media .....	2 cr



#### Traffic Enforcement/Accident

Investigation .....	2 cr
Criminal Investigation .....	4 cr
Patrol Fitness .....	3 cr
Defense Tactics .....	3 cr
Community Relations .....	1 cr
Introduction to Computers .....	3 cr
Ethnic Cultures & Minority Relations .....	3 cr
Research Procedures .....	1 cr
Criminology .....	3 cr
Juvenile Delinquency .....	3 cr
Probation & Parole .....	3 cr
Corrections .....	3 cr

*Total degree requirements: 63 cr hrs*

### COURSE DESCRIPTIONS

#### 0770142—Criminal Justice System (4 cr)

This course covers the relationship among the various federal, state and local law enforcement agencies; the New Mexico court systems; the correction system; and law enforcement codes of ethics.

#### 0770124—Law (3 cr)

Students are given a general overview of the legal system including the relationship between probable cause and its standard of proof as set forth in the New Mexico Criminal Code. Other topics covered include the basic elements of a crime and classification of crimes as defined by New Mexico law; the concepts and definitions of intent; parties to a crime; obstruction of justice; controlled substances; children's code; civil liability and civil rights.

**0770166—Criminal Law Procedures (2 cr)**

This course covers constitutional law with emphasis on the First Amendment (freedom of speech), Fourth Amendment (search and seizure), Fifth Amendment (privilege against self-incrimination), Sixth Amendment (right to counsel), Eighth Amendment (right to bail, protection against cruel and unusual punishment), and Fourteenth Amendment (equal protection). Also studied are laws of arrest, concepts of evidence, burden of proof and rules of evidence.

**0770209—Patrol (2 cr)**

Students learn patrol concepts including advantages and disadvantages of motor patrol over foot patrol and some of the problems inherent in effective law enforcement. The course also emphasizes officer safety techniques, tactical procedures and street survival techniques for making vehicle stops.

**0770177—CPR First Aid Multi-Media (2 cr)**

Training is given in the Red Cross multi-media system and cardiopulmonary resuscitation, for which Red Cross certification is issued upon successful completion. An introduction to the Occupational Safety and Health Act (OSHA) regulations is included.

**0770152—Traffic Enforcement/Accident Investigation (2 cr)**

This course introduces the student to the problems of traffic in law enforcement. The importance of traffic enforcement and its effect on fatalities and injuries are emphasized. Topics also include Motor Vehicle Code/citations/DWI laws; accident investigation; procedures for dealing with hazardous material spills; use of alcohol-testing devices; and traffic radar operation.

**0770134—Criminal Investigation (4 cr)**

The student learns the proper procedures to follow as the first responder to a homicide scene, along with investigative techniques for auto theft, burglary, robbery, sex crimes, narcotic dealing and usage, arson and child abuse. Other topics include information-gathering techniques, particularly as related to confidential informants; rolled and latent fingerprinting techniques; New Mexico sexual assault evidence kit; firearms and toolmarks; trace evidence; blood evidence collection; documentary evidence collection; and crime lab capabilities. Students also are instructed in interview and interrogation techniques, courtroom demeanor and courtroom testimony techniques, including participation in a mock trial.

**0770167—Patrol Fitness (3 cr)**

Instruction is given in stress management and physical fitness. Students participate in a six-week exercise program designed to strengthen muscles and improve cardiovascular endurance.

**0770203—Defense Tactics (3 cr)**

Students learn the appropriate force levels to use when confronted with potentially dangerous persons. Handcuffing and search techniques, prisoner handling, and self-defense techniques also are covered.

**0770246—Community Relations (1 cr)**

Students explore the roles of criminal justice practitioners, with an emphasis on the development of positive relationships with the public.

**0770383—Ethnic Cultures and Minority Relations (3 cr)**

The study of ethnic and racial groups, conflict and adjustment, cultural differences, theories of prejudice, and current trends and problems—especially those in the contemporary United States—are included in this course.

**0770173—Research Procedures (1 cr)**

Students learn writing techniques, the basic mechanics of legal research and use of the law library.

**0770198—Criminology (3 cr)**

The causes of crime with emphasis on sociological factors, the various faces of crime, the criminal, and past and present criminology theory are presented in this course.

**0770136—Juvenile Delinquency (3 cr)**

Topics covered in this course include the characteristics of the delinquent youth under the age of criminal adulthood, theories of causation and related empirical research.

**0770387—Probation and Parole (3 cr)**

This course covers history, philosophy, legal basis, procedures governing investigation, treatment, supervision of adjudged juvenile offenders and adult violators placed on probation and parole.

**0770388—Corrections (3 cr)**

Students learn theoretical and practical approaches to treatment of offenders in custody, the history of methods of treatment, and current practices.

## Nursing

### (Associate in Science Degree)

This program prepares technical nurses who provide nursing care to individuals, clients, or groups of clients admitted to health care agencies. The clients have common, well-defined health problems. Graduates work in structured health care settings and provide and manage client care, teach and communicate while participating as members of the nursing profession.

Graduates are eligible to take the state registered nurse examination given by the New Mexico Board of Nursing.

In addition to the degree program admission policies listed on page 5 of this Catalog Update, Associate of Science Degree in Nursing applicants must meet the following general requirements for admission:

- Submit official transcripts of previous education including high school, vocational school or college.
- Provide proof of completion of general biology and general chemistry courses within the last five years with a minimum grade of C (each course must have been one year in high school or one semester in college).
- Submit evidence of current certification in cardiopulmonary resuscitation.

- Score satisfactorily on the Nelson-Denny Reading Test.
- Submit three letters of recommendation from former teachers, employers or other supervisors.
- Have a personal interview with the director or designee.
- Submit a completed health form, with evidence of current immunizations and physical examination, before beginning classes.

Applicants will be admitted to the program on a space-available basis after all admission requirements are met.

Clinical experiences take place in local hospitals and other community health care agencies. A grade of C or better must be earned in all science and core courses, and a cumulative grade point average of 2.0 for all course work is required.



## ASSOCIATE IN SCIENCE/NURSING

### General Education Requirements (27 credit hours)

#### Communications

English 101 .....	3 cr
Speech 221 .....	3 cr

#### Math/Science

Biology 201 .....	3 cr
Biology 211L .....	1 cr
Biology 237 .....	3 cr
Biology 247L .....	1 cr
Biology 238 .....	3 cr
Biology 248L .....	1 cr

#### Humanities/Social Science

Psychology 101 .....	3 cr
Psychology 102 .....	3 cr
Sociology 101 .....	3 cr

### Core Requirements (40 cr hrs)

Home Economics 225—Nutrition .....	3 cr
Pharmacology .....	3 cr
Fundamentals of Nursing .....	4 cr
Fundamentals of Nursing Lab/Clinical .....	2 cr
Nursing in Health Deviations I .....	4 cr
Nursing in Health Deviations I Lab/Clinical .....	3 cr
Nursing in Health Deviations II .....	5 cr
Nursing in Health Deviations II Lab/Clinical .....	5 cr
Maternal-Child Nursing .....	5 cr
Maternal-Child Nursing Lab/Clinical .....	5 cr
Nursing Seminar .....	1 cr

Total degree requirements: 67 cr hrs

## COURSE DESCRIPTIONS

### 0800556—Home Economics 225—Nutrition (3 cr)

The basic principles of nutrition including the impact of nutrition on body functions, total health, and life style are presented.

### 0560237—ADN Pharmacology (3 cr)

This course covers the origins and development of drug therapy. Pharmacologic action and effect of commonly used drugs on various body systems, the therapeutic range of dosages, application in treatment of disease entities, side effects and/or toxicity, laboratory tests performed to monitor actions, and effects of given drugs and antidotes are discussed. Drugs and their actions on children and adults are presented.

### 0560236—Fundamentals of Nursing (4 cr)

This beginning-level course develops the concepts of the individual, society, health and nursing. Human behavior is presented as a problem-solving phenomena, with nursing practice focused on facilitating an individual's problem-solving activities. The nursing process of assessment, planning, implementation and evaluation; the role of the technical nurse; and communication skills are introduced. Dosage and solution preparation is presented.

*Corequisite: Fundamentals of Nursing Lab/Clinical*

### 0560076—Fundamentals of Nursing Lab/Clinical (2 cr)

Laboratory and clinical experiences provide for application of basic nursing and communication skills in helping clients with normal needs as well as clients who have uncomplicated problems.

*Corequisite: Fundamentals of Nursing*

**0560174—Nursing in Health Deviations I (4 cr)**

This course builds upon the content of Fundamentals of Nursing, emphasizing the use of the nursing process to help clients solve biophysical, environmental, socio-cultural and psychological problems. Health deviations presented include metabolic, elimination, sexual, rest and activity problems.

*Prerequisites: Fundamentals of Nursing, Fundamentals of Nursing Lab/Clinical*

*Corequisite: Nursing in Health Deviations I Lab/Clinical*

**0560079—Nursing in Health Deviations I Lab/Clinical (3 cr)**

Students assist adult patients and clients in acute care hospitals and long-term care facilities. Medical, surgical and geriatric nursing skills are stressed.

*Prerequisites: Fundamentals of Nursing, Fundamentals of Nursing Lab/Clinical*

*Corequisite: Nursing in Health Deviations I*

**0560248—Nursing in Health Deviations II (5 cr)**

A continuation of Nursing in Health Deviations I, this course presents problems associated with safety and oxygen needs including neurological, cardiovascular and respiratory deviations. Psychiatric disorders as deviations from normal psychological needs are presented. Nursing care theory focuses on the client with more complex medical or surgical problems or the client with psychological problems.

*Prerequisites: Fundamentals of Nursing, Fundamentals of Nursing Lab/Clinical, Nursing in Health Deviations I, Nursing in Health Deviations I Lab/Clinical*

*Corequisite: Nursing in Health Deviations II Lab/Clinical*

**0560084—Nursing in Health Deviations II Lab/Clinical (5 cr)**

Laboratory and clinical experiences give students the opportunity to integrate and apply nursing theory in more complex

medical and surgical settings as well as psychiatric care facilities. The role of the technical nurse, nursing process and communications continue to be stressed.

*Prerequisites: Fundamentals of Nursing, Fundamentals of Nursing Lab/Clinical, Nursing in Health Deviations I, Nursing in Health Deviations I Lab/Clinical*

*Corequisite: Nursing in Health Deviations II*

**0560366—Maternal-Child Nursing (5 cr)**

This course provides students with the theory needed to assist maternal and child clients and their families in the resolution of biophysical, environmental, socio-cultural or psychological problems. Normal characteristics and deviations in the health of mothers and children are presented.

*Prerequisites: Fundamentals of Nursing, Fundamentals of Nursing Lab/Clinical, Nursing in Health Deviations I, Nursing in Health Deviations I Lab/Clinical*

*Corequisite: Maternal-Child Nursing Lab/Clinical*

**0560087—Maternal-Child Nursing Lab/Clinical (5 cr)**

Concurrent clinical experiences with the theory take place in hospitals, community agencies and out-patient services. Students have the opportunity to integrate and apply nursing knowledge in the practice setting.

*Prerequisites: Fundamentals of Nursing, Fundamentals of Nursing Lab/Clinical, Nursing in Health Deviations I, Nursing in Health Deviations I Lab/Clinical*

*Corequisite: Maternal-Child Nursing*

**0560396—Nursing Seminar (1 cr)**

Students study and discuss the role of the registered nurse in relation to modern trends, legal and ethical issues, professional relationships and health care delivery. The course is designed to develop critical thinking in legal-ethical issues related to professional nursing. The course should be taken when most nursing core requirements have been completed.

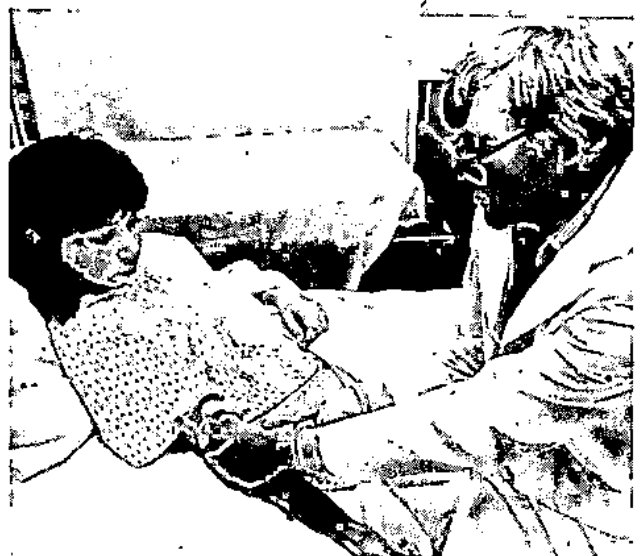
## Advanced Placement (Associate in Science Degree in Nursing)

To apply for advanced standing in the Nursing associate degree program, individuals must meet the general requirements for admission into an associate degree program, as listed on page 5 of this Catalog Update. Advanced placement may be granted in two ways:

1. *Transfer*—Transfer from an accredited associate degree or baccalaureate nursing program with equivalent courses.

To apply for transfer, the individual must submit evidence of completion of equivalent courses for consideration by the Institute. All grades received must be C or better. Transfer students will be required to enroll a minimum of one semester and complete 15 credit hours.

2. *LPN Mobility*—Admission of Licensed Practical Nurses.



The associate degree program is designed to admit qualified Licensed Practical Nurses into the second year. In addition to meeting the general admission requirements, applicants must:

- Complete or challenge the following courses with a minimum grade of C:
  - \*Anatomy and Physiology I 3 credits
  - \*Anatomy and Physiology I Lab 1 credit
  - \*Anatomy and Physiology II 3 credits
  - \*Anatomy and Physiology II Lab 1 credit
  - General Academics, 9 credits including at least three of the following:
    - English Composition
    - Speech Communication
    - Psychology, General
    - Psychology, Developmental
    - Sociology
- \*Within last five years.
- Complete *Nursing Concepts for LPN's*, with a minimum grade of C (see Course Description below).
- Complete the Nursing Mobility Profile I examination if the applicant has not been active in nursing during the last five years or has not completed a practical nurse program in a postsecondary institution.

## COURSE DESCRIPTION

### 0560416—Nursing Concepts for LPNs (2 cr)

An introduction to the conceptual framework of the nursing program and an in-depth study of the nursing process are presented. The process of role change from LPN to RN is included. This course is required for LPN's who seek advanced placement in the associate degree program. One hour of theory and three hours of lab per week are included.

# General Education

## COURSE DESCRIPTIONS

### COMMUNICATIONS

#### 0800140—English 101—Writing with Readings in Exposition (3 cr)

Expository writing and reading. Concentrates on organizing and supporting ideas in writing.

#### 0800249—English 119—Technical Communications (3 cr)

Introductory study of written and verbal communications. Covers descriptive and process analysis, informal reports and proposals, short logs/reports for lab and field work, basic production of graphics, letter writing and oral presentation.

*Prerequisite: English 101*



#### 0800169—Speech 221—Interpersonal Communication (3 cr)

Analysis of a variety of interpersonal communication concepts with special emphasis on the application of communication skills in different situations.

### MATHEMATICS

#### 0800137—Math 102—Introduction to Probability and Statistics (3 cr)

Introduction to basic concepts in probability and statistics; analysis of numerical data and descriptive statistics, probability and basic probability models for statistics, sampling and statistical inference, techniques of statistical inference by examples from a variety of fields; demonstrations of the use of the computer in statistics.

*Prerequisite: Math 120*

#### 0800138—Math 120—Intermediate Algebra (3 cr)

Covers linear equations and inequalities, polynomials, factoring, exponents and radicals, fractional expressions and equations, and quadratic equations. (This course is preparation for Math 150.)

#### 0800139—Math 150—Algebra and Trigonometry (4 cr)

Study of functions with emphasis on graphs, equations, inequalities, and exponential, logarithmic and trigonometric functions. (This course is preparation for Math 162.)

*Prerequisite: Math 120.*

#### 0800143—Math 162—Calculus I (4 cr)

A study of derivatives; rate of a function; formal differentiation relative to rational functions, inverse and trigonometric functions; increment of a function and the concept of continuity; applications of the derivative, such as curve sketching, maxima and minima; integration, relation between derivative and integral, finding the area between two curves, and calculating volumes.

*Prerequisite: Math 150*

#### 0800144—Math 163—Calculus II (4 cr)

Differentiation and integration techniques with applications involving transcendental functions; numerical integration techniques, solving simple differential equations, improper integrals and application of the mean value theorem.

*Prerequisite: Math 162.*

## SOCIAL SCIENCE

### 0800168—Psychology 101—General Psychology I (3 cr)

An introduction to basic processes underlying behavior. The course focuses on principles of learning, memory and motivation, language, states of awareness and biological bases of behavior.

### 0800483—Psychology 102—General Psychology II (3 cr)

An introduction to patterns of human behavior. The course focuses on the topics of human growth and development, intelligence, personality, social psychology, abnormal behavior and therapy.

### 0800484—Sociology 101—Introduction to Sociology (3 cr)

Basic concepts, topics and theories of contemporary sociology.

## HUMANITIES

### 0800485—Humanities 111—Humanities I (3 cr)

Comparative introduction to the development of human civilizations emphasizing philosophic thought, religious practice and artistic expression.

### 0800486—Philosophy 245—Professional Ethics (3 cr)

Examination of social and ethical problems associated with a particular profession. Emphasis varies among the business, engineering, health and legal professions.

## NATURAL SCIENCE

### 0800545—Biology 101L—Biology for Non-Majors (4 cr)

In lecture and laboratory instruction, an introduction to the topics of plant and animal diversity, ecology, evolution, reproduction, development and heredity.

### 0800546—Biology 237—Anatomy and Physiology I (3 cr)

A study of the basic concepts of the plan, structures and normal functions of all the body systems and how they work together.

*Prerequisite: Biology 101L or equivalent*

*Corequisite: Biology 247L*

### 0800547—Biology 247L—Anatomy and Physiology I Lab (1 cr)

Three hours of laboratory experiences per week in microscopic studies of cells and tissues and dissection of specimens. Skeletal, heart and brain models are used to assist students in their understanding of the structures and organs of the body.

*Prerequisite: Biology 101L or equivalent*

*Corequisite: Biology 237*

### 0800548—Biology 238—Anatomy and Physiology II (3 cr)

A more in-depth study of the human body's physiological functioning with the accompanying anatomy than the overview offered in Anatomy and Physiology I.

*Prerequisites: Biology 237 and 247L*

*Corequisite: Biology 248L*

### 0800549—Biology 248L—Anatomy and Physiology II Lab (1 cr)

Three hours of laboratory experiences a week provide more in-depth physiological experiments and dissection of mammal specimens than provided in Anatomy and Physiology I Lab.

*Prerequisites: Biology 237 and 247L*

*Corequisite: Biology 238*

### 0800550—Biology 201—Microbiology for Health Sciences (3 cr)

Through lecture instruction, this course introduces the concepts of microbiology, host-parasite relationships, infection and immunity.

*Prerequisites: Biology 101L, Chemistry 111 & 112L*

*Corequisite: Biology 211L*

### 0800551—Biology 211L—Microbiology Lab for Health Sciences (1 cr)

In three-hour-per-week laboratory sessions, students study laboratory techniques with microorganisms and observe the growth of microorganisms, control and sanitation procedures.

*Prerequisites: Biology 101L, Chemistry 111 & 112L*

*Corequisite: Biology 201*

### 0800552—Chemistry 111—Introduction to Chemistry (3 cr)

Lecture instruction in the basic concepts of chemistry.

*Corequisite: Chemistry 112L*

### 0800553—Chemistry 112L—Introduction to Chemistry/Lab (1 cr)

Laboratory instruction, demonstration and experimentation.

*Corequisite: Chemistry 111*

### 0800554—Chemistry 121L—General Chemistry (4 cr)

Introduction to the chemical and physical behavior of matter through lecture and laboratory instruction.

*Prerequisite: Math 120 or Math 150.*

### 0800555—Physics 160—General Physics (4 cr)

A study of mechanics and sound waves. Topics include Newton's laws of motion, force, moments, friction, work, energy, power, momentum and longitudinal wave properties.

*Pre- or Corequisite: Math 162*

## GENERAL ELECTIVES

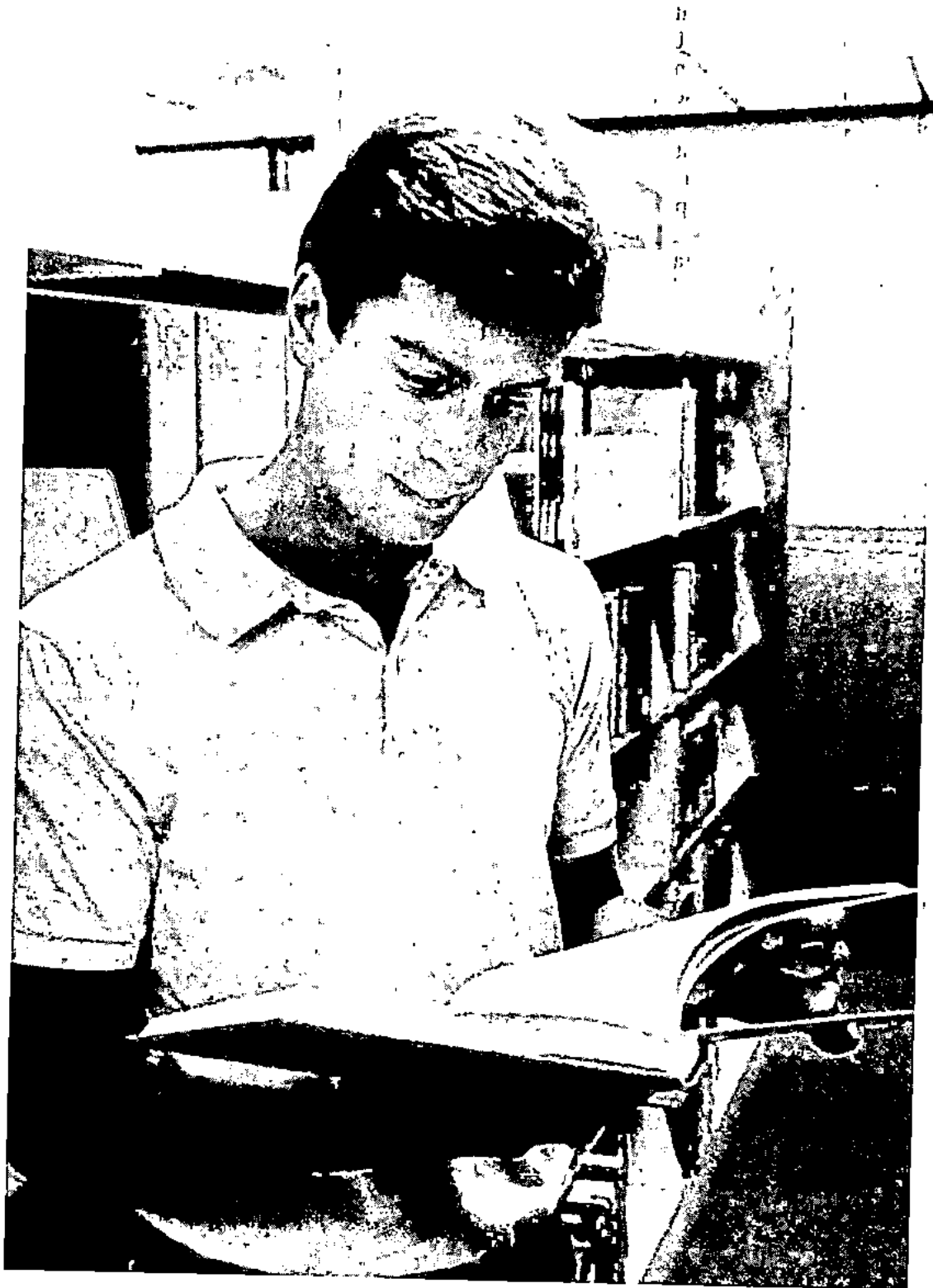
### 0800556—Home Economics 225—Nutrition (3 cr)

A study of the basic principles of nutrition including the impact of nutrition on body functions, total health and life style. (Required of Practical Nurse and Associate Degree in Nursing students.)



# INSTRUCTIONAL DIVISION

(New Courses, Programs)





# DEVELOPMENTAL STUDIES DEPARTMENT

(Catalog, pages 27–28)

## College Preparatory Courses

T-VI offers several college preparatory courses. The courses are the equivalents of University of New Mexico 100-level studies in English, math, social and natural sciences. The courses are for students whose American College Test (ACT) scores are below those required for entry into T-VI associate degree programs or UNM, or for students who want a refresher before beginning postsecondary studies.

College preparatory courses are graded S, P, U. They do not earn credit in a vocational major, associate degree program, or at UNM.

### COURSE DESCRIPTIONS

#### 0010130—English 100—Writing Standard English

Intensive study of grammar, syntax, punctuation, and usage with concentrated practice in writing paragraphs. Satisfactory completion of English 100 signifies that the student is prepared to enter English 101. Depending on reading ability, a student may be required to complete satisfactorily the Language Development course (see Catalog, page 28) prior to enrolling in English 100.

#### 0010128—Math 100—Introductory Algebra

Introductory algebra for students who are not prepared to enter intermediate algebra. The self-paced course meets two hours per day. Satisfactory completion of Math 100 signifies that the student is prepared to enroll in Math 120. Depending on math ability, a student may be required to complete satisfactorily the Prep Math course (see Catalog, page 27) prior to enrolling in Math 100.

#### 0010145—Social Science 100—Introduction to Social Sciences

Intensive skills improvement course in communications, reading comprehension, study techniques, and logical reasoning which are required for further study in social sciences. Includes an interdisciplinary introduction to a number of social sciences including anthropology, economics, history, philosophy, political science, psychology, etc. Satisfactory completion of Social Science 100 signifies that the student is prepared to enter the introductory course in any of the social science disciplines. Students enrolled in Language Development must satisfactorily complete that course prior to enrollment in Social Science 100.

#### 0010146—Natural Science 100—Introduction to Natural Sciences

Intensive skills improvement course in observation, measurement, classification, space-time relationships, communications, reasoning, and comprehensive study techniques which are required for further study in natural sciences. Includes an interdisciplinary introduction to biology, chemistry, physics, and earth sciences. Successful completion of Natural Science 100 signifies that the student is prepared to enter the introductory course in any of the science disciplines. Students enrolled in Language Development must satisfactorily complete that course prior to enrollment in Natural Science 100.

# BUSINESS OCCUPATIONS DEPARTMENT

(Catalog, pages 30–42)

## Accounting (Certificate Program)

(This copy replaces copy in Catalog, page 33.)

### ACCOUNTING PROGRAM

<i>Trimester I</i>	<i>Hours/Week</i>	
Accounting Principles Lab I.....	10	Business Communications I.....
Accounting Math/Calculators.....	5	Human Relations (7½ weeks).....
		Introduction to Business (7½ weeks).....

*Trimester II*

Accounting Principles Lab II .....	10
Introduction to Computer Concepts .....	5
Business Communications II.....	5
Principles of Management .....	5

*Trimester III*

Intermediate Accounting I.....	5
Tax Accounting I .....	5
Accounting Computer Lab I.....	5
Cost Accounting .....	5
Supporting Course.....	5

*Trimester IV*

Intermediate Accounting II.....	5
Business Law .....	5
Accounting Computer Lab II.....	5
*Two (2) Accounting Support Courses.....	10

*Supporting Courses*

*Auditing .....	5
Financial Analysis .....	5

*Governmental Accounting.....	5
Internship.....	5
Investments.....	5
*Managerial Accounting.....	5
Money and Banking.....	5
Principles of Economics .....	5
Principles of Finance.....	5
*Tax Accounting II .....	5

Laboratory hours for this program total 637.

**COURSE DESCRIPTIONS****0413815—Human Relations (7½ weeks)**

This course deals with employee attitudes toward themselves and others. The importance of interpersonal relationships and the work ethic is stressed.

**0410805—Introduction to Business (7½ weeks)**

The structure of business, its activities and problems are surveyed in this course. An understanding of the nature of the business world also is provided.

# HEALTH OCCUPATIONS DEPARTMENT

(Catalog, pages 43–50)

## Child Care Assistant

### I Trimester (Main Campus)

Child care assistants are taught basic child care skills so they can work in child care centers, nurseries or private homes where there are young children needing care and supervision. Students learn child growth and development, communication skills, discipline techniques, play skills, nutrition, first aid, ethics, cardiopulmonary resuscitation, sanitation procedures and care of sick children.

To be admitted, applicants must be at least 18 years old, have a high school diploma or GED, read at seventh grade level and pass a math test. Applicants must be of good character and physically, mentally and emotionally equipped to provide good care and maintain responsible supervision over children.

There is a \$40 personal fee which covers a health test, name tag, apron and fingerprinting. Fingerprinting is required by law of all child care workers at child care sites.



The 375-hour program lasts 15 weeks, with 215 hours of theory and 160 hours of supervised experiences in day care centers in the community.

The Child Care Assistant program is offered in the fall and summer trimesters only.

### CHILD CARE ASSISTANT PROGRAM

<i>Course Requirements</i>	<i>Total Hours</i>
Child Care Assistant Theory.....	193
Nutrition.....	22
Supervised Practicum .....	160

### COURSE DESCRIPTIONS

#### 0525827—Child Care Assistant Theory

This course includes growth and development, communication skills, ethics, play theory, care of the sick child, discipline techniques and sanitation procedures.

#### 0525867—Nutrition

Basic nutrition principles with special emphasis on child nutrition are taught in this course. Students learn to prepare nutritious snacks as part of the class.

#### 0525837—Supervised Practicum

Students are placed in child care centers throughout the city for supervised practicum with different age groups of children. Practicum allows students to apply theory learned in classes.

## TRADES DEPARTMENT

(Catalog, pages 64–79.)

### Automotive Technology

#### 3 Trimesters (Main Campus)

The Automotive Technology program provides individuals with the skills needed to diagnose and repair mechanical problems on automobiles and light trucks. Proper safety procedures along with the correct use and selection of hand tools and test equipment is stressed. The successful student qualifies as an entry-level general automobile technician.

Employment opportunities for the auto technician include such positions as basic servicing, general mechanic, specialist, service writer, shop foreman, service manager, sales representative and service station attendant.

Upon successful completion of Automotive Technology Lab and Theory I, the student may receive a Basic Auto Servicing certificate and obtain employment servicing automobiles. Upon successful completion of Automotive Technology Lab and Theory I and Math/Basic Electricity, the student is eligible to enter Trimester II.

Students who complete the second trimester will have gained additional skills with engines and air conditioning. Upon completion of Automotive Technology Lab and Theory II, the student may receive a Basic Auto Repair certificate and obtain employment performing minor repairs and servicing automobiles and light duty trucks. Upon successful completion of Automotive Technology Lab and Theory II and Transportation Electronics, the student is eligible to enter Trimester III.

Third trimester studies will upgrade the student's abilities to diagnose and repair electrical systems, including computer-controlled components. During Trimester III, students have the option to apply their skills in a supervised work experience program with cooperating employers.

To satisfy full program requirements, a student must complete successfully a total of 1125 instructional hours of which 750 are laboratory work and 375 are related courses including theory.



Automotive Technology students must pay an equipment fee of \$100 before entering the first trimester, \$90 for the second trimester, and \$90 for the third trimester.

## AUTOMOTIVE TECHNOLOGY PROGRAM

<i>Trimester I</i>	<i>Hours/Week</i>
Automotive Technology Lab I .....	15
Automotive Technology Theory I .....	5
Math/Basic Electricity .....	5
Basic Auto Servicing Certificate	
<i>Trimester II</i>	
Automotive Technology Lab II .....	15
Automotive Technology Theory II .....	5
Transportation Electronics.....	5
Basic Auto Repair Certificate	
<i>Trimester III</i>	
Automotive Technology Lab III .....	20
Automotive Technology Theory III .....	5
Automotive Technology Certificate	
<i>Option</i>	
Supervised Work Experience	

## COURSE DESCRIPTIONS

### 0215080/0215081—Automotive Technology Lab/Theory I

These courses are designed to provide the student with the skills needed to perform common automotive service work. Inspection, repair and replacement of brakes; automotive chassis; front and rear end suspension components; related hardware, steering, and wheel alignment are covered. Instruction is provided in shop safety, industrial materials, and hand and power tools as they relate to servicing procedures. The theoretical principles and practices pertaining to servicing automobiles and light-duty trucks also are included. Students are introduced to repair manuals, schematics, charts, and part-ordering procedures. Students also receive instruction in work rules and regulations, work habits, trades ethics, job-seeking and retention skills, human relations, job orientation, using a cash register, making change, and completing work orders.

### 0215197—Automotive Technology Math/Basic Electricity

In this course, the student learns and applies basic math principles as they relate to measuring tools, equipment, graphs and schematics. The theory of mechanical power, basic electricity principles, related terminology, and electronic component identification also are covered.

Students are introduced to diagnosis and equipment-testing procedures and theory related to automotive electrical-systems troubleshooting and repair procedures.

### 0215085/0215086—Automotive Technology Lab/Theory II

(Prerequisites: Automotive Technology Lab I, Theory I, and Math/Basic Electricity) These courses cover basic internal combustion engine theory; complete engine overhaul procedures; use of precision-measuring tools; related systems including

cooling, oil, ignition, fuel emission and exhaust; and diagnostic and repair procedures for clutches, manually shifted transmissions, automatic transmissions, transaxles and differential units. Air conditioning diagnosis, testing, repair and servicing also are included. The entire drive train, from the engine to the drive wheels, is studied in the theory course.

### 0215199—Transportation Electronics

(Prerequisites: Automotive Technology Lab I, Theory I, and Math/Basic Electricity) This course is designed to provide the student with the information required to test logically and replace malfunctioning electronic components. The theory of solid-state devices, basic principles of electronics, and interpretation of circuit diagrams are studied.

The basic principles of signal-tracing characteristics and operation of semiconducting diodes, effects of bias voltages on semiconducting diodes, and the operation of rectifier circuits are covered.

The student also studies and performs lab experiments on full-wave rectifiers, voltage rectifiers, transistors, thyristors, integrated circuits, operational amplifiers, digital gates, and timing circuits.

### 0215088/0215089—Automotive Technology Lab/Theory III

(Prerequisites: Automotive Technology Lab II, Theory II, and Transportation Electronics) These courses cover the diagnosis and repair of electrical components including ignition, starting, charging, electrical auxiliary, computer-controlled, and lighting systems; wiring; batteries; instrumentation; electric motors; digital electronics; solid-state circuitry; and integrated circuits.

Students learn how to diagnose, repair, and calibrate fuel systems including carburetors, fuel injection systems, turbochargers, computer controls, fuel pumps, fuel tanks, gauges, linkage, and intake manifolds.

Instruction also covers tune-up equipment and diagnosis-and-repair procedures required to tune-up vehicles. Emission control standards and components are studied in lab. The student learns to make repairs and final adjustments.



# Diesel Mechanics

(This copy replaces copy in Catalog, pages 72-73)

## 3 Trimesters (Main Campus)

This program prepares students to work on a variety of diesel-powered equipment used in the trucking, heavy equipment, and mining industries. Emphasis is on truck-type applications.

The program meets in five working labs designed for mechanical activities. In the labs, students are introduced to a variety of diesel engines, electrical and hydraulic test equipment, dynamometers, air conditioning equipment, drive train components, fuel injection test and calibration devices, and related equipment.

In the first trimester, students learn basic engine block design; component parts disassembly, inspection and reassembly; diesel engine accessories; introduction to diagnosis; troubleshooting; and injection system component replacement. Diesel engine overhaul is emphasized, and students study engine failure and perform testing using an engine dynamometer.

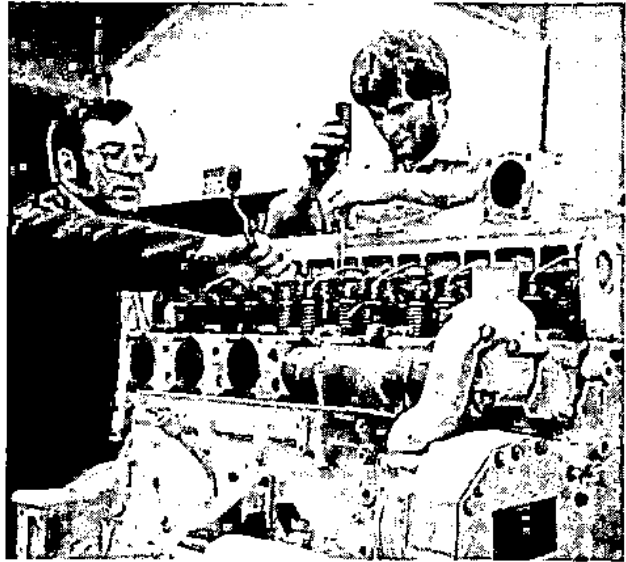
The second trimester includes the transmission, drive train, and fuel injection portions of the program. Students learn to diagnose, repair and maintain transmissions, final drives, clutches, brakes, steering and fuel injection systems.

In the third trimester, students repair electrical components and hydraulic systems.

A student may leave the program when a training objective is reached and receive a performance certificate detailing the skills completed.

To satisfy full program requirements, a student must complete successfully 1125 instructional hours of which 675 are laboratory work and 450 are related theory.

Diesel Mechanics students must pay an equipment fee of \$100 before entering the first trimester, \$130 for the second trimester, and \$130 for the third trimester. They must also provide their own industrial safety glasses or goggles which conform to ANSI 287.1.



### Trimester II

Transmission, Final Drive, Clutch, Brake, Steering, and Fuel Injection Lab .....	15
Transmission, Final Drive, Clutch, Brake, Steering, and Fuel Injection Theory .....	5
Transportation Electronics.....	5

### Trimester III

Electrical and Hydraulic Systems Lab .....	15
Electrical and Hydraulic Systems Theory.....	5
Troubleshooting and Problem Solving .....	5

### Support Courses (Optional)

- Industrial Safety
- Welding Skills Improvement

Support course descriptions can be found in the Catalog, page 66.

## COURSE DESCRIPTIONS

### 0240010—Diesel Engine Principles and Accessories Lab

This course covers diesel shop safety and basic tools and equipment used by the diesel mechanic. Emphasis is on two- and four-stroke diesel engines including basic engine cylinder block assembly design; component parts disassembly, inspection, and reassembly; fits, tolerances, and service specifications; use of precision measuring tools; interpreting mechanical drawings; thread repair procedures; lubricating, cooling, air intake, and fuel systems; and governor control design.

The course introduces the student to diagnosis and repair of engine failures and reduced operational capabilities. Damaged bearings, rings, and other engine parts are studied to determine causes; water pumps, oil pumps, and other components are rebuilt. Engine testing using engine dynamometers is performed.

## DIESEL MECHANICS PROGRAM

<i>Trimester I</i>	<i>Hours/Week</i>
Diesel Engine Principles and Accessories Lab .....	15
Diesel Engine Principles and Accessories Theory .....	5
Diesel Mathematics/Basic Electricity .....	5

**0240607—Diesel Engine Principles and Accessories Theory**

This course includes an introduction to work rules and regulations, work habits, trade ethics, human relations, and job orientation. Instruction is provided in shop safety, industrial materials, and hand and power tools as they relate to basic engines and principles. The theoretical principles and practices which pertain to diesel engines and accessories also are included.

Students are introduced to repair manuals, schematics, charts, and job sheets. Instruction also is provided in job-seeking and job-retention skills.

**0240279—Diesel Mathematics/Basic Electricity**

The student learns and applies basic math principles as they relate to measuring tools, equipment, graphs, and schematics. The theory of mechanical power, basic electricity principles, related terminology, and electrical component identification also are covered.

An introduction to diagnosis equipment, testing procedures, and theory related to heavy equipment, electrical systems, troubleshooting, and repair procedures is included.

**0240110—Transmission, Final Drive, Clutch, Brake, Steering, and Fuel Injection Lab**

*(Prerequisites: Trimester I Lab and Theory and Diesel Mathematics/Basic Electricity or equivalent)*

Instruction covers the service and repair of drive train, brake, and steering systems and components. Students learn manual

transmission repair procedures and how to perform standardized tests on automatic transmissions. Servicing and preventive maintenance programs are emphasized. Instruction also is provided in fuel system design, construction, operating principles, servicing procedures, and troubleshooting.

**0240666—Transmission, Final Drive, Clutch, Brake, Steering, and Fuel Injection Theory**

*(Prerequisites: Trimester I Lab and Theory and Diesel Mathematics/Basic Electricity or equivalent)*

This course covers safety, industrial materials, and the efficient use of tools and equipment. Basic theory of the entire drive train, brake, and steering system is studied. Students learn how to interpret and complete work orders and technical reports. Instruction is provided on the theory and applications related to fuel systems. The course also covers the theory related to test equipment, diagnosis, troubleshooting, and analysis sequence procedures.

**0240341—Transportation Electronics**

*(Prerequisites: Trimester I Lab and Theory and Diesel Mathematics/Basic Electricity or equivalent)*

The student learns how to test logically and replace malfunctioning electronic components. The theory of solid-state devices, basic principles of electronics, and interpretation of circuit diagrams also are covered.

The basic principles of signal-tracing characteristics and operation of semiconducting diodes, effects of bias voltages on semiconducting diodes, and the operation of rectifier circuits are included. The student also studies and performs lab experiments on full wave rectifiers, voltage rectifiers, transistors, thyristors, integrated circuits, operational amplifiers, digital gates, and timing circuits.

**0240158—Electrical and Hydraulic Systems Lab**

*(Prerequisites: Trimester II Lab and Theory and Transportation Electronics or equivalent)*

This course covers the application of basic and advanced diesel electricity, electrical circuits and components with related schematics; carburetion for gasoline, liquefied petroleum and natural gas engines; magneto design, construction and maintenance; and diesel electric generator operation, maintenance and repair. Hydraulic pumps, control devices, cylinders and motors are studied, disassembled and repaired. Test and service procedures are stressed throughout the course.

Industrially based theory demonstration and training offers students understanding of the safety, diagnosis, repair and service of current models of diesel air conditioners. The course also covers the refrigeration cycle of transport units with emphasis on electrical systems.

**0240683—Electrical and Hydraulics Systems Theory**

*(Prerequisites: Trimester II Lab and Theory and Transportation Electronics or equivalent)*

Students learn safety, diagnosis, troubleshooting, and industrially based repair procedures of electrical, hydraulic and air conditioning systems. Advanced work order and technical report writing also are included.

**0240804—Troubleshooting and Problem Solving**

*(Prerequisites: Trimester II Lab and Theory and Transportation Electronics or equivalent)*

Students spend most of their classroom time practicing an analytical approach to the isolation and diagnosis of problems in lubrication, cooling, air induction, exhaust, fuel starting and drive train systems. Some live troubleshooting problems are presented. Students are required to develop some of their own diagnostic charts.





## Hospitality/Food Service Management

### I Trimester (Main Campus)

This program is available to persons employed in the hospitality/food service field who want to learn the skills necessary to become entry-level supervisors or managers.

Classroom instruction covers human relations, supervision and business practices. Human relations topics include attendance, grooming, cooperation, public relations, communications, decision making, initiative and goal setting. The supervision component covers leadership, motivation, delegation, conflict management, time management and transition to management. The business practices curriculum includes marketing, accounting, inventory and cost control.

The on-the-job portion of the program is established with the cooperating employer under the supervision of the instructor.

Students who complete the program receive a proficiency certificate.

<i>Course Requirements</i>	<i>Hours/Week</i>
Hospitality/Food Service Management Theory .....	10
Supervised Work Experience .....	15

### COURSE DESCRIPTIONS

#### 0312671—Hospitality/Food Service Management Theory

The classroom instruction provides the student with skills to advance into supervision and management. Students develop human relations skills needed to facilitate cooperation among employees and attract customers; supervision skills related to motivating employees, resolving conflicts, setting goals, rewarding good performance and providing constructive discipline; and the business practices of basic accounting, marketing and cost control.

#### 0312970—Supervised Work Experience

The student is employed at an approved work station that provides relevant learning experiences directly related to the student's career and educational goals. The student is supervised and evaluated jointly by the employer and T-VI personnel.

## Welding

(Refer to Catalog, pages 78-79.)

The Welding program is offered only at the Montoya Campus.