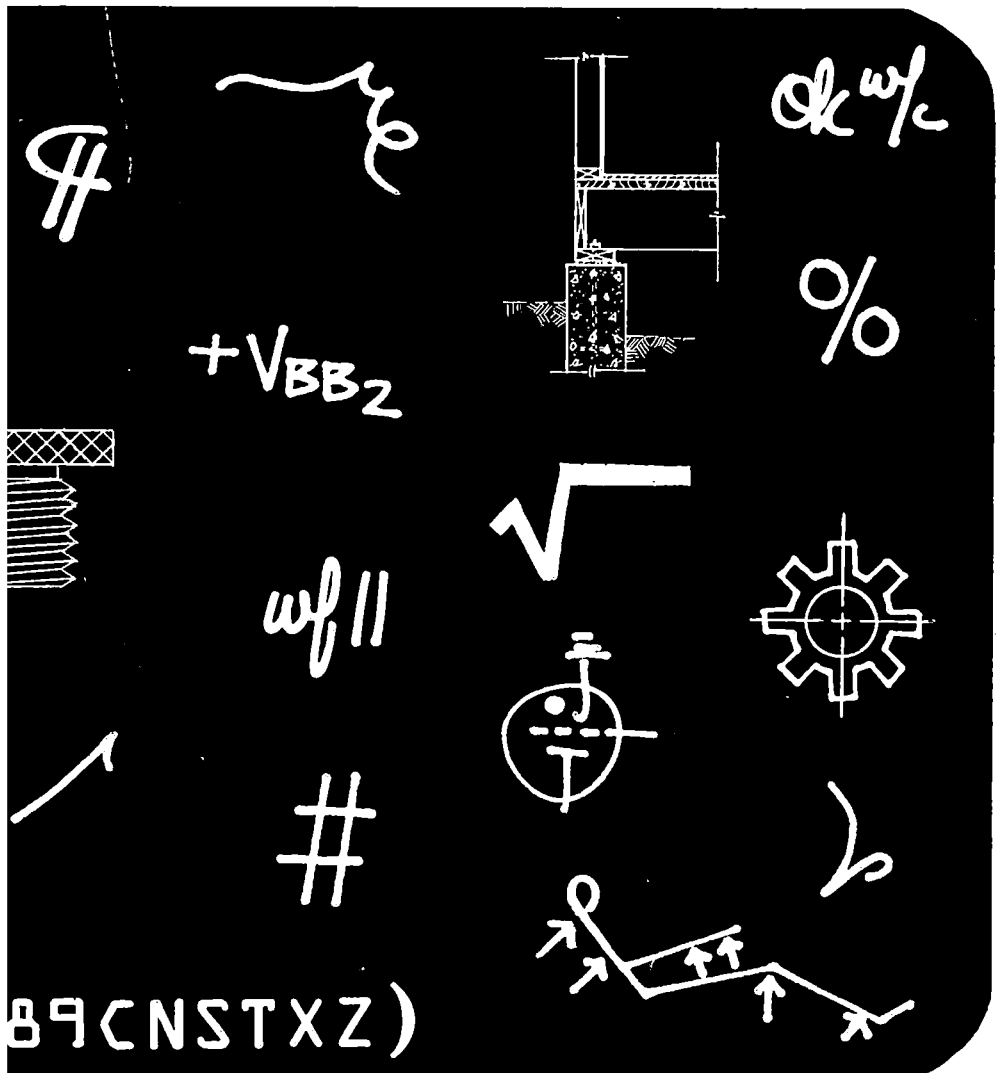


Albuquerque Technical- Vocational Institute

Harold H. Langston



Bulletin, 1969-70

Bulletin 1969-70

ALBUQUERQUE TECHNICAL-VOCATIONAL INSTITUTE

525 Buena Vista SE
Albuquerque, N.M. 87106
Telephone 842-3766

Admissions 842-3767
Attendance 842-3791
Evening Division 842-3746

T-VI BULLETIN

Volume V

AUGUST, 1969

GOVERNING BOARD

J. Leon Thompson Chairman
Jeannette Stromberg Vice Chairman
Ted Martinez Secretary
S. Y. Jackson Treasurer
Henry M. Willis Jr. Member

ADMINISTRATION

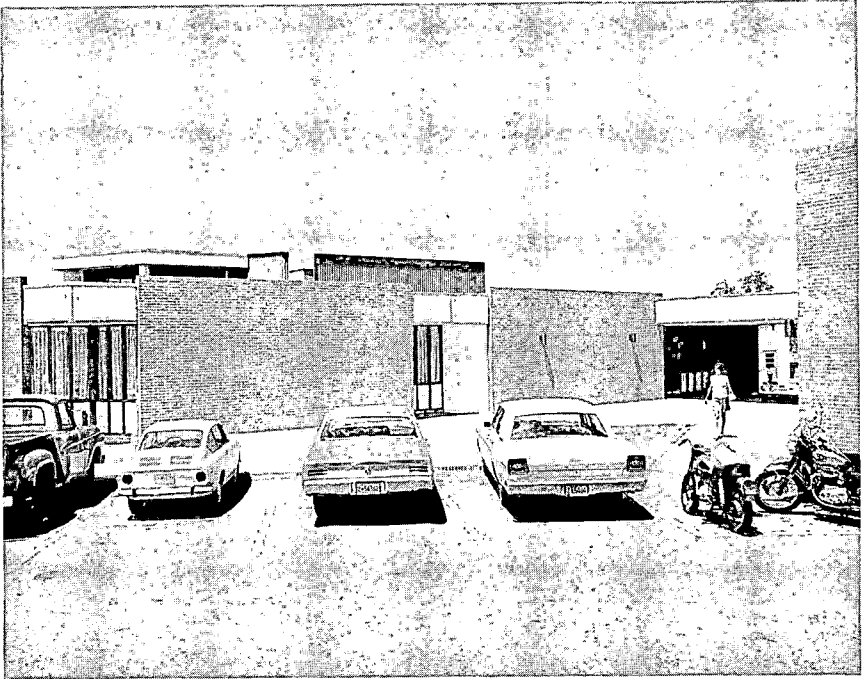
Louis E. Saavedra Principal
Nelson W. Lowery Program Director
Marvin F. Burianek Day Division Director
Harold W. Jackson Evening Division Director
David E. Smoker Student Services Director

TABLE OF CONTENTS

General Information	3
School Calendar	4
Trimester Calendar	5
Instructional Programs	6
Testing Services	6
Entrance Requirements	7
Application Procedures	7
Charges and Fees	8
Diplomas and Certificates	8
Standards of Progress	9
Attendance Policy	9
Student Services	10
Financial Assistance	11

COURSE DESCRIPTIONS

Technologies Preparatory Program	14
Accounting Program	16
Automotive Collision Repair Program	20
Automotive Mechanics Program	22
Data Processing Program	25
Distributive Education (Sales) Program	31
Drafting Technology Program	32
Electronics Technology Program	35
Practical Nursing Program	38
Hospital Aide Program	40
Machine Trades Program	41
Office Education Program	44
Welding Program	47



GENERAL INFORMATION

The Albuquerque Technical-Vocational Institute is a public school providing technical and vocational education at the post-high school level. Instruction is offered in appropriate areas of the humanities as well as in technical and vocational skills.

The Institute district was created by a vote of the people in 1964, under enabling legislation approved by the New Mexico Legislature in 1963, and the district includes Bernalillo County plus the Corrales community of Sandoval County.

Its major source of operating and construction funds is a district property tax. However, in view of the fact that many New Mexico residents from outside of the Institute district attend the T-VI, the State Legislature has also appropriated funds for its operation since 1968.

Because the Institute is a public school supported by both local and state tax resources, tuition is waived for any legal resident of New Mexico. Tuition for out-of-state students is \$300 per trimester.

SCHOOL CALENDAR

The T-VI operates year-around on a trimester plan, with each of the three trimesters providing 15 weeks (75 days) of classes. During 1969-70, the Fall Trimester will begin on September 29, the Spring Trimester on February 3, and the Summer Trimester on June 1. Students wanting to enter the Institute must make application at least 30 days before the start of the trimester in which they wish to begin.

FALL TRIMESTER, 1969

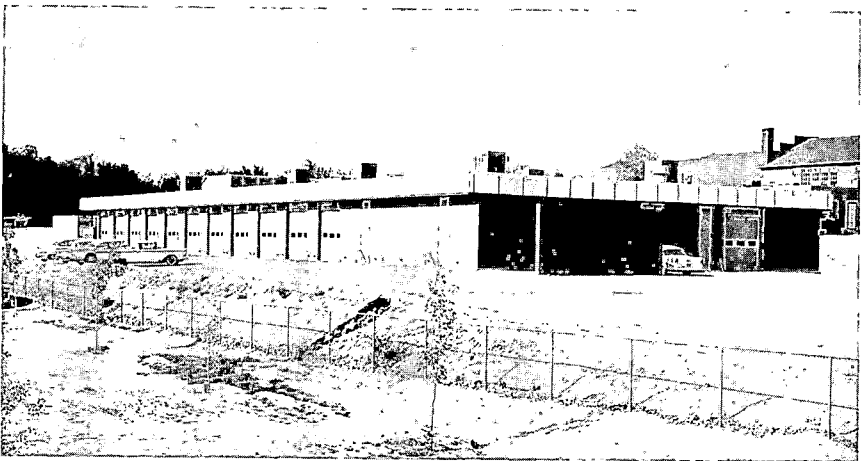
Aug. 29	Application Deadline
Sept. 11-12 (9 a.m. to 9 p.m.)	Evening Division Registration
Sept. 15-16 (8:30 a.m. to 5 p.m.)	Day Division Registration
Sept. 22	Evening Division Classes Begin
Sept. 29	Day Division Classes Begin
Nov. 27-28	Thanksgiving Vacation
Dec. 24-Jan. 2	Christmas Vacation
Jan. 22	Last Day, Evening Division
Jan. 23	Last Day, Day Division

SPRING TRIMESTER, 1970

Jan. 2	Application Deadline
Jan. 19-20 (8:30 a.m. to 5 p.m.)	Day Division Registration
Jan. 29-30 (9 a.m. to 9 p.m.)	Evening Division Registration
Feb. 3	Day Division Classes Begin
Feb. 9	Evening Division Classes Begin
March 27-30	Easter Vacation
May 20	Last Day, Day Division
May 25	Last Day, Evening Division

SUMMER TRIMESTER, 1970

May 1	Application Deadline
May 14-15 (9:30 a.m. to 5 p.m.)	Day Division Registration
May 29 (9 a.m. to 9 p.m.)	Evening Division Registration
June 1	Day Division Classes Begin
June 8	Evening Division Classes Begin
Aug. 13	Last Day, Evening Division
Sept. 11	Last Day, Day Division



TRIMESTER CALENDAR

SEPTEMBER, 1969 (2 School Days)

M	T	W	T	F
29	30			

OCTOBER, 1969 (23 School Days)

M	T	W	T	F
		1	2	3
6	7	8	9	10
13	14	15	16	17
20	21	22	23	24
27	28	29	30	31

NOVEMBER, 1969 (18 School Days)

M	T	W	T	F
3	4	5	6	7
10	11	12	13	14
17	18	19	20	21
24	25	26	(27	28)

DECEMBER, 1969 (17 School Days)

M	T	W	T	F
1	2	3	4	5
8	9	10	11	12
15	16	17	18	19
22	23	(24	25	26
29	30	31)		

JANUARY, 1970 (15 School Days)

M	T	W	T	F
			(1	2)
5	6	7	8	9
12	13	14	15	16
19	20	21	22	23
(26	27	28	29	30)

FEBRUARY, 1970 (19 School Days)

M	T	W	T	F
(2)	3	4	5	6
9	10	11	12	13
16	17	18	19	20
23	24	25	26	27

MARCH, 1970 (20 School Days)

M	T	W	T	F
2	3	4	5	6
9	10	11	12	13
16	17	18	19	20
23	24	25	26	(27
30)	31			

APRIL, 1970 (22 School Days)

M	T	W	T	F
		1	2	3
6	7	8	9	10
13	14	15	16	17
20	21	22	23	24
27	28	29	30	

MAY, 1970 (14 School Days)

M	T	W	T	F
				1
4	5	6	7	8
11	12	13	14	15
18	19	20	(21	22
25	26	27	28	29)

JUNE, 1970 (22 School Days)

M	T	W	T	F
1	2	3	4	5
8	9	10	11	12
15	16	17	18	19
22	23	24	25	26
29	30			

JULY, 1970 (23 School Days)

M	T	W	T	F
		1	2	3
6	7	8	9	10
13	14	15	16	17
20	21	22	23	24
27	28	29	30	31

AUGUST, 1970 (21 School Days)

M	T	W	T	F
3	4	5	6	7
10	11	12	13	14
17	18	19	20	21
24	25	26	27	28
31				

SEPTEMBER, 1970 (9 School Days)

M	T	W	T	F
	1	2	3	4
7	8	9	10	11

INSTRUCTIONAL PROGRAMS

THE DAY DIVISION program at the Institute provides full-time instruction leading to diplomas and certificates in 11 major areas. These include Accounting and Business Administration, Automotive Collision Repair, Automotive Mechanics, Data Processing Technology, Drafting Technology, Electronics Technology, Health Occupations, Machine Trades, Office Education, Sales Education, and Welding.

Preparatory programs are offered for persons whose previous education does not qualify them for immediate acceptance into one of the major vocational and technical areas, or to provide refresher work for those who have not been in school for some time.

Students in the Day Division generally carry a class load of 25 hours or more per week. However, people not wishing to pursue a major course schedule may enroll as special students in specific classes as space is available.

Day Division classes meet between 7:20 a.m. and 6:15 p.m., with most classes one hour in length. Major laboratories are either two-hour or three-hour time blocks.

THE EVENING DIVISION offers more than 80 Skill Improvement Courses to part-time students in the general areas of Office Education, Trade and Industrial, Health Occupations, Distributive Education, Technical Education and Adult Basic Education. In addition to the T-VI campus, the Evening Division programs use facilities at several of the city's public high schools.

Most of the Evening Division courses meet two nights a week in two or three hour sessions. Complete information about the evening program, which is also tuition free to New Mexico residents, is available in the 1969-70 *Evening Division Bulletin*.

THE APPRENTICESHIP PROGRAM includes classes in many of the construction trades, electronics, and machine tool; and operates in cooperation with various Labor-Management Joint Apprenticeship Committees. Information about the apprenticeship programs is available by contacting the office of the Evening Division Director (842-3746).

TESTING SERVICES

The Institute maintains a staff of people who devote a major part of their time to operation of a varied testing program. The testing services, which include the General Educational Development (high school equivalency) examination, aptitude and achievement tests, are available free of charge to New Mexico residents whether they are T-VI applicants or not. Counselors are also available to provide guidance services on either an individual or group basis.

ENTRANCE REQUIREMENTS

To enter the Institute, a student must generally be 18 years of age or older. If under the age of 18, he must be either a high school graduate or a student who has been officially withdrawn from high school for at least one year.

In addition, the applicant must take a series of aptitude and achievement tests which are designed to help him find the area of studies for which his chances of success are the greatest. To enter a particular program, the applicant must score on the tests at or above the minimum requirements established for that major.

Finally, the applicant must appear for scheduled interviews with the Institute's admissions counselors, who will work with the student to decide which instructional programs are best suited for him on the basis of his interests and abilities.

APPLICATION PROCEDURES

A person wanting to enter the Institute begins by completing the official application form. This form can be obtained at the T-VI Admissions Office, or at the counseling offices of any of Albuquerque's public high schools.

Because of the time required for testing and counseling, *the completed application form must be submitted no later than 30 days before the start of the trimester.* During 1969-70, these application deadlines are August 29 for the Fall Trimester, January 2 for the Spring Trimester, and May 1 for the Summer Trimester.

When the application has been received, the applicant will be given an appointment for his testing program. Following the completion of the tests he will be given time to meet with a counselor for interpretation of the tests. Other counseling sessions will be scheduled as needed to help the student select the major field in which he will have the best chance to succeed.

The student must also submit a statement of health before he can be admitted to the Institute.

When all of the enrollment procedures have been completed, the student can then be formally admitted to the T-VI and will be given instructions to appear on registration day for the trimester.

Some major courses become filled to capacity before the application deadline, so it is important for a person who is interested to make application as early as possible.

CHARGES AND FEES

TUITION: For non-residents of New Mexico, tuition is \$300 per trimester. There is no tuition charge for a New Mexico resident, provided he signs the tuition waiver form at the time he registers. Anyone who has paid a tuition fee and withdraws during the first two weeks of a trimester will be refunded the unused part of the tuition fee.

REGISTRATION FEE: There is a \$5 registration fee each trimester, which reserves the applicant his place in the classes and which is paid at the time the applicant is formally admitted. This fee is not refunded once it has been paid. Since many classes fill early—sometimes a trimester in advance—many applicants prefer to pay this fee as soon as they decide what they want to take.

BOOKS AND SUPPLIES: There is no charge to Day Division students for their textbooks. These are loaned to the student, but they must be paid for if the student loses or damages them. Evening Division students must buy their textbooks.

Students must buy their own school supplies, which will average about \$10 per trimester. Some of the laboratories will also have a small laboratory fee for purchase of materials the students will be using. Some of the Health Occupations also require the student to purchase the appropriate uniforms, so the laboratory fee in those courses is somewhat higher.

DIPLOMAS AND CERTIFICATES

DIPLOMAS are awarded to students who satisfactorily complete all of the requirements in a major program of two or more trimesters as described in this *Bulletin* for each of the majors. Diploma programs require that the laboratory courses be taken in the proper sequence, and that a specific list of supporting courses be completed. The major program descriptions list the suggested courses for each trimester, but are not restrictive as to the order in which some of the supporting courses are taken.

The first trimester of some technology and vocational majors is offered as an introductory level program. Applicants who score highly on the entrance examinations, and who have a sufficient background in these majors, may obtain waivers for the first trimester and enter the diploma program at the Trimester II level.

CERTIFICATES are awarded to students who satisfactorily complete all the laboratory requirements in a major program, but who do not complete all of the required supporting courses.

Certificates are offered for one-trimester majors rather than diplomas.

CREDIT WAIVERS: A student can be given credit, on a credit waiver, for any course in his major program requirements if he can demonstrate that he already has the knowledge or skills demanded by that class. A waiver of credit requires the approval of both the class instructor and the Director of Student Services. A class for which a credit waiver has been approved counts toward meeting diploma requirements. The student may have to take a final examination before a waiver is granted.

STANDARDS OF PROGRESS

Evaluations of progress are reported to the student at the end of the seventh and fifteenth weeks of the trimester. Only the final (15th week) trimester report becomes part of the student's permanent record at T-VI.

The progress reports use the A-B-C-D-F grading system. A grade of "F" indicates that the student is not performing the work of the course at a satisfactory level. A student receiving an "F" as the final grade in a class will not receive credit for that class toward diploma requirements, and cannot enroll for the next level of that course.

ACADEMIC PROBATION: A student who fails to make satisfactory progress toward his approved objective will be placed on academic probation for one trimester. Satisfactory progress is considered to be a passing grade in all required courses.

If, at the end of one trimester of probation, the student is not passing all of his required courses, he will not be permitted to continue enrollment in the same course of studies.

RECORDS: Records are maintained reflecting the amount of instruction each student has received, whether it be a complete or partial program, and whether it be for courses completed or for which waiver credit has been given. However, it is a policy of the Institute to issue no personal or academic information about any student except at the student's request. Special forms, whereby students can authorize release of academic and personal information to requesting agencies or individuals, are available in the Admissions Office.

ATTENDANCE POLICY

The student must pledge to attend every regularly scheduled session of each course as a condition for admission to the Institute.

Daily attendance is taken by the teacher in each class and laboratory, and reported to the Attendance Office to become a part of the student's permanent record at the T-VI.

Following three consecutive absences, or an accumulation of single absences, the student must report to the Attendance Office for a review of his record by an attendance counselor. If it is determined that the student qualifies to continue in the class from which he has been absent, he is given a re-admission slip; otherwise, he is placed on probation.

ADMINISTRATIVE REVIEW COMMITTEE: The records of a student placed on probation for attendance policy or student conduct violations are reviewed by an Administrative Review Committee made up of T-VI staff members appointed by the principal.

When an attendance or conduct probation is referred to the Administrative Review Committee, it may take three courses of action: (1) return the student to his classes, (2) continue the probation, which means that the student can be withdrawn from his class or course of study at the next violation, or (3) withdraw the student from T-VI for the remainder of the trimester. A student who is withdrawn by the committee, and who wishes to try to re-enter the Institute the following trimester, must go through the regular admissions procedure along with other students who want to enter T-VI.



STUDENT SERVICES

COUNSELING: The Student Services Division provides assistance to applicants and students through its offices of Admissions, Testing, Counseling, Attendance, Student Records, and Employer Relations. Counselors are available to work with students in any problem areas related to their studies at T-VI. While each major area has prescribed courses of study, the aim of the Institute is to serve the needs of each individual student in the best way possible, and it is possible to make individual changes in the major program where the student's needs would be better met with such a change.

JOB PLACEMENT: Finding a job after graduation or upon leaving the Institute is the responsibility of the student. However, the Institute's Employer Relations Office is available to help refer students to employers who are looking for people in the areas for which T-VI has training programs.

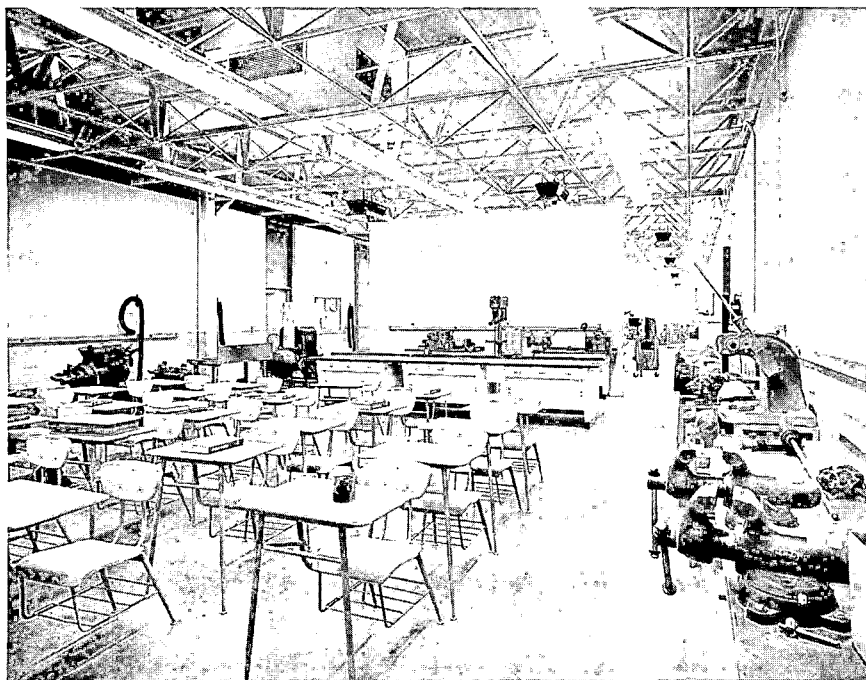
STUDENT ACTIVITY CENTER: A lounge is available for students, and it has facilities for snacks, and hot and cold beverages. It does not have facilities for complete meals, so that students who want more than a light snack for their noon meal need to bring their own lunches or go off campus for lunch.

ROOM AND BOARD: There are no facilities on campus for room and board. However, T-VI has made arrangements for a room and board program for Institute students at the University of Albuquerque. Modern dormitory facilities, plus three meals a day are available to T-VI students at the University (located on the city's west side) for \$500 to \$550 per trimester. The Institute provides free transportation between the T-VI campus and the University for students using this room and board plan. A brochure with full details of the plan is available at the T-VI Admissions Office.

TRANSPORTATION: Full-time T-VI students are entitled to the student discount rate on Albuquerque city buses during school hours, upon presentation of the official T-VI student identification card. Students with severe financial needs can also apply for free city bus tokens through the Student Services Division.

Many T-VI students drive their own cars to and from school, and adequate parking facilities are available on campus. Students driving on campus must register their vehicle, and must display the T-VI decal to use the student parking lot.

SELECTIVE SERVICE DEFERMENTS: Men who are subject to drafting into the military service may have a Student Certificate (Form SS-109) sent to their Selective Service Board, in order to obtain student deferment. Men enrolling in the Institute should contact the Admissions Office and request that a Form SS-109 be sent. The Student Certificate will be sent to the student's draft board as soon as he is actually attending classes at the Institute.



FINANCIAL ASSISTANCE

The Institute has no provision for financial assistance to students from its own operating funds.

However, many students attending T-VI are entitled to financial assistance from other agencies while they are furthering their education. Among the forms of assistance available are:

VETERANS BENEFITS: Full-time courses at the Institute have been approved by the Veteran's Administration for student benefits under the GI Bill. Persons entitled to benefits may receive them while they are in attendance in a full-time program at T-VI.

Included in veterans benefits are the children and widows of deceased veterans, and dependents of veterans with 100% disability classification.

Information about eligibility for these benefits can be obtained from the nearest Veterans Administration Office. The Albuquerque office is at 500 Gold S. W. (Phone 843-2262). Disabled veterans call 842-2226. Assistance in applying for such benefits is provided students by the T-VI Attendance Office.

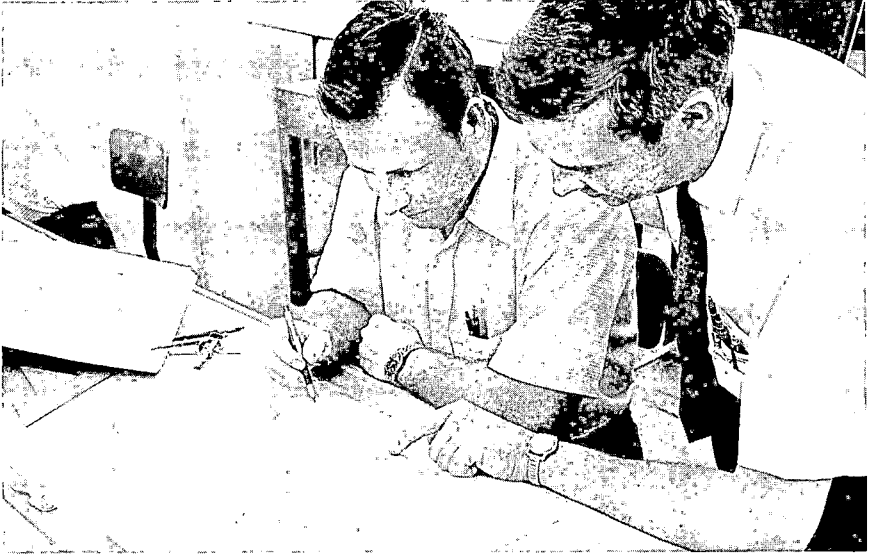
SOCIAL SECURITY BENEFITS: Under the 1965 Amendments to the federal Social Security Law, the children of retired, disabled, or deceased workers covered by Social Security can continue to receive payments up to age 22 while they are continuing their education at T-VI. The nearest Social Security District Office can provide information about eligibility.

BUREAU OF INDIAN AFFAIRS: Indian students attending the Institute may be entitled to educational benefits through the Bureau of Indian Affairs. In Albuquerque, contact Mr. Walter T. Diddock, Employment Assistance Specialist. He is at 5301 Central N. E., Room 414 (Phone 843-3153).

DEPARTMENT OF VOCATIONAL REHABILITATION: Students with disabilities may be entitled to attend the T-VI through training programs of the New Mexico State Dept. of Vocational Rehabilitation. The Albuquerque office is at 505 Marquette N. W. (Phone 842-3186).

FEDERAL TRAINING PROJECTS: Some special courses are in operation at the Institute under federal contracts which provide for student assistance. Examples are projects under the Manpower Development Training Act (MDTA), the Concentrated Employment Program, etc. The Admissions Office at the T-VI has information about these special courses.

COLLEGE WORK-STUDY PROGRAM: A limited number of student jobs are available to T-VI students under the College Work-Study Program. The program allows a student to work up to 15 hours per week. Information about the availability of a work-study job can be obtained from the Associate Director of Student Services in the T-VI Admissions Office.



COURSE OFFERINGS
1969-70



TECHNOLOGIES PREPARATORY PROGRAM (1 Trimester)

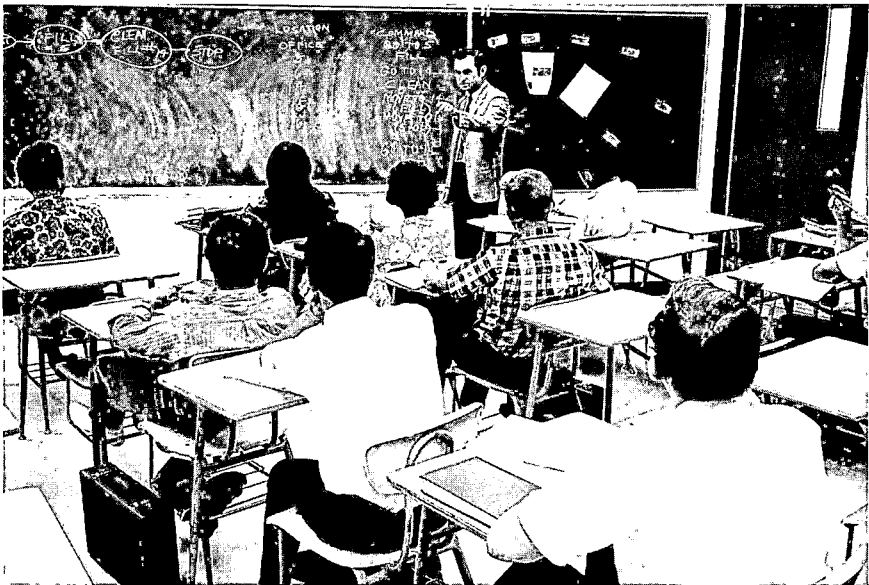
This preparatory program is offered for persons who do not qualify, on the basis of the entrance examinations and interviews, to enter directly into one of the major programs.

The Technologies Preparatory Program is designed to strengthen specific academic weaknesses, and to provide refresher work for those students who have not been in school for some time. At the same time, it begins to prepare persons to qualify for entry into the diploma program of one of the vocational major programs.

Students in the Technologies Preparatory Program are required to take English Review and Mathematics Review courses at their level of preparation, plus two or more courses related most directly to the particular vocational area for which they are preparing.

The program totals a minimum of 375 hours of instruction.

<i>Course Offerings</i>	<i>(Hours/Week)</i>
English Review (<i>required</i>)	5
Mathematics Review (<i>required</i>)	10
Introduction to Accounting	5
Introduction to Business	5
Introduction to Drafting	5
Introduction to Electronics	5
Job Information	5
Readings in Technology	5



COURSE DESCRIPTIONS

English Review

This is a general refresher course in written and oral communication. It includes units to develop reading skills, written expression, speaking skills, vocabulary, spelling, and a grammar review.

Mathematics Review

Mathematics preparatory courses are offered at a variety of entering skill levels, and the student will be assigned to two hours a day of math review. The Trade Math and Technical Math courses run the entire range from a review of basic mathematics operations such as whole numbers, fractions, decimals and percentages through algebra introduction or algebra review.

Introduction to Accounting

This course provides instruction in basic bookkeeping. It incorporates the complete bookkeeping cycle to include the preparation of the balance sheet, income statement, trial balance, worksheet and subsidiary ledgers. Emphasis is placed on the principles of journalizing and posting to the general ledger and posting from the combined cash journal.

Introduction to Business

This course includes a discussion of the free enterprise system of business, money and banking, use of public communication services, maintenance of personal records and budgets, how to find and file information, purchasing and borrowing, insurance, legal rights and responsibilities, investments, and a survey of management, labor and governmental organizations.

Introduction to Drafting

Designed especially for those preparatory students who hope to enter the drafting program, this course covers the place of drafting in the industrial structure, drafting materials and equipment, elements of electromechanical drafting to other types of drafting, design concepts, and use of reference materials related to the field.

Introduction to Electronics

Designed for preparatory students who hope to enter electronics or related major programs, this course covers basic electronic theory, electronic components and symbols, fabrication techniques, schematic reading, circuit tracing, simple construction such as mounting and soldering, and a survey of present and future electronic job opportunities. The course includes some field trips to observe types of electronics jobs and production.

Job Information

This course covers the world of work and how to select an occupation, how to get and keep a job, human behavior and its relationships to decision-making, and general behavioral patterns.

Readings in Technology

This course can be tailored to the individual student's needs and vocational interests, since a sizable part of the course involves selective readings in periodicals and specialized readings in trade and technical journals and material. All students in this course are given instruction designed to develop reading skills and vocabulary. There are some experiences with tours and outside speakers.

ACCOUNTING PROGRAM

(4 Trimesters)

The Accounting major places emphasis on accounting for small and medium sized businesses. Laboratory courses are designed to take the student from the basic accounting cycle through cost accounting and income tax accounting.

All accounting students select either a business minor or a data processing minor, as detailed below.

The four-trimester diploma program totals 1300 hours of instruction for students with the business minor, and 1375 hours of instruction with the data processing minor. Included in the major are 600 hours of laboratory work.

Many students enter this major only after completing the one-trimester Technologies Preparatory Program (see page 14).

DIPLOMA PROGRAM

<i>Trimester I</i>	<i>Hours/Week</i>
- Accounting Lab I	10
Introduction to Data Processing	5
Office Machines	5
Technical Math I	5
or	
Business Math (business minor)	5
<i>Trimester II</i>	<i>Hours/Week</i>
Accounting Lab II	10
Economics	5
Business Law	5
Report Program Generator (D. P. minor)	5
Technical Math II (D. P. minor)	5
Posting Machines/Typing (business minor)	5
<i>Trimester III</i>	
Accounting Lab III	10
Money and Banking	5
Statistics (D. P. minor)	5
COBOL I (D. P. minor)	5
Business Systems (business minor)	5
English (business minor)	5
<i>Trimester IV</i>	
Cost Accounting	5
Tax Accounting	5
Personnel Management	5
Systems Analysis	5
COBOL II (D. P. minor)	5
Report Writing (business minor)	5

COURSE DESCRIPTIONS

Accounting Lab I

This is a beginning course designed to cover the accounting cycle. It also includes instruction in the cash and accrual basis of accounting as applied to a retail business, including installment and consignment sales.

Introduction to Data Processing

This introductory course covers manual and automated information systems, historical development, definitions, planning and recording data in punched cards and other input media, sorting, collating, tabulating, calculating, control panels, digital and analog computers, internal storage, block diagrams, machine language, symbolic languages, and problem-oriented languages.

Office Machines

Instruction is given in the most widely-used office machines, including stencil and fluid duplicators, 10-key adding machines, rotary and printing calculators, and card punch machines.

Business Math

This course provides an intensive review and instruction in addition, subtraction, multiplication and division of whole numbers, decimals and fractions, percentage, interest, discounts, tax calculations, and business applications.

Technical Math I

This course begins with a review of basic math operations, such as whole numbers, fractions, decimals and percentages; and then provides instruction in algebra, including the use of variables, equations with one unknown, algebraic expressions, algebraic functions, and linear equations with two unknowns and graphical representation. Course content is related to data processing functions for the accounting student who is minoring in data processing.

Accounting Lab II

This laboratory includes instruction in financial statements, corporate accounting, investments, intangible long-lived assets, and the voucher system of accounting.

Economics

This course gives a basic understanding of our economic system, including a demonstration of the role of money and its effect on our economy. The course covers measurements of production, employment, and income.

Business Law

This course provides a basic knowledge of law as it applies to all business dealings in our society. Particular emphasis is placed on the Uniform Commercial Code.

Posting Machines/Typewriting

Designed for the business minor in accounting, this course provides instruction in posting machine operable parts and the development of skill on posting machine operations. Alternated with the posting machines instruction is a unit designed to teach and review basic typewriting.

Report Program Generator

This course is required for the data processing minor in accounting. Instruction is provided in the Unit Record principle as it relates to Report Generator Data Processing on the computer. The course also covers makeup and use of the input specifications form, calculation specifications form, card to printer, card to disk, disk to printer, disk to disk, disk to disk to printer operations, editing capabilities, and the strengths and weaknesses of the RPG system.

Technical Math II

Required for the data processing minor in accounting, this course provides intermediate algebra and elementary trigonometry instruction. Course content includes special products and factors, fractions and fractional equations, simultaneous equations, exponents and radicals, quadratic equations and their graphs, elementary trigonometry, solution of right triangles, and elementary plane vectors.

Accounting Lab III

This laboratory includes instruction and experience in partnerships, liquidation, detailed installment and consignment sales, and fund and encumbrance accounting.

Money and Banking

This course inquires into the evolution of money, the mechanics of the creation of money, and credit control.

Business Systems

A requirement for the business minor in accounting, this course presents the importance of business organization, the internal structure of business, the need for communication, the analysis of business systems, equipment needs and uses.

English

This course, required for the business minor in accounting, develops speaking, listening, and reading skills. Job-related vocabulary lists and trade magazines are utilized throughout the course.

Statistics

This course is required for the data processing minor in accounting. Content includes obtaining numerical data, presenting statistical data, organization of data, frequency polygons, histograms, bell-shaped curves, skewness, kurtosis, variability, mean, median, mode, weighted averages, range, quartile, mean and standard deviation, variance, the normal curve, sampling, sampling distributions, testing hypotheses with sample data, regression and correlation analysis, time series, and index numbers.

COBOL I

This course is required for the data processing minor in accounting. Content includes the history of COBOL (Common Business Oriented Language), program divisions, the character set, coding sheets; data, condition, procedure, and special names; reserved COBOL words, arithmetic, logical and relational operators, constants, literals, comparisons, elements of a sentence, and introduction to Data Division and Procedure Division.

Cost Accounting

Instruction is provided in elements of costs, flow of cost, the process-cost system, job-cost system, and development of cost data reports to management.

Tax Accounting

This course is designed to develop skill in the preparation of income tax returns, using actual government bulletins and forms.

Personnel Management

This course covers personnel recruitment, training, and leadership; interrelationships between various departments, jobs, and individuals; and employee status and role within an organization.

Systems Analysis

This course covers organizational structure, the systems and methods group, interpersonnel psychology, systems consideration from the viewpoint of an external auditor (separation of functions, security, files, header and trailer labels, backup, reasonableness and existence checks, coding and classification techniques), complete editing runs, preliminary systems surveys, systems flowcharting, alternative system proposals, manuals, run books, and implementation.

COBOL II

This course is required for the data processing minor in accounting. Content includes a continuation of development of programming skills in the COBOL language, with emphasis on more complicated sentences, statements and clauses. Instruction is provided in special techniques such as sort-description entries, the SORT verb, report description entries, the INITIATE, GENERATE and TERMINATE verbs, a comparison of COBOL and PL/1 languages, and a demonstration of conversational PL/1 on a terminal. Extensive COBOL edit and file maintenance and processing programs are written, compiled, debugged, and tested.

Report Writing

This course, a requirement for the business minor in accounting, provides instruction in the composition of memoranda writing, progress reports, and descriptive reports. Students also experience practical speech situations involving delivery of reports, participation in staff discussions, and explanation of technical materials.

AUTOMOTIVE COLLISION REPAIR PROGRAM (2 or 3 Trimesters)

The Automotive Collision Repair Program is designed to qualify students for employment in the auto paint and body service industry. Emphasis is placed on metal work, frame work, front end alignment, and painting.

In the first trimester, students are given instruction and practical experience in both minor repair work and basic auto painting procedures. The second trimester, students are encouraged to specialize as automotive metal workers or auto painters.

A diploma graduate can elect to apply for a certificate of advanced studies by successfully completing a third trimester which emphasizes development of production speed in his specialization. Advanced studies enrollment is limited to diploma program graduates.

The two-trimester diploma program totals 900 hours of instruction, of which 450 hours are laboratory work and 450 hours are supporting courses. The advanced studies certificate requires an additional 450 hours of instruction beyond the diploma program, of which 225 hours are laboratory work and 225 hours are related courses.

Many students enter this major only after completing the one-trimester Technologies Preparatory Program (see page 14).

Students are required to provide their own padlock, shop coveralls, safety glasses or goggles, and paint mask pads.

DIPLOMA PROGRAM

<i>Trimester I</i>	<i>(Hours/Week)</i>
Auto Collision Repair Lab I	15
Auto Collision Repair Theory I	5
Trade Math I	5
Welding I	5
 <i>Trimester II</i>	
Auto Collision Repair Lab II	15
Auto Collision Repair Theory II	5
Trade Math II	5
Elective Course	5

ADVANCED STUDIES CERTIFICATE

<i>Course Offerings</i>	<i>(Hours/Week)</i>
Auto Collision Repair Lab III	15
Directed Studies	10
Elective Course	5

COURSE DESCRIPTIONS

Automotive Collision Repair Lab I

A laboratory practice course designed to give instruction in the areas of shop safety, chassis construction, hand and power tool operation, minor fender and body section repairing, trim and hardware replacement, preparing for painting, and basic painting processes.

Automotive Collision Repair Theory I

This course gives the fundamental information on body and chassis nomenclature, metal alloy characteristics, electrical wiring systems, uses of grinders and abrasives, metal working techniques, lead and plastic filling, and basic painting procedures.

Trade Math I

This course is designed to cover basic arithmetical operations. These include addition, subtraction, multiplication, and division. Whole numbers, common fractions, decimal fractions, surface measurements, and direct measurements are thoroughly covered.

Welding I

This course gives practical experience in the use of the Oxy-Acetylene torch for welding, brazing, and soldering various types and sizes of sheet metal.

Automotive Collision Repair Lab II

A laboratory practice course which covers body section replacement and alignment, frame repair and adjustment, front end alignment, hardware and glass service, upholstery removal and replacement, estimation, spray painting procedures and processes, and surface buffing and polishing.

Automotive Collision Repair Theory II

This course provides instruction in the areas of frame and panel repair procedures, front end alignment techniques, labor and parts estimating, accessory removal and replacement, and finishing procedures and processes.

Trade Math II

This course provides instruction in the use of ratio and proportion, percentage, rules and formulas, and volume as applied to the automotive collision area.

Auto Collision Repair Lab III

An advanced laboratory practice course designed to provide additional specialized experiences in either the major collision damage or spray painting area. Emphasis is placed on increasing production speed.

Directed Studies

A non-laboratory course designed to provide the student with additional study time in his specialized area. Emphasis will be on production techniques, processes, and procedures.

AUTOMOTIVE MECHANICS PROGRAM

(3 or 4 Trimesters)

The Automotive Mechanics Program is designed to provide practical and realistic experience which will enable the student to gain the level of occupational skills necessary for successful job entry into the automotive service industry.

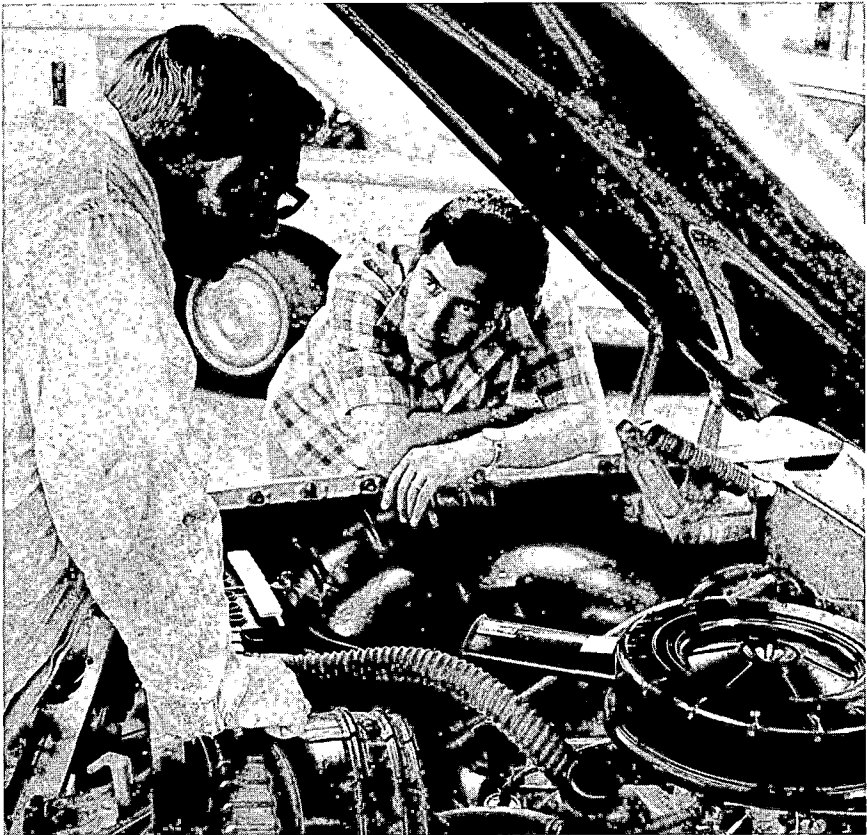
In the first trimester, general chassis and engine fundamentals are covered. Emphasis is placed on engine tune-up and diagnosis in the second and third trimesters.

A diploma graduate can elect to apply for a certificate of advanced studies in transmissions and engines for a fourth trimester, with approval of the Principal.

The three trimester diploma program totals 1350 hours of instruction, of which 675 hours are laboratory work and 675 are supporting courses.

The advanced studies certificate requires an additional 450 hours of instruction, of which 225 hours are in laboratory work and 225 hours in supporting courses.

Many students enter this major only after completing the one-trimester Technologies Preparatory Program (see page 14).



DIPLOMA PROGRAM

<i>Trimester I</i>	<i>(Hours/Week)</i>
Automotive Mechanics Lab I	15
Automotive Mechanics Theory I	5
Trade Math I	5
Business Management	5

<i>Trimester II</i>	
Automotive Mechanics Lab II	15
Automotive Mechanics Theory II	5
Trade Math II	5
Elective course	5

<i>Trimester III</i>	
Automotive Mechanics Lab III	15
Automotive Mechanics Theory III	5
English	5
Elective course	5

ADVANCED STUDIES CERTIFICATE

<i>Course Offerings</i>	<i>(Hours/Week)</i>
Automotive Mechanics Lab IV	15
Directed Studies	10
Elective course	5

COURSE DESCRIPTIONS

Automotive Mechanics Lab I

A laboratory practice course which offers training in the areas of lubrication systems, tire service, cooling systems, front end alignment, steering systems, brakes, and suspension systems.

Automotive Mechanics Theory I

This course offers instruction in shop safety, hand and power tool operation, shop procedures, chassis and engine fundamentals, brake service and repair, tire service and wheel balancing, lubrication, and cooling system service.

Trade Math I

This course is designed to cover basic arithmetical operations. These include addition, subtraction, multiplication, and division. Whole numbers, common fractions, decimal fractions, surface measurements, and direct measurements are thoroughly covered.

Business Management

A basic course designed to cover the areas of business terminology, business organizations and operations, production requirements, distribution of goods and services, managerial controls, labor relations, and finance as they relate to the automotive service industry.

Automotive Mechanics Lab II

A basic electrical tune-up laboratory course which covers basic automotive electricity, cranking motors, batteries, generators and alternators, ignition systems, and engine testing.

Automotive Mechanics Theory II

This course provides instruction in the areas of DC electricity, electrical components, tune-up procedures, servicing procedures and trouble-shooting.

Trade Math II

This course provides instruction in the use of ratio and proportion, percentage, rules and formulas, and volume as applied to the automotive mechanics area.

Automotive Mechanics Lab III

An advanced tune-up laboratory course which offers training in the areas of fuel systems, carburetion, air pollution devices, electrical components, electrical wiring and transistorized ignition systems.

Automotive Mechanics Theory III

This course provides instruction in the areas of carburetion servicing and testing, tracing and testing electrical wiring, analyzing fuel system operations, testing and servicing air pollution devices, and testing transistorized ignition systems.

English

This is a practical application course which stresses the fundamentals of basic grammar, punctuation, spelling, and terminology as applied to the automotive mechanics area.

Automotive Mechanics Lab IV

An advanced laboratory practice course designed to provide specialized instruction in the areas of manual and automatic transmission repair and engine overhaul.

Directed Studies

A non-laboratory course which stresses special study in the areas of manual and automatic transmission servicing and repair, engine valve service, connecting rod and piston service, crankshaft and cylinder service, and engine assembly testing.

DATA PROCESSING PROGRAM

(5 Trimesters)

The Data Processing Technology Program is designed to train students for employment as data processing programmers and technicians, with considerable training in systems analysis.

The five-trimester diploma program totals 1980 hours of instruction, a substantial portion of which involves laboratory experience in facilities which include an IBM S/360 Model 25 computing system with high speed reader, printer, disk drives, keypunches, sorter, and other up-to-date supporting equipment.

Entering students with prior experience in data processing work may challenge some courses from the first trimester and, if they are able to demonstrate the required knowledge and skills, may apply for a credit waiver for a portion of Trimester I.

DIPLOMA PROGRAM

<i>Trimester I</i>	<i>(Hours/Week)</i>
Accounting I	5
Introduction to Computers	5
Technical Math I-II	10
Report Program Generator	5
 <i>Trimester II</i>	
Technical Math III with FORTRAN IV	10
Basic Assembler Language I	10
Accounting II	5
 <i>Trimester III</i>	
Technical Math IV with FORTRAN IV	10
Basic Assembler Language II	10
Systems Analysis I	5
Management Methods I	5
 <i>Trimester IV</i>	
Technical Math V with FORTRAN IV	10
COBOL I	5
Systems Analysis II	5
Management Methods II	5
Conversational Computers	2
 <i>Trimester V</i>	
Technical Math VI	5
COBOL II with PL/I	5
Systems Analysis III	5
Management Methods III	5
Survey of Systems Programming	5



COURSE DESCRIPTIONS

Accounting I

This is an introductory course involving the accounting process and double-entry mechanism, journalizing of business transactions, posting to the ledger, trial balance and financial statements, the complete banking procedure, payroll accounting, merchandise accounting, and the accrual basis of accounting applied to a retail business.

Introduction to Computers

This course provides instruction in the history and uses of computers, programming, machine language, program modification, problem-oriented languages, Boolean logic, basic switching circuits, digital design, memory schemes, and a sampling of FORTRAN.

Technical Math I-II

A complete review of elementary algebra, this course includes linear equations, signed numbers, polynomials, functions, relations, inverses, graphs of algebraic functions, systems of linear equations in two variables, algebraic fractions, exponents, radicals, quadratics in one variable, numerical trigonometry, and an introduction to complex numbers.

Report Program Generator

This course covers the Unit Record principle as it relates to Report Generator Data Processing on the computer. Instruction is provided on makeup and use of specifications forms. Operations include card to printer, card to disk, disk to printer, disk to disk, and disk to disk to printer operations; editing capabilities; and strengths and weaknesses of the RPG system.

Technical Math III with FORTRAN IV

This course includes both analytic geometry and trigonometry, and beginning level instruction in FORTRAN (FORMula TRANslator). Instruction is provided in analytic geometry of the straight line, circular functions, solutions of trigonometric equations, solution of oblique triangles, and exponential and logarithmic functions. FORTRAN content includes programming a numeric sort, writing modulo (N) generator for integers, quadratic formulas, solution of two equations in two unknowns by formula, and generation of trigonometric tables by infinite series.

Basic Assembler Language I

Instruction in this course covers assembler language operation codes—RR, RX, RS, SI and SS formats and their related instructions, Base and Index Registers, short and long floating point numbers, addressing, basic coding techniques, core dump organization and format, system written input-output and data conversion routines, direct read and write instructions, 80/80 list programming, input-output overlap with error handling and headings, and student written routines to handle output formatting and editing.

Accounting II

Concepts covered in this course include procedures used in accounting for acquisition, sale, inventory and depreciation for a single proprietor, partnership, or corporation; and concepts and application of status of the business and business conditions in adjusting and closing entries and reports. The course includes advanced study of the corporation. Introduction to cost accounting and encumbrance accounting, plus government reports, is included.

Technical Math IV with FORTRAN IV

Math content in this course includes a review of analytic geometry of the straight line, equation of a circle and circles determined by given conditions, conic sections, the parabola, ellipse, hyperbola, conic determinant, standard forms of equations of conics, rotation of axes, and special equations of the second degree. FORTRAN content includes area of a quadrilateral from coordinates, classification of conics by determinants, generation of general conics by Gaussian elimination, array manipulation, and rotation and translation of conics.

Basic Assembler Language II

This assembler language familiarization course includes instruction in program output formatting, editing, punching techniques and multiple card group handling, error handling, console messages, subroutine coding techniques, calling sequences and techniques, system linkage, disk programming, keyboard request techniques, device and program status words, channel commands and status words, interrupt level status, interrupt level servicing, and device service subroutines.

Systems Analysis I

This course covers organizational structure, the systems and methods group, interpersonnel psychology, systems consideration from the viewpoint of an external auditor (separation of functions, security, files, header and trailer labels, backup, reasonableness and existence checks, coding and classification techniques), complete editing runs, preliminary systems surveys, systems flowcharting, alternative system proposals, manuals, run books, and implementation.

Management Methods I

Instruction is provided in scientific methods, history of operations research, the breakeven concept, distribution and nature of events, probability estimates and formulas, Bayes' theorem and application, random variables, decisions under uncertainty; measures of central tendency, standard deviation, and frequency distributions, introductory inventory models, EOQ and ELS derivations from the calculus, discounts, and reordering problems.

Technical Math V with FORTRAN IV

Math content of this course includes polar coordinates and graphic techniques, binominal expansion, Pascal's triangle, limits, average rate of change, delta method of obtaining a derivative, product, quotient and power derivatives for polynomial functions, implicit differentiation, derivatives of parametric equations, maxima, minima, inflection points, use of second derivative, applications to curve tracing, Newton's method of approximating roots, mathematical induction, formulas for summation, rectangular approximation of areas, antiderivatives, indefinite and definite, areas by integration, and volumes by revolution—disk, washer and shell methods. FORTRAN content includes plotting parametric equations on the line printer, maximum, minimum, points of inflection, and roots of Nth order polynomials.

COBOL I

This course covers the history of COBOL (COmmon Business Oriented Language), program divisions, the character set, coding sheets; data, condition, procedure, and special names; reserved COBOL words, arithmetic, logical and relational operators, constants, literals, comparisons, elements of a sentence, introduction to Data Division and Procedure Division.

Systems Analysis II

Content of this course includes file organization, magnetic tapes, character transfer rates, densities, transport speeds, blocking factors, fixed and variable length records; sequential, controlled sequential, indexed sequential and random disk addressing schemes; card and forms design, papers, color coded sets, phantoms, screening, reverse printing, data field consistency, byproduct data capture, lockup area, mark sense, porta-punch, electroplate design, proofs, storage, order quantities, offset masters, OCR techniques and forms design, and the ASA font.

Management Methods II

This course covers statistical description versus statistical inference, statistics versus probability, metrology, validity, reliability, accuracy, universes, finite sample spaces, histograms, frequency polygons, cumulative frequency distributions, percentage frequency distributions, cumulative percentage frequencies, a complete review of statistical terms, univariate versus bivariate data, association—nature and degree, scatter diagrams, linear regression, derivation of least squares fits, regression analysis, correlation, coefficients of correlation and determination, transforms of exponential trend, hyperbolic trend and power trends to linear form, sampling theory, vectors, determinants, matrix arithmetic, inverse of a matrix by row and column operations, application of matrix inversion to the parts explosion problem and double entry ledgers, linear programming by graphic and algebraic methods, and the fundamental theorem of linear programming.

Conversational Computers

This course is an introduction to Man-Machine Interactive Systems, JOSS type languages, Culler-Fried type machine, BASIC, Iverson notation, Computer Assisted Instruction, tutorial programs, TRUMPET, Socratic Tutors, information retrieval systems, language analysis, searches, computational linguistics, parsing, SYNTHESIS, BCD Correspondence Code, ASCII code, teletype machines, terminals, and EDITTEXT routines.

Technical Math VI with FORTRAN IV

The math content of this course includes trapezoidal rule, rectilinear motion, curve tracing, parametric equations, Simpson's rule, Gaussian integration, Gauss-Legendre formulas, improper integrals and transcendental functions, expansion of functions in series, introduction to differential equations—solutions of variables—separate form, degree and order, and the Runge-Kutta Method. The FORTRAN content includes finding the area under a curve, combining Simpson's rule and the Gauss-Legendre formulas up to points of discontinuity, curve fitting to Nth order polynomials followed by closed form integration to achieve piecewise integration.

COBOL II with PL/1

This course continues development of programming skills in the COBOL language with emphasis on more complicated sentences, statements and clauses. Content includes special techniques such as sort-description entries, the SORT verb, report description entries; the INITIATE, GENERATE and TERMINATE verbs; a comparison of COBOL and PL/1 languages, and a demonstration of conversational PL/1 on a terminal. Extensive COBOL edit and file maintenance and processing programs are written, compiled, debugged, and tested.

Systems Analysis III

This course covers job scheduling, shop operation, configuration changes, MTBF, debug and test time, test decks, on-line systems, time sharing program generation and debug, data processing economics, use of proprietary programs, the role of consultants and software houses, trade-offs, program security, patents and copyright, remote batch processing, a review of all fundamental Systems responsibilities, and interpersonal relations and attitudes.

Management Methods III

This course continues linear programming, the simplex method, tableau, constraints and bases, improved solutions, minimization problems, the transportation problem, and the stepping stone method. There is an extensive unit on games and strategies. Course content also includes Markov analysis, brand loyalty, transition probabilities, flow of customers, stability of the matrix of transition probabilities, prediction of future market share, equilibrium conditions, the Markov process in marketing strategy, and queueing.

Survey of Systems Programming

This course includes instruction in the organization, maintenance and modification of the S/360 Disk Operating System disk utilities, loaders, IPL routines, assemblers, compilers, working storage, tables, sub-routine libraries, transfer vectors, file protection schemes, supervisors, dump and restore routines, dedicated systems, and stand-alone routines, foreground and background programming.

DISTRIBUTIVE EDUCATION (SALES) PROGRAM (1 Trimester)

The Distributive Education (Sales) Program is on a cooperative basis with Albuquerque business firms, in that the student spends a portion of the school day in the sales classroom/laboratory at the Institute and a portion at a training station in the business community.

This one-trimester major, which leads to a certificate for successful completion, includes a minimum of 375 hours of instruction. All students receive 225 hours of classroom instruction, and at least 150 hours of instruction at the business training station.

During the three-hour classroom segment each day, emphasis is placed on economics, business math, salesmanship fundamentals, retailing, and cash register operation.

At the business training station, where each student spends from 10 to 20 or more hours per week in supervised training, there is the opportunity to practice the principles and techniques covered in the classroom.

CERTIFICATE PROGRAM

<i>Course Requirements</i>	<i>(Hours/Week)</i>
Sales Education	15
Cooperative Training	10-20

COURSE DESCRIPTIONS

Sales Education

The first hour of this course covers three units, each lasting for five weeks. The first unit covers principles of economics, the second unit is business mathematics, and the third unit is business organization.

The second hour of the daily classroom time block provides instruction in two areas. For the first eight weeks of the trimester students are instructed in salesmanship fundamentals, and for the last seven weeks the unit is store salesmanship.

The final hour of the daily class is a unit called "Retailing: Principles and Practices," and this unit continues throughout the 15-week trimester.

Cooperative Training

Each student is assigned to a station in an Albuquerque business establishment which has agreed to provide supervised training in an actual sales situation. For this portion of the certificate program, the student spends at least 10 hours per week at the training station throughout the trimester. Many of the Distributive Education students are at their business training station considerably more than 10 hours per week.

DRAFTING TECHNOLOGY PROGRAM (4 Trimesters)

The Drafting Technology Program is designed to provide students with the training for employment as electromechanical draftsmen, and to produce graduates with capabilities in visual thinking and visual communication that are compatible with modern industrial needs.

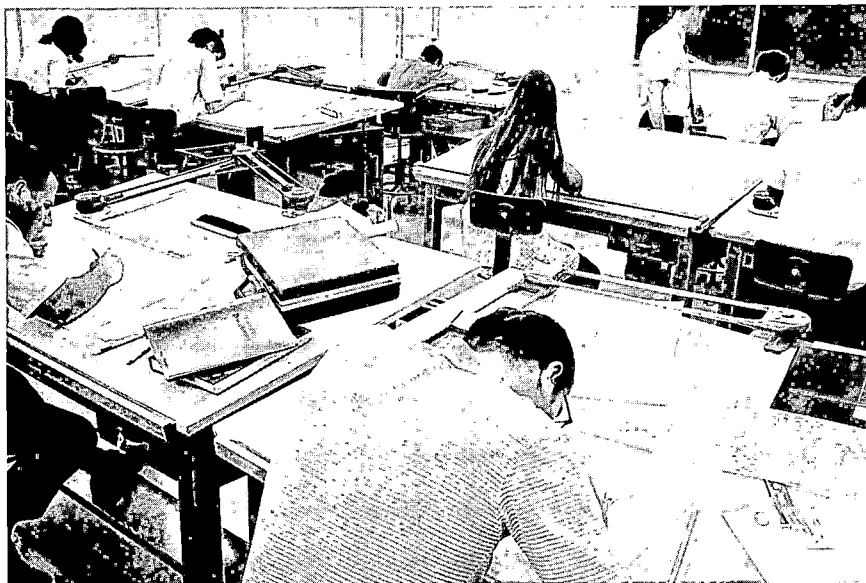
The four-trimester diploma program totals 1530 hours of instruction, including 750 hours of laboratory instruction and 780 hours of theory and supporting courses. Many Drafting Technology students also elect to take additional hours in related data processing technology courses.

Many students enter this major only after completing the one-trimester Technologies Preparatory Program (see page 14).

Students are required to provide their own drafting leads, lead holders, erasers, drafting powder, and special templates.

DIPLOMA PROGRAM

<i>Trimester I</i>	<i>(Hours/Week)</i>
Drafting Lab I	15
Technical Math II	5
Physics I	5
Manufacturing Processes	2
 <i>Trimester II</i>	
Drafting Lab II	10
Technical Math III	5
Technical Illustration/Graphic Arts	10
Beginning FORTRAN IV (elective)	5
 <i>Trimester III</i>	
Drafting Lab III	15
Technical Math IV	5
Physics II	5
Data Processing elective course	2
 <i>Trimester IV</i>	
Drafting Lab IV	10
Technical Math V	5
Engineering Problems	5
English	5
Intermediate FORTRAN IV (elective)	5



COURSE DESCRIPTIONS

Drafting Lab I

This laboratory involves the application of drafting fundamentals in the preparation of industrial-type detail drawings. A heavy reliance is placed on descriptive geometry concepts in the theory portion of the lab.

Technical Math II

This course is directed to the concepts of advanced algebra including linear, quadratic, and polynomial functions with an introduction to the trigonometric functions.

Physics I

This is a survey course in electricity and electronics theory involving alternating and direct current circuitry, functions of circuit components, magnetism, and electronic instruments. Emphasis is placed on electron tube theory and the principles of semiconductors.

Manufacturing Processes

This course presents instruction in modern machining, casting, forging, forming, welding, heat treating, inspection, and finishing operations.

Drafting Lab II

This course entails drafting concepts and applications relative to various industrial mechanical processes such as casting, forging, forming, welding, and machining. An extensive effort is directed to tolerancing practices.

Technical Math III

This course involves a complete study of trigonometry from the circular function approach, logarithmic and exponential functions, and the analytic geometry of the straight line.

Technical Illustration/Graphic Arts

This course incorporates axonometric and perspective principles with layout and composition applications, art production techniques, and reproduction methods to prepare modern electromechanical graphic applications.

Beginning FORTRAN IV (Elective)

Instructed under the Data Processing Program, this course introduces the student to FORTRAN (FORMula TRANslator). Course content includes programming a numeric sort, writing modulo (N) generator for integers, quadratic formulas, solution of two equations in two unknowns by formula, generation of trigonometric table by infinite series.

Drafting Lab III

This laboratory is primarily aimed at industrial electronic drafting applications such as schematic, printed circuit, and integrated circuit definition. Time is also allocated to the study of true position dimensioning and form tolerancing.

Technical Math IV

This course considers the analytic geometry of the conic section, differentiation and integration of polynomial as well as transcendental functions, and introduces slope function and limit concepts.

Physics II

This course provides instruction in fundamental concepts of mechanics and materials. Instruction includes principles of statics, motion, work and energy, and the mechanics of heat.

Drafting Lab IV

This laboratory utilizes all previously studied concepts as graphic applications for elementary electromechanical design. Additional concepts in computer graphics, tool design, basic mechanisms, and advanced electronic applications are incorporated in the design orientation.

Technical Math V

This is a continuation of the study of analytical geometry in addition to introducing fundamental applications of the calculus relative to typical engineering problems.

Engineering Problems

This is a survey course which selects typical engineering problems in mechanics and electronics to program and debug on the computer using FORTRAN IV. Output data is also obtained using automated plotting capabilities.

English

This course is designed primarily to expand the student's reading speed and comprehension, and to develop an ability to write with effective sentence structure and paragraph development for emphasis, clarity, and unity.

Intermediate FORTRAN IV (Elective)

This course continues with FORTRAN in greater depth, including the area of a quadrilateral from coordinates, classification of conics by determinants, generation of general conics by Gaussian elimination, array manipulation, and rotation and translation of conics.

ELECTRONICS TECHNOLOGY PROGRAM (4 Trimesters)

The Electronics Technology Program is designed to train students who are prepared to enter employment in various areas of the electronics industry. Students who complete the diploma program are thoroughly trained in fabrication, modification, repair, calibration and maintenance of both consumer and industrial electronic equipment.

The four-trimester diploma program totals 1530 hours of instruction, of which 675 hours are laboratory work and 855 are in electronics theory and supporting courses.

Many students enter this major only after completing the one-trimester Technologies Preparatory Program (see page 14).

DIPLOMA PROGRAM

<i>Trimester I</i>	<i>(Hours/Week)</i>
Electronics Theory I	5
Electronics Lab I	10
Technical Math II-III	10
Drafting for Electronics	2
<i>Trimester II</i>	
Electronics Theory II	5
Electronics Lab II	10
Technical Math IV-V	10
<i>Trimester III</i>	
Electronics Theory III	5
Electronics Lab III	10
Semiconductors	10
<i>Trimester IV</i>	
Electronics Theory IV	5
Electronics Lab IV	15
Electronic Instruments	5



COURSE DESCRIPTIONS

Electronics Theory I

This course covers direct current electricity as it relates to electronic components and circuitry. Content includes electrical units, basic laws, network theorems, series and parallel circuits, meters, bridges, and the DC properties of inductance and capacity. A working knowledge of algebra is required to enter this course.

Electronics Lab I

This laboratory course is concerned with development of basic skills with tools, components, meters, soldering techniques, and schematics. Students perform 25 formal laboratory assignments which relate to, and reinforce, the theory and text materials.

Technical Math II-III

This course is directed to the concepts of advanced algebra, including linear, quadratic, and polynomial functions; and to a complete study of trigonometry from the circular function approach, logarithmic and exponential functions, and the analytic geometry of the straight line.

Drafting for Electronics

A survey course in graphic application of circuit definitions, this class provides instruction in schematic, printed circuit and integrated circuit graphic definitions. Also included are graphic definitions of electrical hardware and specifications.

Electronics Theory II

This course is a study of single phase and polyphase alternating current applied to electronic circuits. Content includes sine wave fundamentals, reactance, impedance, lead and lag current, AC bridges, transformers, saturable core reactors, series and parallel LCR circuits, resonance, filters, and elementary vacuum tube theory. Completion of the Theory I course, and a knowledge of elementary trigonometry, are required for entrance into this course.

Electronics Lab II

This laboratory provides additional experiences to the student in fabrication, circuit tracing, project construction, and trouble shooting. Emphasis is placed on the use of the cathode ray oscilloscope as a measuring and diagnostic instrument. The course includes completion of about 20 formal lab assignments which relate to, and reinforce, the topics being covered in the theory course.

Technical Math IV-V

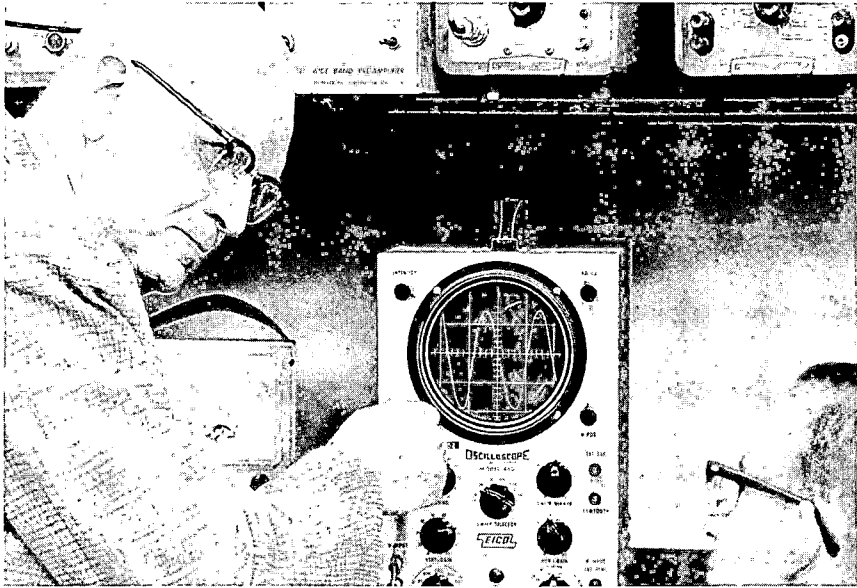
This course considers the analytic geometry of the conic section, differentiation and integration of polynomials as well as transcendental functions, slope function and limit concepts; and is also an introduction to fundamental applications of the calculus relative to typical engineering problems.

Electronics Theory III

Instruction in this course covers fundamental vacuum tube operation and its application in electronic circuits. Included in the course content are amplifiers, bias and coupling methods, distortion, oscillators, transmitters, modulators, antennas, and receiver circuits.

Electronics Lab III

In this laboratory, the student becomes familiar with several additional test instruments, such as the distortion analyzer, dual trace oscil-



loscope, and frequency meters. Continued practice in wiring, circuit tracing, and trouble shooting is provided. The course includes completion of 30 formal lab assignments related to, and reinforcing, the work of the theory course.

Semiconductors

This course involves a comprehensive study of semiconductor theory, diodes, transistors, amplifiers, oscillators, unijunction transistors, SCR, tunnel diodes, FET, and integrated circuits, and their application to electronic circuitry. Completion of Electronics Theory and Lab I and II, plus a working knowledge of algebra, are required for entrance into this course.

Electronics Theory IV

Instruction in this course includes the theories of non-sinusoidal waveform generators, wave shapers, and pulse circuits as applied to oscilloscopes, radar, and television. Some aspects of transducers and control circuits used in industry are also included in the course content.

Electronics Lab IV

Emphasis in this laboratory is placed on practical experience in the repair and maintenance of radios, amplifiers, stereos, television sets, and electronic instruments, using various service aids. The student completes about 20 formal lab assignments dealing with pulse circuitry, to reinforce the learning of the related theory course.

Electronic Instruments

This course involves study of selected electronic instruments, together with the procedures for their calibration, maintenance, and repair in accordance with manufacturers' specifications. Among the instruments studied are VOM, VTM, power supplies, signal generators, frequency meters, bridges, oscilloscopes, digital readout devices, and tube and transistor testers.

PRACTICAL NURSING PROGRAM

(3 Trimesters)

The Practical Nursing Program prepares students for employment in the care of chronically ill or acutely ill patients in hospitals, under the supervision of registered nurses or physicians.

The program is three trimesters (one year) in length, and complies with the regulations of the State Board of Nursing

The first trimester consists of pre-clinical, or institutional, training on the T-VI campus under the supervision of registered nurses. The second and third trimesters involve a combination of classroom instruction and specialized clinical training in the facilities of a local hospital.

The three-trimester diploma program totals 1350 hours of instruction. Students attend classes from 8:00 a.m. until 4:00 p.m., Monday through Friday.

To qualify for entrance into the program, applicants must provide a high school diploma or a high school equivalency certificate, and score satisfactorily on aptitude and achievement tests. Each applicant must also furnish a certificate stating that he or she is free from communicable diseases.

In addition to the \$5 per trimester registration fee, this program also carries a once-only \$55 personal equipment charge which includes the cost of the uniforms which Practical Nursing students are required to wear during their training.

DIPLOMA PROGRAM

<i>Trimester I</i>	<i>(Total Hours)</i>
Nursing Principles and Skills	180
First Aid	12
Dosages and Solutions	36
Body Structure and Function	54
Nutrition	48
Personal and Community Health	54
Personal and Vocational Relationships	42
Introduction to Medical-Surgical Nursing	24
 <i>Trimester II</i>	
Medical-Surgical Nursing Lab	450
 <i>Trimester III</i>	
Maternal-Child Health Lab	450

COURSE DESCRIPTIONS

Nursing Principles and Skills

Nursing Principles introduces the student to the theory and ward practice of patient care, the techniques of administering medicines, and the general welfare and environmental attention to the patient's needs.

First Aid

The course provides the students a thorough background and practice in providing first aid treatment to the ill patient.

Dosages and Solutions

This course covers a general review of arithmetic, with considerable practice in calculation of medicinal dosages for various types of prescriptions. The student is given practice in preparing dosages and methods of applying them to the patient, and training in maintaining records of applications.

Body Structure and Function

The course covers a study of the various body systems and how they relate to the cause of disease and the development of good health.

Nutrition

The nutrition course is designed to introduce the student nurse to the basic principles of nutrition, the importance of good nutrition, and the role of nutrition and good meal planning in providing a proper diet for the patient.

Personal and Community Health

This course gives attention to the principles of good physical, mental and social health and their relationships to the character and work of the nurse.

Personal and Vocational Relationships

This course is designed to help the student to understand herself as a person so that she will be better able to understand others. It includes personal and vocational ethics, study habits and techniques, mental health concepts, trends in nursing, nursing organizations, and opportunities in the nursing field.

Introduction to Medical-Surgical Nursing

An introduction to the medical and surgical disorders of patients, this course includes considerable observation of ill patients, and exposure to the operating and recovery room.

Medical and Surgical Nursing

Through theory and coordinated nursing care of the patient, this course helps the student to understand medical and surgical disorders and the nursing treatment required. It includes diet therapy, clinical experience in administering medicines, team work on the floor, recovery room experiences, and observation of major surgery.

Maternal-Child Health

This course uses a family-centered approach to learning aspects of the care of the maternity patient during pregnancy and the post-partum period. It provides the experience in the labor room, post-partum and newborn nursery, the recovery room and observation in the delivery room. Theory is given on the patterns of normal growth and development of the child from birth through adolescence, and practice in the care of the child during illness.

HOSPITAL AIDE PROGRAM

(10 Weeks)

The program is designed to train persons in the performance of basic nursing skills required for the care and comfort of the sick, to work in hospitals, nursing homes, public health agencies, medical centers and private medical or dental offices.

The program is ten weeks in length, with six weeks of classroom and laboratory work followed by four weeks of extensive clinical training in a hospital. There are 240 hours of instruction in the program. A certificate is awarded for successful completion.

To enter the program, applicants must take aptitude tests and furnish a certificate stating they are free from any communicable disease. In addition to the \$5 registration fee, this course has a \$12 personal equipment fee which covers the cost of the uniform which the student must wear during training.

CERTIFICATE PROGRAM

<i>Course Requirements</i>	<i>(Hours/Week)</i>
English	5
Math	5
Hospital Aides Lab	10-20

COURSE DESCRIPTIONS

English

This course stresses basic grammar, punctuation, vocabulary, pronunciation and spelling. The instruction also covers selected readings and special assignments in the nursing field as they relate to nurses aides' activities.

Mathematics

The course covers basic arithmetical operations using various kinds of numbers in working selected problems related to hospital aide work.

Hospital Aides Lab

During the first six weeks, students work in the lab two hours per day, where specialized instruction is provided in theory and application of skills as required to care for the sick. Emphasis is placed on behavioral attitudes, meeting the comfort needs of the patient, feeding, bathing, housekeeping, taking temperature and pulse, and reporting data.

During the last four weeks of the course, students receive four hours per day of specialized training in various hospitals throughout the city, during which time application of the skills acquired during the first six weeks is practiced. Considerable testing and evaluating of progress is made throughout this portion of training.

MACHINE TRADES PROGRAM

(3 or 4 Trimesters)

The Machine Trades Program is designed to qualify students for entry into the machine trades field as machine tool operators.

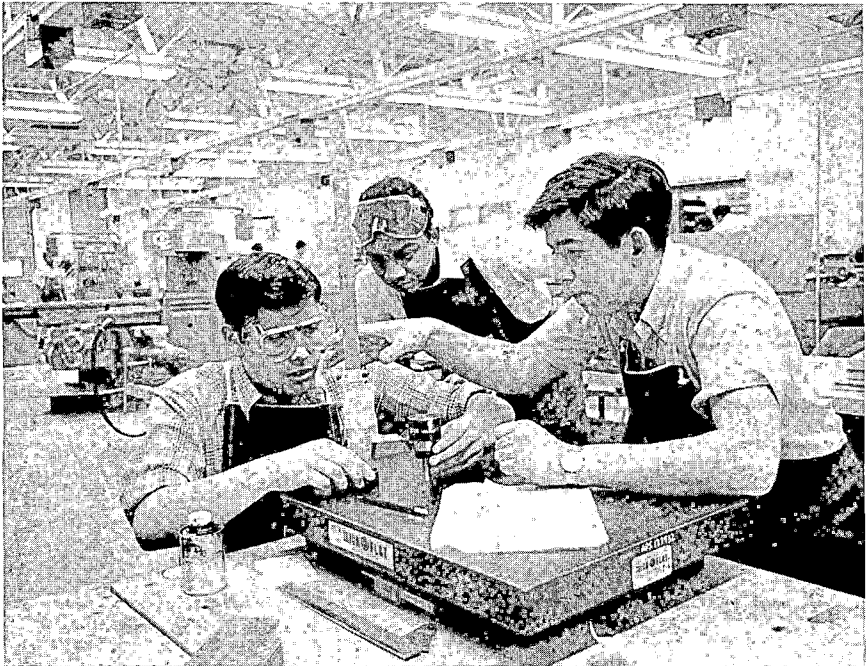
In the first trimester, students are instructed in the fundamental operations of all machines. During the second and third trimesters, each student is encouraged to specialize in at least one type of machine in addition to continuing to develop skills on all types.

A diploma graduate can elect to apply for a fourth trimester of study which results in an advanced studies certificate, with the approval of the Principal. The advanced studies trimester provides further skill development in the student's chosen machine specialty.

The three-trimester diploma program totals 1350 hours of instruction, of which 675 hours are laboratory work and 675 hours are supporting courses. The advanced studies certificate requires an additional 450 hours of instruction, of which 225 are in laboratory work and 225 hours in supporting courses.

Many students enter this major only after completing the one-trimester Technologies Preparatory Program (see page 14).

Students are required to provide their own padlock, shop apron, steel rule and safety glasses or goggles.



DIPLOMA PROGRAM

<i>Trimester I</i>	<i>(Hours/Week)</i>
Machine Trades Lab I	15
Machine Trades Theory I	5
Trade Math I	5
Blueprint Reading I	5
 <i>Trimester II</i>	
Machine Trades Lab II	15
Machine Trades Theory II	5
Trade Math II	5
Blueprint Reading II	5
 <i>Trimester III</i>	
Machine Trades Lab III	15
Machine Trades Theory III	5
Trade Math III	5
Elective course	5

ADVANCED STUDIES CERTIFICATE

<i>Course Offerings</i>	<i>(Hours/Week)</i>
Machine Trades Lab IV	15
Directed Studies	10
Materials Processing	5

COURSE DESCRIPTIONS

Machine Trades Lab I

A laboratory practice course designed to give training in the areas of shop safety, basic hand tools, measuring instruments, bench layout, basic lathe operations, drill press and band saw operations, milling machine operations, grinding machine operations, and shaper operations.

Machine Trades Theory I

This course covers the operating principles of various machines, the use of small hand tools and measuring instruments, and the characteristics of ferrous and non-ferrous metals.

Trade Math I

This course is designed to cover basic arithmetical operations. These include addition, subtraction, multiplication, and division. Whole numbers, common fractions, decimal fractions, powers and roots, percentages, surface measurements and direct measurements are thoroughly covered.

Blueprint Reading I

Offers basic instruction in reading and interpreting shop drawings. Emphasis is on terminology, dimensions, and visualizing and sketching orthographic and isometric shop drawings.

Machine Trades Lab II

A laboratory practice course which covers specific lathe operations, drill press operations, band saw operations, vertical and horizontal milling operations, grinding operations, and heat treating procedures.

Machine Trades Theory II

This course offers instruction in the principles of tool geometry, speeds and feeds, coolants, chucking, clamping, measuring and gauging, threading and gear cutting, and hardening and tempering.

Trade Math II

This course provides instruction in the use of rules and formulas, ratio and proportion, volume, pulley speeds as applied to the machine trades area.

Blueprint Reading II

This course offers instruction in interpreting complete shop drawings including size definition, coding practices, and symbols as applied to the machine trades area.

Machine Trades Lab III

A laboratory practice course which provides advanced instruction in using shop prints and performing various operations on the lathe, mill, and grinder. Emphasis is placed on tracer operations, numerical control applications, external and internal grinding, and heat treating practices.

Machine Trades Theory III

This course offers advanced instruction in the areas of numerical control gauging, and measuring, speeds and feeds, coolants, heat treating, and preventive maintenance.

Trade Math III

Provides instruction in the use of mathematical operations as applied to geometric construction velocity or surface speed, tapers, screw threads, indexing, and heat treating.

Machine Trades Lab IV

An advanced laboratory practice course designed to provide additional experiences on the production machine selected by the student.

Machine Trades Theory IV

A non-laboratory course designed to provide the student with additional study time in his specialized area. Emphasis will be on production techniques, processes, and procedures.

Materials Procedures

This course is designed to offer instruction in the areas of testing equipment, testing methods and procedures, inspection instruments, inspection methods and procedures, and molecular structure characteristics.

OFFICE EDUCATION PROGRAM

(3 Trimesters)

The Office Education Program is designed to train persons to skill levels with which they can gain employment in clerical, secretarial and stenographic positions.

Office Education is divided into two distinct majors—the clerical major and the secretarial major—and the student must designate which diploma he or she wishes to pursue.

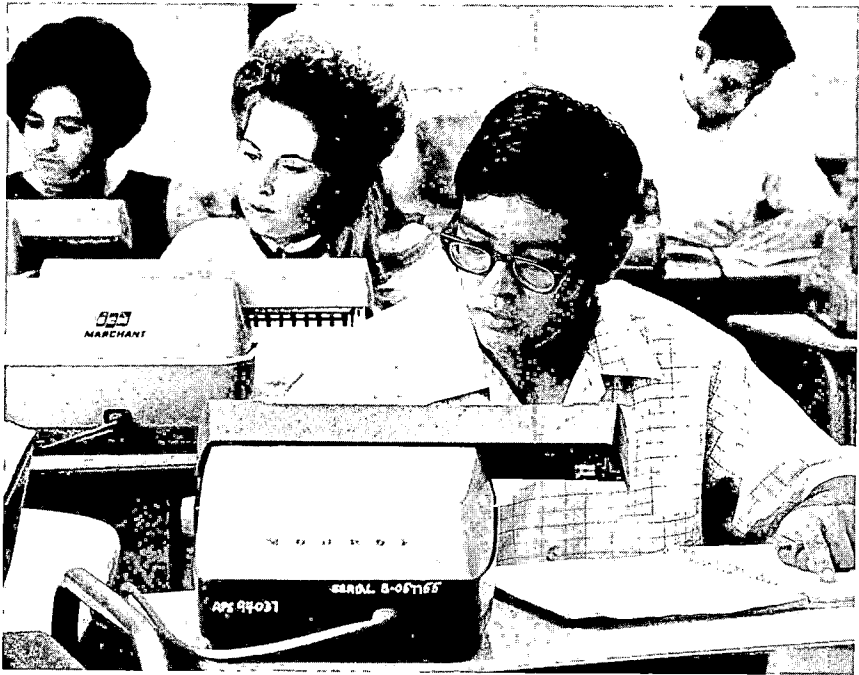
The clerical major, which provides instruction totaling 1025 hours during the three-trimester diploma program, leads to employment in such office positions as typist, clerk-typist, general office worker, file clerk, and receptionist. Stress is placed on developing speed, accuracy, and production rate in the typing skill.

The secretarial major, which has instruction totaling 1100 hours during the three-trimester diploma program, also places emphasis on the typing skill. In addition, the secretarial major adds the shorthand skill, including transcription and speed building.

Entering students who already possess a strong background in office experience and typing instruction may challenge the first trimester. If they are able to demonstrate that they already possess the skill levels of the Trimester I courses, they may apply for a credit waiver to enter the diploma program at Trimester II.

DIPLOMA PROGRAM

<i>Trimester I</i>	<i>(Hours/Week)</i>
✓ Typing Lab I	10
✓ Business English	5
Business Math	5
✓ Introduction to Business (clerical)	5
✓ Shorthand I (secretarial)	5
<i>Trimester II</i>	
✓ Typing Lab II	10
✓ Business Letter Writing	5
✓ Secretarial Procedures	5
✓ Business Forms (clerical)	5
Shorthand II or Shorthand I (secretarial)	5
<i>Trimester III</i>	
✓ Typing Lab III	10
✓ Office Machines	5
✓ Introduction to Data Processing	5
✓ Secretarial Accounting	5
Transcription or Shorthand II (secretarial)	5



COURSE DESCRIPTIONS

Typing Lab I (Beginning)

This laboratory covers the typewriter keyboard and machine operable parts, basic knowledge of vertical and horizontal centering, blocked form business letters, postal cards, memos, invoices, and manuscripts.

Business English

This course includes a thorough review of grammar, punctuation, and sentence structure. Emphasis is placed on business vocabulary building, spelling, and oral communication skills.

Business Math

Instruction provides a thorough review of basic mathematics as pertaining to ratios, percentages, decimals, fractions, and interest.

Introduction to Business

Designed for the clerical major, this course provides a basic understanding of the democratic system of free enterprise, with emphasis on the consumer world, everyday business transactions, employee and citizen obligations.

Shorthand I

This is a beginning shorthand course teaching the Gregg Diamond Jubilee Series Shorthand. Included is the shorthand alphabet and principles of reading, writing, spelling, vocabulary, and punctuation. It is required for the secretarial major.

Typing Lab II (Intermediate)

This laboratory places emphasis on typing techniques and development of speed and accuracy. It includes preparation of business letters, manuscripts, business forms, statistical reports and allied data.

Business Letter Writing

Emphasis in this course is placed on the writing of business letters, reports, memorandums, and general correspondence that can be handled by the office worker.

Secretarial Procedures

This course provides an insight into the role and duties of the various office workers. Additional emphasis is placed on poise, charm, and telephone manners. A block of time is devoted to the teaching of filing—alphabetic, numeric, geographic, and subject.

Business Forms

Required for the clerical major, this is a course in practical office typing utilizing a practice set. Included are multiple carbon copies, purchase requisitions, invoices, injury reports, withholding exemptions, financial reports, form letters, agendas, minutes of meetings, purchase contracts, index cards, and rough drafts.

Shorthand II

Required for the secretarial major, this course develops the student's ability to construct outlines for unfamiliar words; provides development of dictation speed; and extends spelling, punctuation and word usage.

Typing Lab III (Advanced)

This laboratory is an intensive pre-employment review of the knowledge and advanced clerical skills necessary for positions in business, industry, and government, including preparation for taking Civil Service examinations. Emphasis is also placed on transcribing into mailable copy from dictation equipment.

Office Machines

Instruction is given in the most widely used office machines: stencil and fluid duplicators, 10-key adding machines, rotary and printing calculators and card punch machines.

Introduction to Data Processing

This course is an introduction to the field of automated data processing and the types of office jobs that lend themselves to the field. Emphasis is placed on the various input media and the importance of the office worker in this area.

Secretarial Accounting

Instruction is given in basic bookkeeping. It incorporates the complete bookkeeping cycle to include the preparation of the balance sheet, income statement, trial balance, worksheet and subsidiary ledgers. Emphasis is placed on the principles of journalizing and posting to the general ledger and posting from the combined cash journal.

Transcription

Designed for the secretarial major, this course develops and increases the transcription speed at the typewriter, and increases dictation speed on new material.

WELDING PROGRAM

(2 or 3 Trimesters)

The Welding Program is designed to qualify students for employment in the metals processing industry. Emphasis is placed on oxy-acetylene welding and cutting, shielded metal arc, gas tungsten-arc, and gas metal-arc.

The first trimester, students are given instruction in oxy-acetylene welding and shielded metal arc welding. In the second trimester, emphasis is placed on gas tungsten-arc and gas metal-arc. A student can elect to apply for a third trimester certificate of advanced studies, which would emphasize application problems in all areas of welding.

The two-trimester diploma program totals 900 hours of instruction, of which 450 hours are laboratory work and 450 hours are in supporting courses. The advanced studies trimester totals an additional 450 hours of instruction, 225 in laboratory work and 225 in supporting courses.

Many students enter this major only after completing the one-trimester Technologies Preparatory Program (see page 14).

Welding students are required to provide their own padlock, oxy-acetylene goggles, welding gloves, welding helmet, and safety glasses or goggles.

DIPLOMA PROGRAM

<i>Trimester I</i>	<i>(Hours/Week)</i>
Welding Lab I	15
Welding Theory I	5
Trade Math I	5
Elective course	5
 <i>Trimester II</i>	
Welding Lab II	15
Welding Theory II	5
Trade Math II	5
Blueprint Reading	5

ADVANCED STUDIES CERTIFICATE

<i>Course Offerings</i>	<i>(Hours/Week)</i>
Welding Lab III	15
Directed Studies	10
Materials Processing	5

COURSE DESCRIPTIONS

Welding Lab I

A laboratory practice class designed to give instruction in the areas of welding safety, general tools and equipment, common gases and their properties, welding materials, welding joints, oxy-acetylene welding and brazing, metal cutting with gas, and shielded metal arc welding procedures and processes.

Welding Theory I

This course gives the fundamental information on the working properties of metal, various types of joints, terminology, techniques, and processes.

Trade Math I

This course is designed to cover basic arithmetical operations. These include addition, subtraction, multiplication, and division. Whole numbers, common fractions, decimal fractions, powers and roots, percentages, surface measurements and direct measurements are thoroughly covered.

Welding Lab II

A laboratory practice course designed to provide instruction in the areas of inert gases, gas-arc welding equipment, gas-arc welding and power sources, gas tungsten-arc torches, gas metal-arc torches, electrodes, and wire feed systems.

Welding Theory II

This course offers instruction in the areas of inert gas types and characteristics, regulator systems, flowmeter devices, wire and electrode types, and inert gas automatic welding systems.

Trade Math II

This course provides instruction in the use of rules and formulas, ratio and proportion, volume, pulley speeds as applied to the welding area.

Blueprint Reading

This course is designed to cover instruction in the area of welding symbols, terminology, detailed fittings, and angle layout as applied to welding area.

Welding Lab III

An advanced laboratory practice course designed to provide additional specialized welding experience in metals fabrication. Emphasis is placed on increasing production speed.

Directed Studies

A non-laboratory course designed to provide the student with additional study time in the metal processing area. Emphasis will be on production techniques, processes, and procedures.

Materials Processing

This course is designed to offer instruction in the areas of testing equipment, testing methods and procedures, inspection instruments, inspection methods and procedures, and molecular structure characteristics.

525 Buena Vista SE, Albuquerque, N. M. 87106

