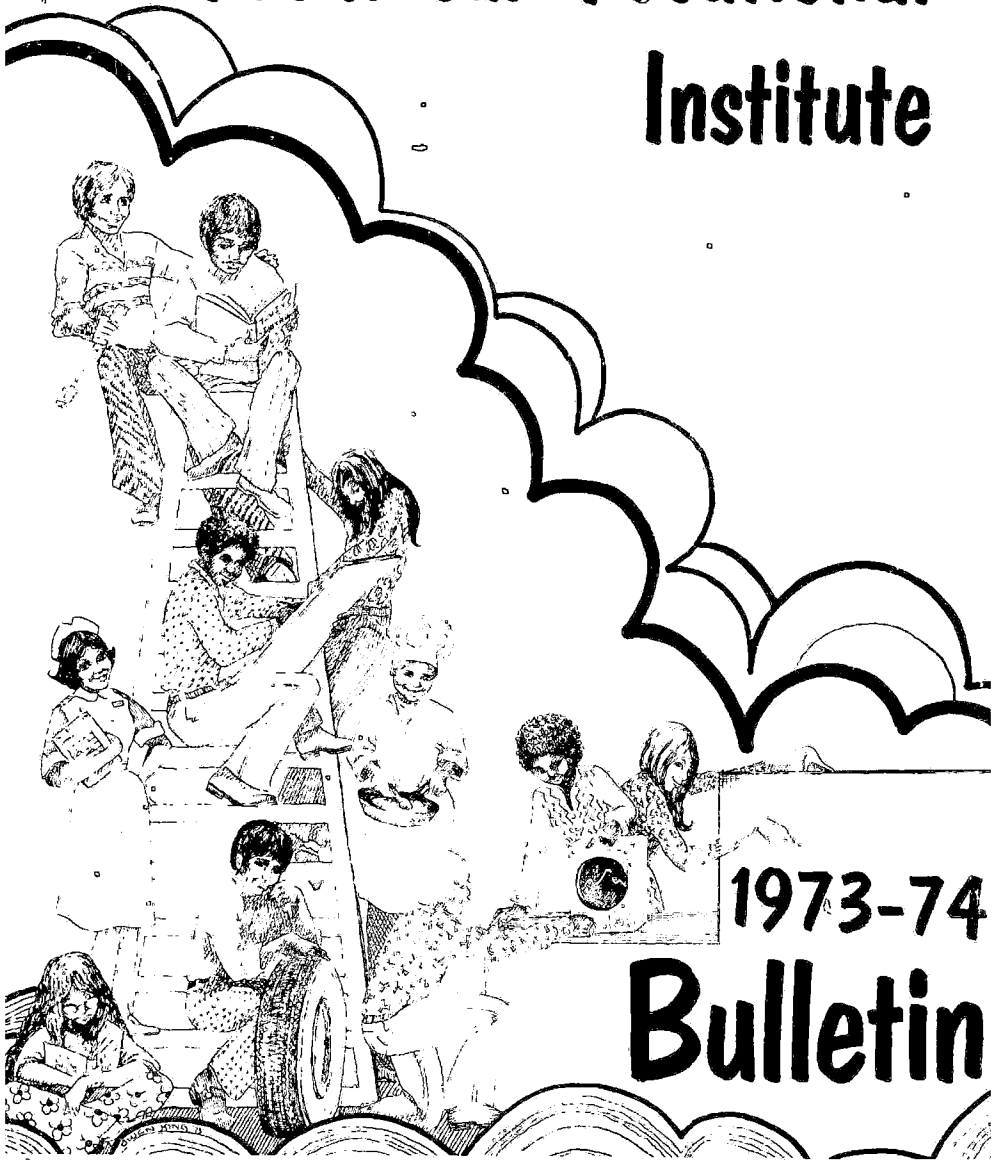


*Journal of Vocational
Education*

Albuquerque

Technical-Vocational Institute



1973-74

Bulletin

BULLETIN 1973-74

ALBUQUERQUE TECHNICAL-VOCATIONAL INSTITUTE

525 Buena Vista SE
Albuquerque, N.M. 87106
Telephone 842-3781

T-VI BULLETIN

Volume IX

May, 1973

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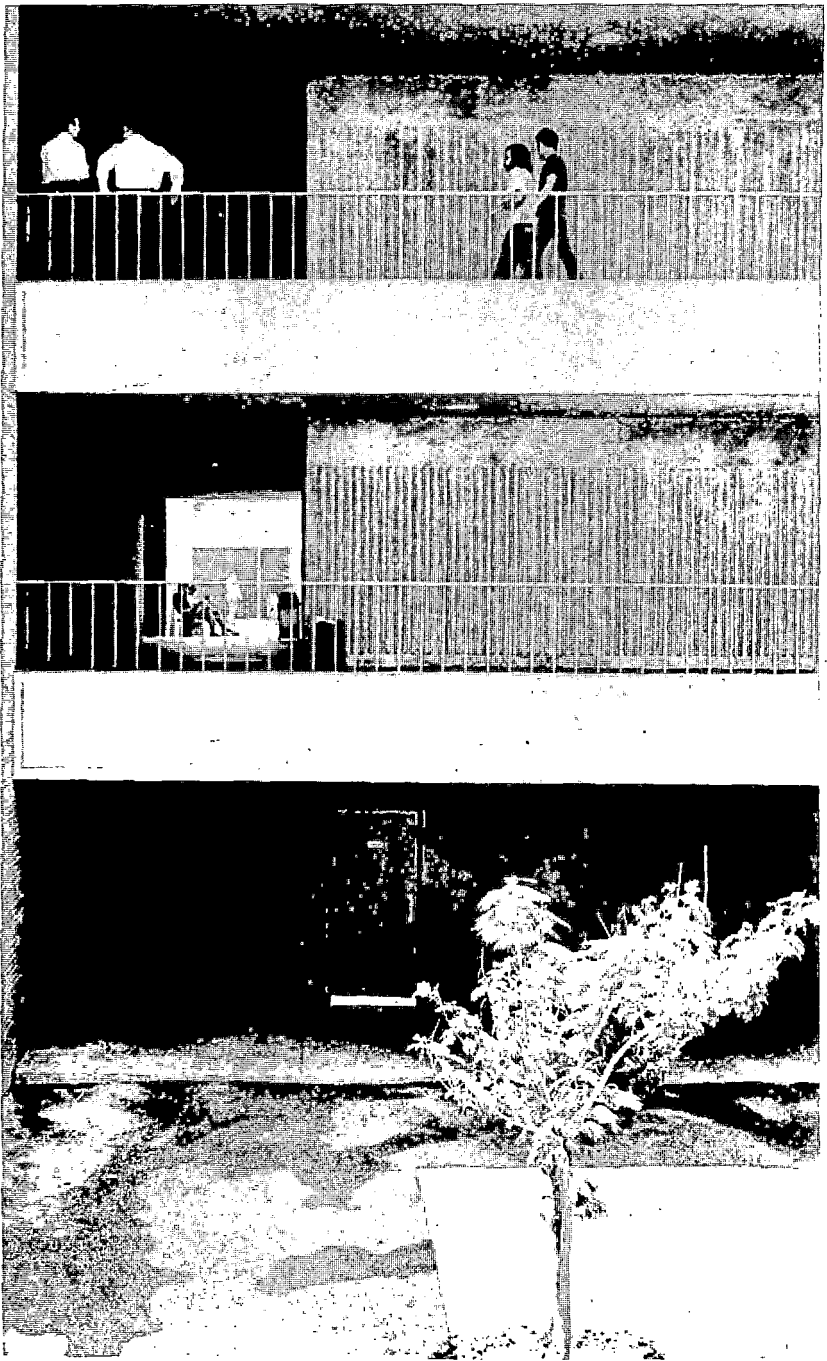
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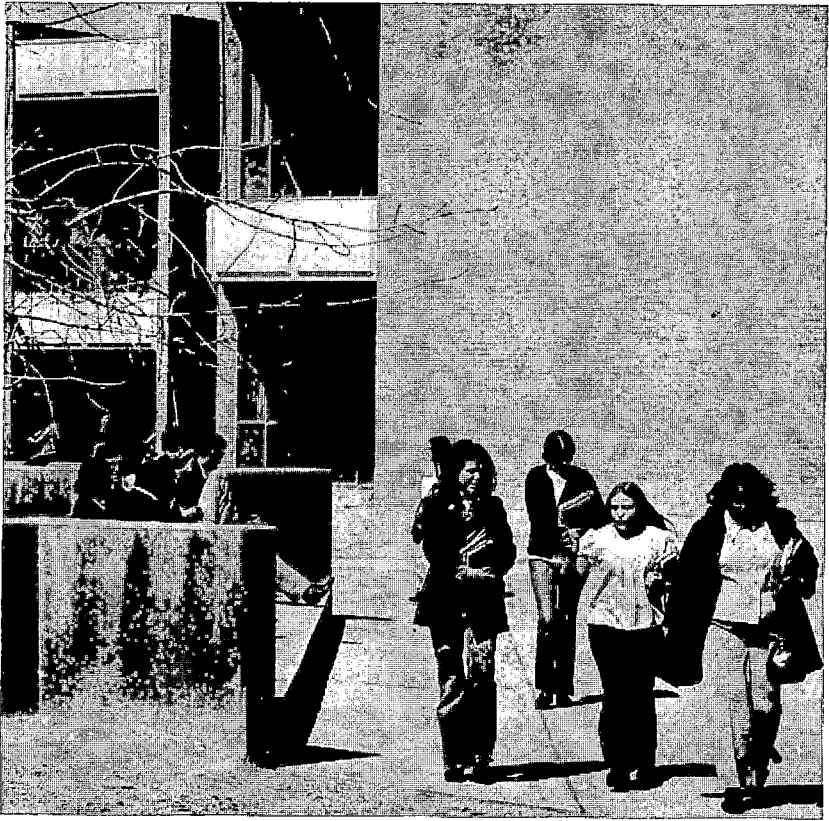
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GENERAL INFORMATION

The Albuquerque Technical-Vocational Institute is a public school which has provided technical and vocational education for adults since 1965. Instruction is offered in appropriate academic areas as well as in technical and vocational subjects.

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 both operating and construction funds is a 3-mill district property tax. 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 on request for legal residents of New Mexico. Tuition for out-of-state students is \$300 per trimester.

SCHOOL YEAR

T-VI operates year around on a trimester plan, with each of the three trimesters providing 15 weeks (75 days) of classes. During 1973-74, the Fall Trimester will begin on Sept. 4, the Winter Trimester on Jan. 7, and the Spring/Summer Trimester on April 29.

Applicants wanting to enter a full-time Day Division Program should *make application at least 30 days before the start of the trimester* they want to enter.

There is no advance registration for Evening Division programs (see *Evening Division Bulletin* for complete information).

FALL TRIMESTER, 1973

August 3	Day Division Application Deadline
August 9-10	Day Division Registration
September 1	Evening Division Registration
September 4	Classes Begin, Day Division
September 10	Classes Begin, Evening Division
October 24	Mid-Trimester Grades Due
October 25-26	Teacher In-Service (No Classes)
November 21-22	Evening Division Thanksgiving Holiday
November 22-23	Day Division Thanksgiving Holiday
December 7	Withdrawal Deadline
December 21	Last Day of Classes; Commencement
December 24-January 4	Trimester Break

WINTER TRIMESTER, 1974

December 7	Day Division Application Deadline
December 13-14	Day Division Registration
January 5 (9 a.m.-9 p.m.)	Evening Division Registration
January 7	Classes Begin, Day Division
January 14	Classes Begin, Evening Division
February 27	Mid-Trimester Grades Due
April 5	Withdrawal Deadline
April 19	Last Day of Classes; Commencement
April 22-26	Trimester Break

SPRING/SUMMER TRIMESTER, 1974

March 29	Day Division Application Deadline
April 10-11	Day Division Registration
April 29	Classes Begin, Day Division
May 4 (9 a.m.-9 p.m.)	Evening Division Registration
May 13	Classes Begin, Evening Division
May 27	Memorial Day Holiday (Day Division)
June 20	Mid-Trimester Grades Due
July 4-5	Independence Day Holiday
July 31	Withdrawal Deadline
August 14	Last Day of Classes (Day Div.); Commencement
August 16	Last Day of Classes (Evening Div.)
August 15-30	Trimester Break

TRIMESTER CALENDAR (1973-74)

SEPTEMBER, 1973

M	T	W	T	F
1 (3)	4	5	6	7
10	11	12	13	14
17	18	19	20	21
24	25	26	27	28

Labor Day-Sept. 3

OCTOBER, 1973

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)	2
29	30	31		

Mid Term, Oct. 24
In-Service, Oct. 25-26

NOVEMBER, 1973

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

Thanksgiving Holiday
Nov. 22-23

DECEMBER, 1973

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				

Trimester Break
Dec. 24-Jan. 4

JANUARY, 1974

M	T	W	T	F
	1	2	3	4)
7	8	9	10	11
14	15	16	17	18
21	22	23	24	25
28	29	30	31	

FEBRUARY, 1974

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	

Mid Term-Feb. 27

MARCH, 1974

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

APRIL, 1974

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			

Trimester Break
April 22-26

MAY, 1974

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

Memorial Day, May 27

JUNE, 1974

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

Mid Term-June 20

JULY, 1974

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		

Independence Day
Holiday, July 4-5

AUGUST, 1974

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)

Trimester Break
Aug. 15-30

PERIOD SCHEDULE

Morning

Period 0	—	7:20 to 8:15
Period 1	—	8:20 to 9:15
Period 2	—	9:20 to 10:15
Period 3	—	10:20 to 11:15
Period 4	—	11:20 to 12:15

Afternoon

Period 5	—	12:20 to 1:15
Period 6	—	1:20 to 2:15
Period 7	—	2:20 to 3:15
Period 8	—	3:20 to 4:15
Period 9	—	4:20 to 5:15
Period 10	—	5:20 to 6:15

INSTRUCTIONAL PROGRAMS

THE DAY DIVISION program at the Institute provides full-time instruction leading to certificates of completion in 23 career fields. They are listed in the table of contents on Page 2.

Preparatory programs are offered for persons whose previous education does not qualify them for immediate acceptance into one of the major technical and vocational areas, to provide refresher work for those who have not been in school for some time, or to help prepare people for the General Educational Development (GED) high school equivalency exams.

Students in the Day Division attend classes five or six hours a day. However, those not wishing to pursue a certificate may enroll as special students in specific courses 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. Laboratory or shop-oriented courses are either two-hour or three-hour time blocks.

THE EVENING DIVISION offers more than 80 *Skill Improvement* classes to part-time students in the general areas of Office Education, Trade and Industrial, Health Occupations, Distributive Education, and Technical Education. The *Adult Basic Education* section offers a variety of classes designed to give people the opportunity for improvement in written and spoken communication skills, math, and GED examination subjects, and also has a citizenship program for aliens. A *Vocational Enrichment Program* providing technical and vocational classes for high school students, at their schools after regular school hours, is also sponsored by T-VI's Evening Division.

In addition to the main T-VI campus, the Evening Division classes are offered in facilities at most of the city's high schools. Most of the Evening Division courses meet two nights a week (either Monday-Wednesday or Tuesday-Thursday) in two- or three-hour time blocks.

Complete information about the evening programs, which are also tuition-free to New Mexico residents, is available in the *Evening Division Bulletin*.

THE APPRENTICESHIP PROGRAM includes classes in many of the construction trades, and is operated 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 (842-3511).

ADMISSIONS POLICIES

The Institute's Day Division programs are designed for adults who do not have a marketable skill, and who are willing and able to pursue a full-time (25 to 30 hours per week) instructional program. To enter the Day Division programs, a student should be 18 years of age or, if under the age of 18, a high school graduate.

Admission to the Institute is on a space-available basis each trimester. Some of the programs offered have prerequisites which must be met before an applicant can be admitted to that particular program (see the descriptions under each major in this Bulletin for details). *No person shall be denied admission to any T-VI program on the basis of race, ethnic background, sex, creed, or religious preference.*

The entire admissions process is aimed at helping each applicant enter a career field in which his chances for success are good. For that reason, an applicant will be discouraged from entering a major for which he does not meet minimum physical and academic aptitudes; he will be denied admission to a major where his health or physical condition is dangerous to himself or his fellow students. When an applicant has a health or physical condition which prevents his admission to a particular major, it is a duty of the admissions counselor to help the applicant find a career area where the condition will not pose a hazard or prevent the student from completing required assignments.

In those majors which include paid on-the-job training among graduation requirements, *the student is responsible for obtaining his own work station.* However, in such programs T-VI usually will have sufficient training stations arranged so each student can be given one or more interview leads. Students in paid on-the-job cooperative training must conform to personnel policies of the cooperating employer while they are on the job.

The Day Division admissions process gives first priority to persons who do not now have a salable skill. *A student who has already obtained a salable skill by successfully completing a T-VI program will be admitted to a new T-VI career field only after first-priority applicants have been considered.* Applicants wanting to enroll for less than 15 hours a week also will be admitted only after first-priority applicants have been considered. (Persons wanting less than a full-time program are encouraged to consider T-VI Evening Division offerings, which are designed for part-time students.)



ADMISSIONS PROCEDURES

Four steps must be completed by the applicant before he can be admitted.

1. APPLICATION — Day Division application forms are available at the reception desk, or at the counseling offices of any of Albuquerque's public high schools. Applications will be accepted as follows:

Trimester	Starting Date	Applications Accepted
Fall 1973	Sept. 4	May 15 to Aug. 3
Winter 1974	Jan. 7	Sept. 18 to Dec. 7
Spring/Summer 1974	Apr. 29	Jan. 2 to March 29

Applications for the September 1974 class in Practical Nursing will be accepted between March 1 and 29, 1974; and applications for the September 1974 class in Respiratory Therapy Technician will be accepted between May 1 and 24, 1974.

2. APTITUDE TESTING — When a completed application has been submitted, the applicant is scheduled for the aptitude tests related to his choice of program. Missing this test appointment delays completion of the four-step process, and may cause the applicant to find that the desired program has been filled.

3. ADMISSION INTERVIEW — When the applicant completes the tests, he is notified when to return for the admissions interview. Using the aptitude test results and the policy guidelines detailed above, the counselor and program coordinators will confer with the applicant about the major fields of interest to the applicant. After the conference, the counselor (in conjunction with the appropriate program coordinator) will notify the applicant of his eligibility for admission. If the chosen program is filled, the applicant is accepted on a standby basis only, and cannot complete Step 4 unless a vacancy occurs.

4. PAYMENT OF FEES — When the counselor has approved admission to a major, the applicant can complete the process by paying the registration fee and personal equipment fee (if any).

When *all four steps* have been completed, the applicant is officially admitted, and he will be given information about when to come on registration day to pick up his class schedule. After registration, the student is ready to report to his classes on the first day of the trimester.

TESTING SERVICES

The Testing Center at T-VI provides a variety of testing services free of charge to New Mexico residents.

An important community service is administration of the General Educational Development (GED) examinations for a high school equivalency certificate. Any New Mexico resident 18 years of age or older, who is not a high school graduate but whose high school class has graduated, may apply to take the GED exams at T-VI free of charge. However, it is strongly recommended that anyone planning to take the GED enroll in the Evening Division's tuition-free GED preparatory courses before challenging the five-part examination. Information about the GED examination schedule can be obtained by calling the Testing Center at 842-3781, Ext. 217.

The Testing Center also gives a variety of aptitude and achievement tests to people who apply for admission to a full-time program. The test results are used by admissions counselors to help the applicant determine which of the training areas at T-VI appear to best match the applicant's aptitudes and abilities.

CHARGES AND FEES

TUITION: For non-residents of New Mexico, tuition is \$300 per trimester, or \$13 per trimester hour for schedules of less than 22 hours per week.

For residents of New Mexico, including dependents of and members of the armed forces stationed on active duty in New Mexico, there is no tuition charge.

Anyone who has paid a tuition fee and withdraws during the first 13 weeks of a trimester will be refunded the unused part of the tuition fee. *Withdrawals are not permitted during the last two weeks of the trimester.*

Payments in lieu of tuition are requested from agencies that are authorized to pay the training expenses of students referred to the Institute.

REGISTRATION FEE: There is a \$10 registration fee each trimester, which must be paid before the applicant is admitted. *Payment of the registration fee reserves the applicant a place in classes through the second day of the trimester only.* Unless the applicant has requested, in writing, an extension of his class reservation beyond the second day of the trimester, his place in classes can be filled by another applicant on the third day of the trimester.

The registration fee is a charge for processing the applicant's admission, and *is not refunded once it has been paid.* A refund of the registration fee will be made only in the event that the Institute cancels an instructional program to which applicants have been admitted.

PERSONAL EQUIPMENT FEE: Several majors at T-VI require the student to buy personal equipment, such as uniforms in the health occupations, and tool kits in the skilled trades. They will be issued the equipment, purchased at very advantageous educational institution prices by T-VI, on the first day of classes and the equipment is thereafter the personal property of the student.

Personal equipment fees must be paid in full before the student is officially admitted. The fee is payable once only, when the student is entering the major for the first time. Refunds of the personal equipment fee will be made if the applicant withdraws before the equipment has been issued to him; *once it has been issued, no refund can be made.*

Personal equipment fees in effect during 1973-74 are as follows: *Health Occupations* — Nursing Assistant \$20, Practical Nursing, \$65, and Respiratory Therapy Technician \$65; *Business and Office Education* — none; *Technologies* — none; and *Trade and Industrial* — Air-Conditioning/Heating/Refrigeration \$65, Auto Collision Repair \$65, Auto Mechanics \$65, Carpentry \$65, Culinary Arts \$55, Diesel Mechanics \$65, Electrical Trades \$65, Landscaping/Turf Management \$40, Machine Trades \$65, Masonry \$65, Plumbing \$65, Sheet Metal \$55, and Welding Trades \$45.

BOOKS AND SUPPLIES: Textbooks are provided on free loan to all full-time students. They must be paid for only if the student loses or damages them.

Students are responsible for buying their own routine school supplies, such as paper, notebooks, and pencils. These will usually average about \$10 a trimester.



STANDARDS OF PROGRESS

Progress reports are given each student at the mid-point and end of each trimester or unit of study. Only the final progress reports become part of the student's permanent records at T-VI.

Some of the classes at T-VI utilize letter grades in their progress reports. Letter grades used are "A" (Excellent), "B" (Above average), "C" (Average), and "U" (Unsatisfactory). A few courses use just two letter grades: "S" (Satisfactory) and "U" (Unsatisfactory).

Other courses at T-VI make use of proficiency ratings in progress reports. In these, the performance objectives for each class are clearly defined, and the student receives progress reports detailing his proficiency in each of the specific skills identified as objectives for that class. The proficiency rating sheets are the progress reports in these classes.

A student who receives an unsatisfactory grade for a course cannot enroll for any course where the unsatisfactorily-completed course is listed as a prerequisite.

ACADEMIC PROBATION: A student who receives an unsatisfactory final report in any of his or her courses is automatically placed on academic probation for the next trimester in which he or she enrolls. If, at the end of the probationary trimester, the student again receives unsatisfactory progress reports in any course he will not be allowed to continue further in the same T-VI major.

ACADEMIC SUSPENSION: A student who fails to make satisfactory progress toward a certification goal for three successive trimesters will be placed on academic suspension for a period of one year, and may not enroll at T-VI during the year of suspension.

ATTENDANCE POLICIES

Each person admitted to T-VI pledges to attend all class sessions of every course as a condition of his or her admission.

Attendance is taken each class period every day, and absences are reported to the Attendance Office *where they become part of the student's permanent record.*

A student whose attendance record shows an undesirable pattern of absences in one or more of his classes will be issued a warning, and asked to meet with a counselor to try to solve the problem which is causing him or her to be absent.

ATTENDANCE PROBATION: A student who continues to be absent after the warning will be placed on attendance probation. A student on probation is subject to suspension from the class or classes in which the absences are occurring if there are additional absences. A student who continues to be absent after having been placed on attendance probation will be suspended from the class or classes for the balance of the trimester.

Anyone suspended for violation of attendance probation must go back through the regular admissions process to re-enter the Institute in future trimesters.

ADMINISTRATIVE REVIEW COMMITTEE: A student suspended for violation of attendance probation, or for misconduct, has the right to appeal the suspension to an Administrative Review Committee made up of students plus one faculty member.

After hearing the appeal by the suspended student, the Administrative Review Committee may recommend to the Vice President: (1) that the suspension for the balance of the trimester be carried out, or (2) that the student be readmitted to classes under specified probationary conditions.

CERTIFICATIONS

Certificates of completion are awarded to students who successfully complete the requirements listed in the specific major for one of the identified job-entry-level exit points of that major (see major program descriptions for details on approved exit levels for each major).

In some areas, the certificate of completion may be in the form of a diploma if the student successfully completes the *entire* program described as the diploma program.

CREDIT BY EXAMINATION: A student may be given credit by examination and a course in his program requirements waived if he can demonstrate that he already has the knowledge or skill required for successful completion of that course. A waiver request form is available, and requires the approval of the course instructor, the major coordinator or supervisor, and the Director of the Student Services Division. The student will be required to take a final examination for the course or otherwise demonstrate his competency. Credit by approved waiver counts toward meeting certificate of completion requirements, and meets prerequisite requirements for advanced courses.

STUDENT RECORDS

Permanent records are maintained for each student who attends the Institute. The permanent transcript shows the amount of instruction each student has received, whether course credits are by full completion or waiver, and whether the program of studies was partial or complete. It also records all final grades and/or proficiency ratings earned.

Confidential copies of transcripts are routinely provided, on request, to bona fide employers and to accredited educational institutions. *Any student who does not want his or her transcript sent to prospective employers or to other educational institutions must indicate this in writing on the face of the transcript.* This can be done by visiting the Student Records Center in person.

STUDENT SERVICES

The Student Services Division provides assistance to applicants, students and graduates in all matters related to admissions, testing, counseling and career guidance, attendance accounting, student records, student financial aids, and job placement services.

COUNSELING: Professional counselors are available to help applicants select a career field, and to advise students who have any problems related to their studies at the Institute. Applicants and students should feel free to request to see a counselor at any time.

STUDENT RECORDS: A student or graduate may request to see his transcript or attendance record at any time by visiting the Student Records Center. The Center also provides, on request, a copy of the student's transcript to employers and to other educational institutions free of charge.

JOB PLACEMENT: Finding a job after leaving the Institute is a responsibility of the student. However, T-VI has a Placement Services office and any graduate desiring assistance may establish a placement file there at any time he or she is seeking a job.

HEALTH SERVICES: A student health office, staffed by a Registered Nurse, is available for students wanting advice regarding any health problem, or who become ill or require first aid while at school.

FOOD SERVICES: A student lounge and snack bar offers short order food service throughout the day, Monday through Friday.

HOUSING: There are no student housing facilities on the campus, and students are responsible for obtaining their own housing.

TRANSPORTATION: Many students drive their own cars, and adequate student parking facilities are available free of charge. Full-time Institute students are entitled to the student discount rate on Albuquerque city buses on school days during school hours, upon presentation of their T-VI identification card. *Students with severe financial needs may apply for free city bus tokens at the Student Financial Aids office.*



FINANCIAL ASSISTANCE

The Institute has no provisions for financial aid to students from its general operational funds. However, most students attending T-VI are eligible for financial assistance from other agencies while they are in school.

Financial aid information can be obtained by contacting T-VI's Student Financial Aids Manager. Some of the forms of financial help available are:

NEW MEXICO STUDENT LOAN PROGRAM: New Mexico residents are eligible to apply for a loan of up to \$1,500 for their first two trimesters and \$500 more their third trimester, each calendar year the student is in school, up to a maximum of \$7,500. However, applicants must have a financial need in order to qualify for a loan.

The loans are made by the State of New Mexico under the Federally Insured Student Loan Program, and are to help students defray normal educational expenses (including room and board, clothing, transportation, fees, etc.) while they are in school full time. Interest rate is 7% annually, but the interest is paid by the federal government while the student is attending school. The student must

(CONTINUED NEXT PAGE)

Financial Assistance (cont.)

begin repayment of the loan, and interest charges, within 12 months after he graduates or withdraws from school. The repayment plan calls for a minimum monthly payment of \$30.

At T-VI, students awarded a New Mexico Student Loan place the full loan amount into an escrow fund, and then receive a monthly portion of their loan (in advance the first of each month) while they are attending the Institute. If the student leaves school, the unused balance is returned to the state and the student owes only that portion which has been issued to him.

VETERANS BENEFITS: Most Day Division programs at T-VI are approved by the Veterans Administration for support under the GI Bill. In addition to service veterans, persons entitled to benefits include children and widows of deceased veterans, and dependents of veterans with 100% disability classifications.

Information about eligibility for these education benefits can be obtained from the nearest VA office. The Albuquerque office is at 500 Gold SW (Phone 843-3368; disabled veterans phone 843-2222).

SOCIAL SECURITY: Under the 1965 Amendments to the federal Social Security Law, children of retired, disabled or deceased workers covered under Social Security and the Railroad Retirement Act are eligible to receive financial support until they reach age 22 while they are full-time T-VI students. The nearest Social Security District Office can provide eligibility information. The Albuquerque office is at 500 Gold SW (Phone 843-2531).

BUREAU OF INDIAN AFFAIRS: Indian students may be eligible for educational benefits through the BIA. For information, contact the Albuquerque Area Office at 5301 Central NE, Room 414 (Phone 843-3153).

VOCATIONAL REHABILITATION: Persons with disabilities may be able to attend T-VI with training support from the New Mexico Department of Vocational Rehabilitation. The Albuquerque office is at 3010 Monte Vista NE (Phone 842-3186).

MANPOWER TRAINING PROJECTS: At times, special training programs are offered at T-VI and its subsidiary, the Albuquerque Skill Center at 1617 Broadway NE, through manpower training contracts under which unemployed and underemployed persons receive training allowances while attending school.

Examples are projects under the federal Manpower Development Training Act (MDTA), Concentrated Employment Program (CEP), and Work Incentive (WIN). Students for these programs are selected by the federal Employment Security Commission and its State Employment Service. Information can be obtained from the State Employment Service at 505 Marquette NW (Phone 842-3001).

MODEL CITIES SCHOLARSHIPS: People who have lived in the Albuquerque Model Cities area at least one year, and who meet eligibility requirements on income level, may apply for Model Cities scholarship awards to attend T-VI. Application forms are available from the Model Cities Project Coach, 122 Broadway SE (Phone 766-7807).

COLLEGE WORK-STUDY: A limited number of full-time students can be employed by T-VI under the federal College Work-Study (CWS) program. Eligible students can work up to 15 hours per week. CWS application forms are available at the T-VI Student Financial Aids office. (Phone 842-3781, Ext. 215).

PREPARATORY PROGRAM

(1 or 2 Trimesters)

The Preparatory Program is offered for persons who need or would like some refresher or developmental work before entering one of the skilled trade or technology majors.

The Preparatory Program also offers the person who is not certain about his career choice an opportunity to explore some career fields before committing himself to a major.

This program is valuable for persons who are not high school graduates or who have been out of school for a long time. After successful completion of the program, students usually can qualify for the trade or technical major of their choice. Should additional development in English or mathematics be needed, the student may enroll for a second trimester in the Preparatory Program.

People required to pass entrance examinations to enter occupational fields other than those offered at T-VI also find the program valuable. For example, a person needing math and/or English before taking the entrance examination for the Albuquerque Police Academy would find this program helpful.

Students in this program should take a minimum of two courses, and as many elective courses as they can fit into their day. Those attending under Veterans Administration benefits must take a minimum of 25 hours a week to qualify for full support.

The Preparatory Program is a noncredit program; thus, the course work does not necessarily apply toward a training objective. However, students earn grades and compile an attendance record in the program, and the results become a part of their permanent transcript at T-VI.

<i>Course Offerings</i>	<i>(Hours/Week)</i>
Communications	5
Mathematics	10
Enrichment Cluster (see course descriptions)	5
Exploratory Cluster (see course descriptions)	5
Personal Business Management	5
Personal Typing	5
Human Relations	5
G.E.D. Preparatory	5

COURSE DESCRIPTIONS

Communications

This is a general refresher course in written and oral communication. It includes units on reading skills, written expression, speaking skills, vocabulary, spelling and grammar. Placement in classes is by ability level.

(CONTINUED NEXT PAGE)

Preparatory Program (cont.)

Mathematics

Mathematics preparatory courses are offered at a variety of entering skill levels. The student will be assigned to two hours a day of math review which relates directly to his intended major. The math courses range from a review of basic mathematics operations such as whole numbers, fractions, decimals and percentages through algebra review.

Enrichment Cluster

This cluster consists of a series of five areas intended to strengthen the student's self-concept and social understanding, relating these areas to the world of work. Courses (3 weeks each) in this cluster include the following:

How to Study

This course is designed to supplement other courses in any major field of the preparatory program. The content of the course deals with note-taking, outlining, test-taking, basic skills in reading, study time organization and self evaluation. Instruction is tailored to individual student's needs. The course also includes instruction in the use of the library.

Community Resources

This course will acquaint students with the various supportive agencies on which they and their families and friends might call. Through lecturers, field trips, and audio-visual materials, both private and governmental resources are presented.

Consumer Education

This course will present the consumer's point of view in the economic field. Such areas as buying and marketing and their implications for daily living will be discussed.

Personal Development (Group Counseling)

This unit aims primarily at helping the student see himself as a contributory member of society. Emphasis is placed on the influence of personal grooming, ethics, attitudes and the importance of "getting along" in the world of work.

Group counseling interactions provide students the opportunity to discuss freely any topic of concern to them with the expectation that meaningful insights will be shared. Confidence and poise in group situations will be gained by students.

First Aid and Personal Safety

This is a basic aid course taught by a Red Cross certified teacher. The student learns the principles of first aid and how to cope with various emergencies that may occur on the job or at home. Personal safety will be an integral part of first aid.

Personal Business Management

Designed to help the student manage his own financial affairs, this course covers banking functions, contracts, budgeting, borrowing money, finance charges and interest rates, savings and retirement plans.

Personal Typing

Presented in this course are the basic machine, operable parts, keyboard, personal letter writing, and basic tabulation. *Note: This is an elective course which is not approved for the basic 25-hour VA requirement.*



Human Relations

Students study the special composition of the world of work to prepare for success in a working environment. The content of the course deals with personal and vocational ethics, employee-employer relations, and employee-fellow employee relations. Textbook material, classroom lectures and discussions, audio-visual presentations and role-playing emphasize techniques of training for a vocation. Emphasis is also given to the "how" of applying for, acquiring and keeping a job.

G.E.D. Preparatory

Students without a high school diploma may prepare to take the General Educational Development (GED) test. This test is also known as the high school equivalency test. Covered in the program is a review of English, mathematics, social studies, science and literature especially keyed to the GED.

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Preparatory Program (cont.)

Exploratory Cluster (Survey of Occupations)

This cluster presents a survey of career fields. Instruction is intended to reinforce choices of students who have definite aims, and to open alternatives to those who are less firmly committed. (The former group will be encouraged to avail themselves of the whole cluster, but will be permitted exit avenues if they desire.) Courses in this cluster include the following:

Survey of Health Occupations

This course provides instruction in general sciences including basic anatomy, physiology and bacteriology. Basic mathematical operations involved in preparing the student in the area of drugs and solutions will be covered. Emphasis will be placed on the principles of nursing and ethics. There will be outside speakers as well as tours to hospitals and health centers. Also, job opportunities and job requirements will be surveyed.

Survey of Service Occupations

The major topics include specifics about service occupations or trades: personal, industrial and general safety, and major service occupations at the Institute, such as *Culinary Arts* (Hotel-Motel, Restaurant and Cafeteria Cook) and Air-Conditioning, Heating and Refrigeration. The course also will include skills, knowledge and attitudes required in the industry, and field trips.

Survey of Business Occupations

Many facets of the accounting world-of-work are considered: job opportunities, range of accounting systems, necessary educational background, and equipment and forms in the business world.

Survey of Technologies

This course provides an overview of technologies, training requirements, areas of employment, and conditions and requirements of jobs in technology fields. It will attempt to make the student aware of changing technology in a postindustrial era. An attempt will also be made to help the student cope with change and to recognize career ladders within the technology of his choice.

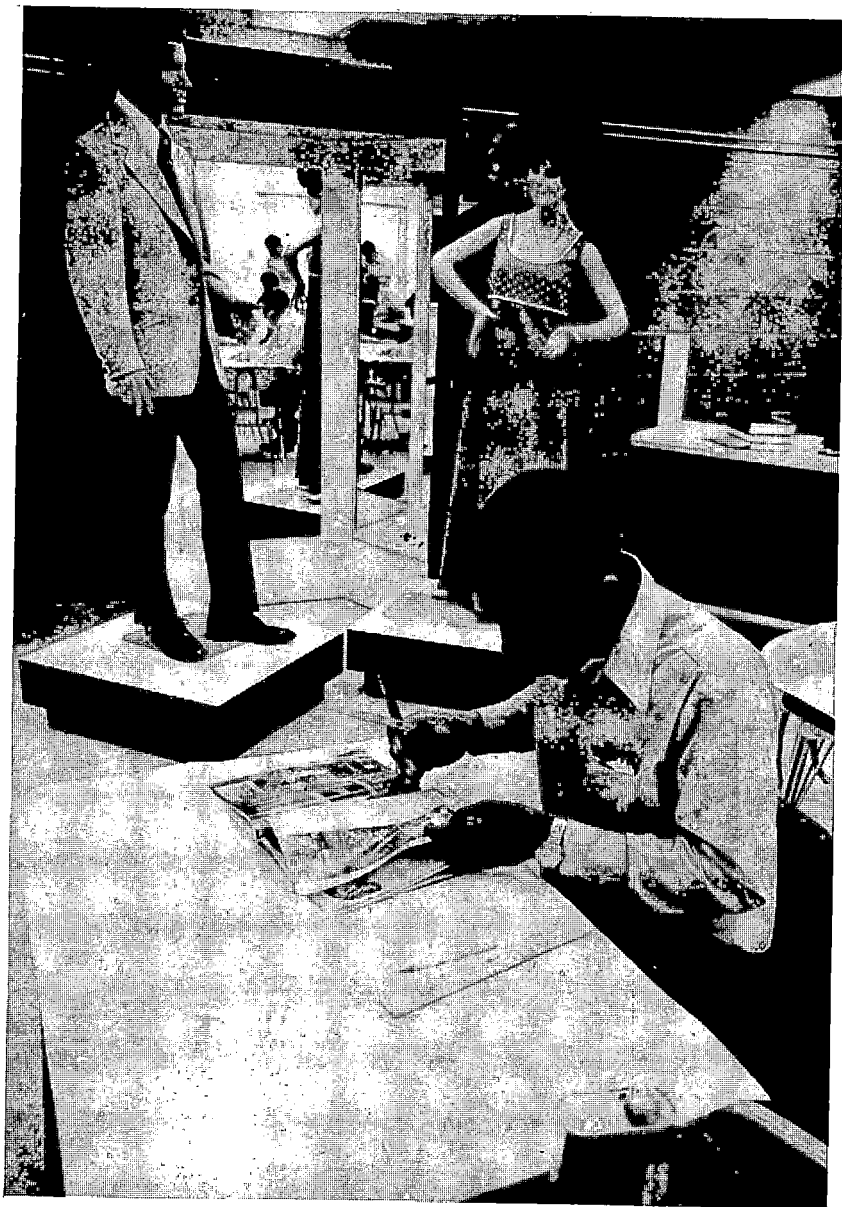
Survey of Trades Occupations

This course provides career information relevant to occupations in trades areas. Construction trades will be surveyed, as will be metal trades. Emphasis of instruction will be on the needs and role of trades occupations, working conditions, educational requirements and location of jobs.

TYPICAL PREPARATORY SCHEDULE

Period 1Select one of the following: Enrichment Cluster Personal Typing Personal Business Management Human Relations G.E.D. Preparatory
Period 2 Communications
Period 3 & 4 Mathematics
Period 5Select one of the following: Survey of Occupations Personal Business Management G.E.D. Preparatory

Business and Office Education



ACCOUNTING (4 Trimesters)

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

The four-trimester program totals 1500 to 1800 hours of instruction depending upon the student's selection of five or six hours per day of instruction. To qualify as a full-time student, the individual must take the required 20 hours of instruction each trimester plus one elective as indicated below.

Students may select any of the electives listed which best prepare them for their employment goals. All courses will not be offered each trimester. A minimum enrollment of 15 students is required to offer an elective.

Students may exit, with an employable skill, at any time after the first full trimester of 15 weeks. At any exit point they will be furnished a certificate which will indicate the degree of proficiency achieved in the various performance objectives during their training at T-VI.

Employment possibilities range from payroll clerks, accounts receivable and payable clerks, to full-charge bookkeepers, office managers and cost analysts.

Prerequisites for enrollment in the Accounting major are minimum aptitude scores in the general and numerical areas, the ability to work with detail, and a personal interview with the accounting coordinator.

Many students enter this major only after completing the one-trimester Preparatory Program.

ACCOUNTING PROGRAM

<i>Trimester I</i>	<i>(Hours/Week)</i>
Accounting Principles Lab I	10
Accounting Math	5
Office Machines	5
<i>Trimester II</i>	
Accounting Principles Lab II	10
Typing I Lab	10
<i>Trimester III</i>	
Intermediate Accounting Lab I	10
Tax Accounting Lab	5
Business Communications I	5
<i>Trimester IV</i>	
Intermediate Accounting Lab II	5
Cost Accounting Lab	5
Managerial Accounting Lab	5
Business Communications II	5

*Recommended Electives**

Principles of Data Processing	5
Principles of Economics	5
Report Program Generator	5
Principles of Management	5
COBOL	10
Business Law	5
Typing II	5
Secretarial Procedures	5
Posting Machines**	5

*An enrollment of 15 students is required for each elective course.

**The posting machines class is designed to take from three to five weeks, depending upon student's progress, and would not count as one of the above four electives.

In addition to the above electives, the student would be able to enroll in any other class offered at T-VI on a space-available basis.

COURSE DESCRIPTIONS

Accounting Principles Lab I

This is an introductory course on the theory and practice of accounting. A student may exit at the end of this course with a salable skill. However, more advanced accounting courses are recommended.

Students completing this course should be able to perform the following tasks for a small sole proprietorship with established records and supervision: record business transactions in general and special journals, post from journals to general ledger accounts, maintain subsidiary ledgers, prepare bank deposits and checks, reconcile bank statements, maintain perpetual inventory records, prepare and maintain payroll records to include all applicable federal, state and city reports, prepare simple income statements and balance sheets, and complete a practice set (comparable to a set of books for a small retail business) covering two accounting periods.

Accounting Math

This course gives the student a strong background in the basic fundamental arithmetic operations and familiarizes the student with a wide range of accounting procedures for which mathematics is required; and reviews equations and percentages.

Office Machines

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

Accounting Principles Lab II

(Prerequisite: Accounting Lab I) This is a continuation of Accounting I. Planning of and accounting for the partnership and corporate form of business organization is covered. Also studied are: corporate bonds, investments, analysis and interpretation of financial statements, cash flow, budgeting, and management's use of accounting and tax consideration in business. A brief introduction to cost accounting is also included.

Upon successful completion of this course the student should, with minimum supervision, be a competent bookkeeper for most small business organizations.

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Accounting (cont.)

Typing I Lab

Individualized instruction permits a student to progress at his own pace. At the end of the course, a beginning student should be able to type 30 words a minute for five minutes with no more than one error per minute using the touch method. He will be able to type letters, tabulations, manuscripts with footnotes, and center horizontally and vertically.

Intermediate Accounting Lab I

(Prerequisite: Accounting Principles II Lab) Emphasizes accounting theory, concepts and their practical application. Focuses attention on the use of accounting data as a basis for decisions by management, stockholders, creditors and other users of financial statements and accounting reports. Subject matter covered includes a review of the accounting process and asset accounting for the enterprise.

Upon completing this course the student will have achieved a more mature and comprehensive understanding of the accounting process, appreciation of controversial areas of accounting principles and concepts to business situations.

Tax Accounting Lab

(Prerequisite: Accounting Principles II Lab) This course examines the fundamental characteristics of federal income taxes as applied to individuals, partnerships and corporations. Emphasizes the recognition of income tax problems and business transactions so as to produce the most favorable income tax posture. The federal individual, partnership and corporation forms are utilized.

Upon completing this course the student will have achieved proficiency in recognizing and solving income tax problems of business and will have improved perspective with respect to the impact that income taxes have on business.

Business Communications I

The student will be able to communicate more effectively in business through the study of grammar, punctuation, vocabulary and spelling. He will have instruction in those functional principles that are used in speaking and writing. In addition, the student will be able to write basic business letters and memos.

Intermediate Accounting Lab II

(Prerequisite: Intermediate Accounting Lab I) This course is designed to reinforce the accounting work of the previous three trimesters. A student at this level should be able to perform with less supervision than at previous exit levels; has knowledge of accounting for capital stock transactions, dividends, retained earnings, income tax allocation error correction, and long-term investments; has ability to prepare amortization schedules, statements from incomplete records, flow of funds statements, and analyze and interpret financial statements.

Cost Accounting Lab

(Prerequisite: Accounting I and II) This course gives the student the additional capability of working in construction and manufacturing as compared to merchandising or service businesses. It teaches the student skills in performing the accounting operations for estimating, bidding, and application of the materials, labor and overhead factors of production. Three methods of cost accounting are covered: job order, process and standard or budget. Accent is heavy upon the managerial and sales use of cost data and the reports required to communicate cost information.

Managerial Accounting Lab

(Prerequisite: Intermediate Accounting Lab I) This course is basically concerned with how accounting data can be interpreted and used by management in planning and controlling business activities. An additional subject briefly considered is fund or governmental accounting.

Upon completing this course the student will have acquired a general understanding of management's need for accounting data and how these needs can be met in part. With respect to governmental accounting the student will acquire a general understanding of fund accounting including budgetary, appropriation and encumbrance accounting entries and concepts.

Business Communications II

(Prerequisite: Business Communications I) A student completing this course will know how to write effective business letters, reports and memoranda. He will have an up-to-date "job portfolio" consisting of a letter of application, letter requesting references, and resume. He will speak effectively in all types of oral communications — introductions, dictation, meetings, discussions, etc.

Principles of 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, unit record equipment, digital and analog computers, internal storage and the process of using a computer.



Accounting (cont.)

Principles of Economics

This course gives the student an insight into the economic system. Emphasis is placed on production and distribution, money and banking, government fiscal policy, and economic conditions in New Mexico.

Report Program Generator

(Prerequisite: Principles of D.P.) 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 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.

Principles of Management

An introductory course helping the student develop an understanding of the basic management functions: planning, organizing, staffing, directing and controlling.

COBOL for Accounting

Introduction of the job control language as it pertains to the COBOL language. Includes the introduction of the required entries in the four basic divisions of COBOL. Projects will be assigned, where possible, directly related to the programming of business and accounting applications. Data structures, special names, arithmetic, logical and conditional operators, constants, literal loops, and arrays are introduced as they are needed to complete the assigned projects.

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. Practical problems in law are considered and solutions recommended.

Typing II

(Prerequisite: Typing I Lab) Students completing this course will be able to type business letters, reports, memoranda, statistical reports, and business forms. Speed and proficiency depend upon the level of the student when he enters the class. Emphasis is on the typing skills the student is most likely to use at an accounting job.

Secretarial Procedures

This course provides an insight into the operational and managerial duties of the professional secretary. Emphasis is placed on all phases of the secretary's personality, and the understanding of human relations in business. The information on secretarial procedures is discussed for one-half of the trimester (7 weeks). One-half (8 weeks) of the trimester is devoted to records management, which is the efficient control of business records.

Posting Machines

(Prerequisite: Accounting Principles Lab I) This is an introduction to machine posting. The work will be restricted to accounts receivable subsidiary ledgers. The student will work on a number of different makes and models of posting machines. Emphasis will be on operation of the machine and similarity of machines. This should enable the student to work on any posting machine with a minimum of on-the-job training.

DISTRIBUTIVE EDUCATION (1 Trimester)

The Distributive Education (Cashier-Sales) Program is designed on a cooperative basis with Albuquerque business firms, in that the students spend a portion of the school day in the cashier-sales classroom/laboratory at the Institute and a certain amount of time at a training station in the business community.

This one-trimester major includes 225 hours of classroom instruction, and 150 hours at the business training station where the student practices under supervision what he learns in the classroom.

The Cashier-Sales Laboratory teaches the skills of salesmanship, cash register operation (touch system), and the judgment tasks involving the interpersonal relations aspects of selling.

It is a course for those preparing for or engaged in distributing goods and services to the public, including all retail, wholesale, and service occupations. It offers preparatory instruction for students desiring to explore distribution as a career, seeking a broader knowledge of the principles of free enterprise, wanting consumer information, or building a foundation for continuing education related to distribution or nondistribution occupations.

This program is not approved for VA training benefits.

CERTIFICATE PROGRAM

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

COURSE DESCRIPTIONS

Cashier-Sales Education Lab

Learning the techniques of operating the cash register is a skill subject, and this instruction and drill will normally take place every day. The balance of the time will be used to cover instruction in merchandising mathematics, store salesmanship and retailing.

Cooperative Training

Typically, each student is hired by a particular retail businessman who has previously been contacted by the teacher/coordinator or student. The student trainee is paid and is expected to follow company policy. The instructor and businessman periodically schedule meetings to discuss the progress of the student trainee. Students may spend more than 10 hours per week at their business training station. There are times when it is impossible to place all students in work stations because of poor economic conditions.

FASHION MERCHANDISING

(3 Trimesters)

Many exciting career opportunities are available to both men and women in the area of Fashion Merchandising. This course is recommended for individuals with imagination, creativity, interest and the ability to create and develop new fashion ideas and products.

Merchandising organizations such as department stores, retail chains and specialty stores have expressed an interest for enthusiastic people with a specialized education *who can work their way into* such jobs as: fashion coordinator, fashion buyer, fashion display, fashion consultant, merchandise manager.

The three-trimester program totals 975 hours of instruction and 150 hours of supervised work experience.

Prerequisites are a definite interest in fashion, the willingness to participate in the supervised work experience program, and have the ability to meet and enjoy people. Graduates should expect to start as entry-level sales clerks in this occupation.

Students attending under VA benefits will receive only partial benefits when the supervised work experience is in progress the third trimester.

DIPLOMA PROGRAM

<i>Trimester I</i>	<i>(Hours/Week)</i>
Principles of Salesmanship <i>Lab</i>	5
Merchandising Math	5
Introduction to Business	5
Business Communications I	5
Introduction to World of Fashion .. <i>Lab</i>	5
 <i>Trimester II</i>	
Principles of Marketing Lab I	10
Fashion Lab I	10
Textiles, Design, & Color Theory	5
 <i>Trimester III</i>	
Fashion Lab II	10
Advertising and Display	5
Supervised Work Experience	10

COURSE DESCRIPTIONS

Principles of Salesmanship

The principles, facts and techniques of selling are explored, along with the development of communications and human relations skills.

Merchandising Math

This course stresses the review of arithmetic fundamentals, equations, percent, commercial discounts, markup, markdown, and turnover.

Introduction to Business

This course surveys the structure of business, its activities and problems. It also gives a broad understanding of the nature of the business world.

Business Communications I

The ability to communicate effectively in business is increased by the study of grammar, punctuation, vocabulary, pronunciation and spelling. Instruction is given in those functional principles that are used in speaking and writing.

Introduction to World of Fashion

A foundation course to orientate the student to the world of fashion merchandising. Included will be the development of self-confidence, poise, charm, make-up, wardrobe planning, and techniques of fashion coordination.

Principles of Marketing I Lab

Included in this lab is an opportunity to learn about the many facets of retailing. Among the areas covered are inventory, credit, buying, services, pricing, sales promotions and merchandise management.

Fashion Lab I

This lab will provide a survey of fashion history and fashion trends. Practical application will be made in the use of textiles, color, and design in fashions. Accessories will be emphasized.

Textiles, Design, and Color Theory

Includes the basic knowledge of natural and man-made fibers: advantages, limitations, care and selling points. Yarn and fabric construction and finishes are stressed. Students learn to recognize good design through practice utilizing dot, line, shape and form, space, color and texture.

Fashion Lab II

A course designed to pull the fashion program together. Included will be comparison shopping, field trips, the effect of current events and developments on fashion, and a look at the fashion future. Students will explore the techniques of fashion show production and will highlight the course by producing a fashion show.

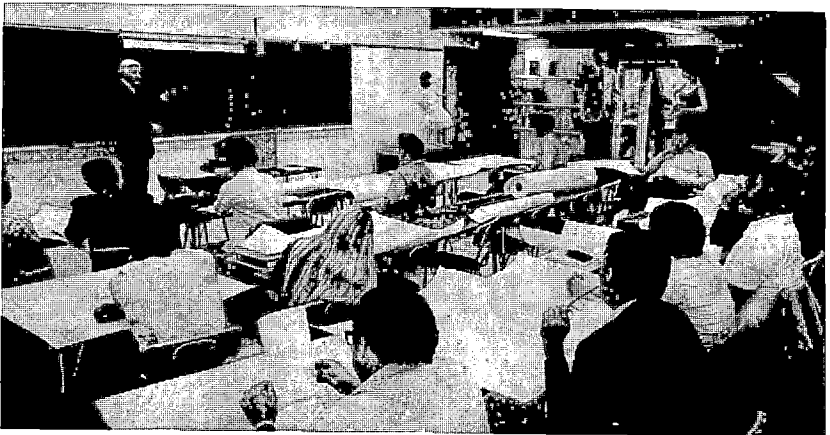
Advertising and Display

This course is designed to acquaint students with the various aspects of retail advertising. The major media and regulations that control advertising are stressed.

The display portion of the course will be presented in theory and practical application will be covered in Marketing Lab I.

Supervised Work Experience

Students will work a minimum of 150 hours at a supervised work station with Albuquerque business firms. There may be times when it is impossible to place all students in work stations because of poor economic conditions. The student trainee is paid by the cooperating firm and students are expected to follow company policy.



OFFICE EDUCATION (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 in all types of business establishments.

Students may exit upon completion of their training objective. Upon early exit, or upon completion of the total program, students will receive a certificate and a proficiency rating sheet describing proficiency levels in all courses. Grades and diplomas are not given in the Office Education Program.

The three-trimester Office Education Program provides 1125 hours of instruction. Students may select an additional course each trimester for a total of 1350 hours of instruction.

Entering students who already possess a strong background in math, English, office experience, and typing may waive such courses by examination.

Prospective students should have a definite interest in office type work; enjoy working with people; and have an aptitude toward the clerical and dexterity areas.

OFFICE EDUCATION PROGRAM

<i>Trimester I</i>	<i>(Hours/Week)</i>
Typing Lab I	10
Business English	5
Business Methods	10

<i>Trimester II</i>	
Typing Lab II	10
Office Machines	5
Secretarial Procedures	5
Business Letter Writing	5

<i>Trimester III</i>	
Typing Lab III	15
Fundamentals of Data Processing	5
Secretarial Accounting	5

<i>*Electives</i>	
Shorthand I	5
Shorthand II	5
Transcription	5
Cashiering	5
<i>*Will be an additional course each day.</i>	

COURSE DESCRIPTIONS

Typing Lab I (Beginning)

Upon completion of this course, the student should be able to type at least 40 words per minute, for five minutes, with no more than five errors. The student should also attain basic knowledge of vertical and horizontal centering,

tabulation, and typing of business letters, memos, business forms and manuscripts.

Business English

The student completing this course should improve his communication skills by a thorough review of grammar, punctuation and sentence structure. Emphasis will be placed on business vocabulary building, spelling, and the development of oral communication skills.

Business Methods

A student completing this course will solve basic functions of mathematics quickly and accurately and will apply them to solving business problems. Also, the student will acquire business concepts relative to banking, postal services, investments, insurance, transportation, credit and business organization.

Typing Lab II (Intermediate)

(Prerequisite: Typing Lab I) The student will work toward the development of speed and accuracy in timed writings and in the production of mailable business letters, manuscripts, tables, business forms and other correspondence.

Office Machines

(Prerequisite: Business Methods) Each student will develop a skill on the most widely used office machines: 10-key adding machine, rotary, electronic and printing calculators, card punch, spirit duplicator and mimeograph machine. Practical application of business mathematics will be reinforced.

Secretarial Procedures

Each student develops skills in the alphabetic, numeric, geographic and subject methods of filing. Insight into the operational and managerial duties of the professional secretary will be pursued through the emphasis on personality, interpersonal relationships and public relations.

Business Letter Writing

(Prerequisite: Business English) The student learns the principles of writing and applies them to the composing of business letters, memorandums and other general correspondence that may be handled by the office worker. The student also prepares a job portfolio consisting of a letter of application, letters requesting references and a resume.

Typing Lab III (Advanced)

(Prerequisite: Typing Lab II) The student will receive an intensive preemployment review of the knowledge and advanced clerical skills necessary for positions in business, industry and government. Emphasis is also placed on the student transcribing into mailable copy from dictation equipment, learning to operate a Flexowriter, and developing a skill on proportional spacing typewriters.

Fundamentals of Data Processing

Enrollees in this course will learn basic data processing terminology, will develop knowledge regarding preparation of source data for processing, and all aspects of automation are clarified.

Secretarial Accounting

(Prerequisite: Business Methods) This course is a study of the complete bookkeeping cycle; preparation of the balance sheet, income statement, trial balance worksheet and subsidiary ledgers. Emphasis is placed on journalizing and posting to the general ledger and posting from the combined cash journal.

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Office Education (cont.)

Shorthand I

The student will learn to read and write the shorthand alphabet, will develop vocabulary and punctuation skills, and will be able to take 40 words per minute from dictation.

Shorthand II

Shorthand II students will develop the ability to write under stress of dictation with speed and accuracy and will develop the transcription skills.

Transcription

Each student will be given the opportunity to handle the problems of office-style dictation and must incorporate all related areas into transcribing at the typewriter into mailable form.

Cashiering

The student will develop knowledge of, and motor skills in, the use of various cash registers. The student will develop knowledge to solve procedural problems that occur at a register and checkout station.



RETAIL SALES MANAGEMENT (3 Trimesters)

The Retail Sales Management major places emphasis on the principles of managing a modern retail business or department therein. The job possibilities for graduates in this area will range from employment with small retail businesses to variety and discount stores, large department stores, specialty stores and professional selling.

This course includes promotion of goods and services, buying, pricing, accounting, personnel, salesmanship, economics and supervision.

The three-trimester diploma program totals 1125 hours of instruction including 375 hours of laboratory work.

Students desiring additional courses as a sixth class hour to better suit their employment goals may select such courses from other majors each trimester.

Prerequisites for entrance into the Retail Sales Management program are: interest in marketing and distribution and minimum aptitude scores for marketing in the general, form perception and clerical accuracy areas.

DIPLOMA PROGRAM

<i>Trimester I</i>	<i>(Hours/Week)</i>
Principles of Salesmanship Lab	5
Merchandising Math	5
Introduction to Business	5
Basic Accounting	10
<i>Trimester II</i>	
Principles of Marketing I Lab	10
Office Machines	5
Advertising and Display	5
Business Communications I	5
<i>Trimester III</i>	
Principles of Marketing II Lab	10
Principles of Management	5
Principles of Data Processing	5
<u>Business Communications II</u>	5

COURSE DESCRIPTIONS

Principles of Salesmanship Lab

The principles, facts and techniques of selling are explored, along with the development of communications and human relations skills.

Merchandising Math

This course stresses the review of arithmetic fundamentals, equations, percent, commercial discounts, markup, markdown and turnover.

Introduction to Business

This course surveys the structure of business, its activities and problems. It also gives a broad understanding of the nature of the business world.

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Retail Sales Management (cont.)

Basic Accounting

Instruction is given in basic accounting fundamentals. Included is the accounting cycle, ability to read various accounting statements, and the principles of journalizing and posting.

Principles of Marketing I Lab

(Prerequisite: Principles of Salesmanship Lab) Included in this lab is an opportunity to learn about the many facets of retailing. Among the areas covered are inventory, credit, buying, services, pricing, sales promotions, and merchandise management, and cash register management.

Office Machines

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

Advertising and Display

This course is designed to acquaint students with the various aspects of retail advertising. The major media and regulations that control advertising are stressed.

The display portion of the course will be presented in theory. Practical application will be covered in Marketing Lab I.

Business Communications I

The ability to communicate effectively in business is increased by the study of grammar, punctuation, vocabulary, pronunciation and spelling. Instruction is given in those functional principles that are used in speaking and writing.

Principles of Marketing II Lab

(Prerequisite: Principles of Marketing I Lab) This lab is designed to study the total marketing picture from a management point of view. Study will progress from the production of goods to the potential customer.

Principles of Management

An introductory course which delves into the development of modern management: basic factors in organization and operation, division of responsibility, line and staff organizations, executive leadership and management, business control and management procedures, and the effective utilization of both human and material resources to meet organizational objectives.

Principles of 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, control panels, digital and analog computers, internal storage and the process of using a computer.

Business Communications II

(Prerequisite: Business Communications I) Training and practice is given in writing all types of business letters, reports and memoranda. The student will complete a "Job Portfolio" consisting of his own sample application letter and resume. Oral communication is covered to prepare the student for effective speaking in different on-the-job situations.

Health Occupations



T-VI's Health Occupations Department is physically located at the Presbyterian Hospital Center, on the first two levels of the Presbyterian Professional Building. There are three health occupations in the department: Nursing Assistant, Practical Nursing and Respiratory Therapy Technician.

Persons interested in any of these programs may inquire about them and apply for admission through the T-VI Admissions Office on the main campus at 525 Buena Vista SE.

Two of the health occupation programs have beginning groups only once a year — Practical Nursing and Respiratory Therapy Technician. Because these two programs are very demanding, and because the number of applicants far exceeds the number of student training positions available, the admissions process is designed to select those who appear best qualified to succeed in the programs.

Applicants for these two programs must be high school graduates, or have a GED certificate. The process used to select those who appear best qualified is a combination of admissions testing, examination of past academic records and work experiences, examination of references, and personal interviews of those who meet minimum requirements on the admissions test scores.

Applications for the Practical Nursing Program will be accepted only between March 1 and 29, 1974; and applications for the Respiratory Therapy Technician Program will be accepted only between May 1 and 24, 1974. Classes in both programs will start in September, 1974.

There are beginning groups in the Nursing Assistant Program each trimester, and the admission policies and procedures described earlier in this Bulletin apply to this program.

NURSING ASSISTANT (10 Weeks)

The Nursing Assistant Program is designed to train persons in the performance of basic nursing skills required for the care and comfort of the sick. At the completion of the course, persons may apply to work in hospitals, nursing homes, public health agencies, private medical or dental offices or medical centers.

To enter the program, applicants must take aptitude tests and furnish a certificate stating they are free from any communicable disease.

The Nursing Assistant Program requires a \$10 registration fee and a \$20 personal equipment fee which covers the cost of the required uniform and laboratory tests. A watch with a second hand and uniform shoes are not provided but required.

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 local hospital. There are 240 hours of instruction in the program. A certificate is awarded for successful completion.

This program is *not* approved for VA training benefits.

CERTIFICATE PROGRAM

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

COURSE DESCRIPTIONS

English

This course covers basic arithmetical operations using various kinds of and spelling. The instruction also covers selected readings and special assignments in the nursing field as they relate to nursing assistants' activities.

Mathematics

This course covers basic arithmetical operations using various kinds of numbers in working selected problems related to nursing assistant work.

Nursing Assistant 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 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.

PRACTICAL NURSING (3 Trimesters)

The Presbyterian Hospital School of Practical Nursing is jointly sponsored by T-VI and Presbyterian Hospital Center. The program prepares students to care for chronically and acutely ill patients in a variety of health care facilities under the supervision of registered nurses and physicians. After the completion of the three-trimester program, students are eligible to take the state practical nurse license examination given by the New Mexico Board of Nursing. The school is accredited by the National League for Nursing and the New Mexico State Board of Nursing.

Applicants must have either a high school diploma or GED certificate, furnish a statement that they are in good physical condition, and score satisfactorily on achievement tests to be considered for the program. *Applicants for the September, 1974, class will not be accepted until after March 1, 1974.*

The Practical Nursing Program has a total of 1350 hours of instruction with students usually attending classes six hours a day Monday through Friday. *However, students must be able to attend Saturday classes occasionally if scheduled and be able to attend some evening clinical experiences and observations.* Clinical experiences and observations are scheduled at various community agencies and hospitals. *Students plan for their own transportation to the agencies and hospitals.* The first trimester or 15-week block consists of preclinical training in nursing skills with related theory courses. The second and third trimesters are spent in classroom and clinical experiences related to medical-surgical nursing in children and adults and maternal-infant nursing.

Practical Nursing requires a once-only payment of a \$65 personal equipment fee. The personal equipment fee covers the cost of required uniforms, cap, scissors, and identification tag. It does not cover the cost of a watch with second hand, uniform shoes, graduation uniform, graduation pin or state board exam fees.

PRACTICAL NURSING PROGRAM

<i>Trimester I — 15 Weeks</i>	<i>Total Hours</i>
✓ Anatomy and Physiology I	45
✓ Nursing Foundations Core	163
✓ Nursing Skills Lab and Clinical Experience	120
✓ Dosages and Solutions	32
Directed Studies	90
<i>Trimester II — 18 Weeks</i>	
OK Medical-Surgical Nursing in Children and Adults	
Clinical Experiences	360
Theory	180

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Practical Nursing (cont.)

Trimester III — 12 Weeks

Maternal and Infant Nursing

Clinical Experiences	120
Theory	60

Advanced Medical-Surgical Nursing in Children and Adults

Clinical Experiences	120
Theory	60

COURSE DESCRIPTIONS

Anatomy and Physiology I

This course is designed to give the student a basic concept of the general plan, structure, and the normal function of the body systems and the dependency of one on another.

Nursing Foundations Core

Man's needs in sickness and health are presented through an integrated curriculum approach. Nursing principles and skills, personal and community health, nutrition, human growth and development, vocational concepts and first aid are correlated with personal and others' needs.

Nursing Skills Lab and Clinical Experiences

Practice situations in the laboratory and experiences in clinical units accompany the theory learned in the Nursing Foundations Core.

Dosages and Solutions

This course is designed to teach the student the mathematics involved in preparing fractional dosages of drugs and in preparing solutions. Methods of converting from one system to another are included. Safety in calculating and preparing dosages is stressed.

Medical-Surgical Nursing in Children and Adults

Man's needs during illness are expanded in the theory presentations of this course. Clinical experience implements the theory presentations. The course is designed to help students learn to competently care for patients, both children and adults, with medical and surgical disorders.

Maternal-Infant Nursing

Normal processes of the reproductive cycle including prenatal, labor and delivery, and postpartum care are introduced in this part of the program. Care of the newborn and the more common anomalies seen in the newborn are discussed. Clinical experiences accompany the classes.

Advanced Medical-Surgical Nursing Care in Children and Adults

This course focuses on patients experiencing complex medical-surgical problems. It will include theory and experience with emergency situations, disaster nursing, principles of care, and the emotional and physical effects of a major illness.

RESPIRATORY THERAPY TECHNICIAN (3 Trimesters)

The Respiratory Therapy Technician Program is designed to train persons in the performance of special skills required for the treatment, management, control and care of patients with deficiencies and abnormalities associated with breathing. The program is one year in length and includes classroom instruction and specialized clinical training which is obtained in local hospitals.

Applicants must either have a high school diploma or GED certificate and must score satisfactorily on aptitude and achievement tests to be considered. A certificate stating that the applicant is free from communicable disease and in good physical condition is also required. Since respiratory therapy involves the handling and maintenance of treatment equipment, the applicants must be able to lift materials up to 50 pounds. This program has a beginning group in the fall trimester only.

The Respiratory Therapy Technician Program requires a once-only payment of \$65 personal equipment fee. The personal equipment fee covers the cost of required uniforms, special personal respiratory equipment, an identification tag, and miscellaneous costs such as student registration at special workshops if scheduled. It does not cover the cost of the school's graduation pin.

The Respiratory Therapy Technician Program has a total of 1350 hours of instruction with students attending classes usually six hours a day Monday through Friday. However, clinical experiences usually have to be scheduled at different hours so that the hours of classes and clinical experiences may vary from day to day. The first trimester or 15-week block consists of preclinical training and basic respiratory therapy skills. The second and third 15 weeks are spent in classroom and hospital clinical experiences which progress from simple to complex situations. Students must provide their own transportation to the various clinical facilities.

RESPIRATORY THERAPY PROGRAM

<i>Trimester I</i>	<i>Total Hours</i>
Orientation to Respiratory Therapy	30
✓ Fundamentals of Respiratory Therapy	75
✓ Respiratory Therapy Lab I and Clinical Observations	180
✓ Chemical and Physical Principles of Respiratory Therapy	90
✓ Anatomy and Physiology I	45
✓ Introduction to Patient Care	30
	<u>Total 450</u>
 <i>Trimester II</i>	
Anatomy and Physiology II	60
Microbiology and Demonstration Lab	75
Clinical Observations and Experiences II	180
The Psychosocial Aspects of Patient Care	30
Respiratory Therapy Lab II	105
	<u>Total 450</u>

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Respiratory Therapy (cont.)

d.k.
Trimester III

✓ Pathology	38
✓ Pharmacology	38
✓ Administrative Procedures	10
✓ Clinical Experience III	315
✓ Respiratory Therapy Lab III	49

Total 450

COURSE DESCRIPTIONS

Orientation to Respiratory Therapy

This course surveys respiratory therapy as a paramedical profession: the personal qualifications, expectations and opportunities. Professional ethics are discussed to serve as guidelines for professional behavior with patients, staff and associates.

Fundamentals of Respiratory Therapy

Fundamentals is a basic course presenting procedures pertinent to respiratory therapy such as pulmonary function testing, elementary pharmacology, pathology, application of physics to respiratory functions and therapy, and medical terminology.

Respiratory Therapy Lab I and Clinical Observations

The laboratory experiences stress safe practices in the use of regulators and gas supply systems, facial devices, incubators, croupettes, humidification devices, IPPB machines, gas analysis and preventive maintenance. Clinical observations provide students with an introduction to hospitals and the respiratory therapy departments.

Chemical and Physical Principles of Respiratory Therapy

A general survey course which covers the physics and chemical principles pertinent to respiratory therapy. Physics principles discussed include states of matter, gas laws, mechanics, sound, heat, magnetism, electricity, kinetic energy, surface tension, density, pressure and flow. Chemical principles include elements, valence, reaction principles and equations, and solutions.

Anatomy and Physiology I

A course designed to give the student a basic concept of the general plan, structure, and the normal function of the body systems and the dependency of one on another.

Introduction to Patient Care

The patient is introduced as an individual and as the central figure in a complex multidirectional environment. Routine nursing care, isolation, and special nursing problems are discussed in relation to respiratory therapy.

Anatomy and Physiology II

This course emphasizes more advanced knowledge of the anatomy and physiology of the circulatory and pulmonary systems, and the nervous system with its relationship to the circulatory and pulmonary systems. Comparative cardio-pulmonary anatomy and physiology of the adult, child and infant are also covered.

Microbiology and Demonstration Lab

This course presents some of the microorganisms related to sickness and health. Special emphasis is placed on those microorganisms primarily associated with patients with respiratory problems and with respiratory therapy equipment.

The demonstration lab gives the student an opportunity to observe some of the microbes discussed in class.

Clinical Observations and Experience II

Supervised clinical observations and experiences are gained at local city hospitals. Experiences are planned which will give the student an opportunity to learn beginning skills in the administering of various respiratory therapies and caring of equipment.

The Psychosocial Aspects of Patient Care

The basic psychodynamics of human behavior are presented. Emphasis is placed on human behavior during illness and especially chronic pulmonary disease. Understanding self as well as others is also included in the course.

Respiratory Therapy Lab II

This laboratory stresses resuscitation techniques, resuscitators both mechanical and manual, ultrasonic therapy and preventive maintenance.

Pathology

The treatment regimen of certain pathological conditions that concern the respiratory therapy technician are presented in this course.

Pharmacology

The general principles of pharmacology and respiratory therapy pharmacology are given in this course.

Administrative Procedures

Principles and practices involved in the supervision and administration of a respiratory therapy department, supplies, and finances are included in the course.

Clinical Experiences III

Experiences in the third trimester will provide practice in giving more complex respiratory therapy treatments to patients and in identifying patient needs: physical, social, and emotional.

Respiratory Therapy Lab III

This lab offers application of basic techniques to more complex patient care situations such as emergency and intensive care. Case study method will be used to illustrate certain patient care problems and respiratory treatments.



Technologies



CONSTRUCTION DRAFTING TECHNOLOGY (4 Trimesters)

The Construction Drafting Program is designed to provide students with job entry skills which will qualify them for employment as construction draftsmen, architectural draftsmen, civil and map draftsmen, survey aides, foreman trainees, estimators and material testing lab technicians.

The program totals 1605 hours of instruction, including 900 hours of laboratory instruction and 705 hours of theory and supporting courses. A student can qualify for a *Certificate in Construction Drafting* after satisfactory completion of all courses offered in the first two trimesters or *Certification as a Construction Drafting Technologist* by completing the four-trimester program.

Students may also choose an option of Architectural Drafting after the first trimester.

Offerings are based on student needs and job opportunities.

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

CONSTRUCTION DRAFTING PROGRAM

<i>Trimester I</i>	<i>(Hours/Week)</i>
Basic Construction Drafting Lab/Theory	15
Technical Mathematics I-II	10
Building Materials and Methods	5
<i>Trimester II</i>	
Mechanical Equipment Lab/Theory	15
Contracts, Codes, and Specifications	2
Technical Mathematics III	5
Physics	5
<i>Trimester III</i>	
Structural Drafting Lab	15
Surveying	10
<i>Trimester IV</i>	
Civil Tech Lab IV	15
English Communications	5
Construction Analysis	5

ARCHITECTURAL DRAFTING PROGRAM*

(Optional)

<i>Trimester I</i>	<i>(Hours/Week)</i>
Same as Construction Drafting	
<i>Trimester II</i>	
Architectural Drafting	15
Electives	10-12

*Upon successful completion of Trimester II, the student is eligible for a Certificate in Architectural Drafting.

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Construction Drafting (cont.)

COURSE DESCRIPTIONS

Basic Construction Drafting Lab/Theory

This course introduces the general drafting theory and techniques needed to produce light residential and commercial structures. The student learns to apply varied drafting practices in completing detailed working drawings involving floor plans, foundations, wall sections, elevations and interior and exterior details. The student also learns to use manufacturers' materials and standard references in developing his drawings.

Technical Math I-II

Basic and advanced algebra concepts are covered. The study of equations is expanded into quadratic and simultaneous equations. Roots of polynomials are also discussed. Fundamental concepts of geometry are presented and applied to problems encountered in the field of drafting.

Building Materials and Methods

Detailed instruction is given about the manufacture and production of building materials so that the student may acquire a knowledge of properties developed during these processes. Second, these properties are related to the actual methods of construction and, in some instances, to building design.

Mechanical Equipment Lab/Theory

(Prerequisite: Basic Construction Drafting Lab/Theory) The student is familiarized with some of the calculations involved in the design of mechanical and electrical systems for buildings as well as the materials and equipment used in those systems. Upon completion of the lab section of the course, the student can graphically define common heating, air-conditioning, plumbing, waste disposal and electrical systems for residential and commercial buildings.

Contracts, Codes, and Specifications

(Prerequisite: Building Materials and Methods) The student studies the organization and structure of building codes and the standards and restrictions within which the construction industry operates. The student learns to interpret and use specifications; relate construction planning and implementation to proper standards; identify and interpret typical legal documents associated with the construction industry; and understand the general operational practices of the architect's, engineer's or contractor's office.

Technical Math III

(Prerequisite: Technical Math I-II) This course includes the concepts of trigonometry, a mathematical area relevant to the civil technician. An applied approach is used based on surveying and mechanical computational needs.

Physics

(Prerequisites: Technical Math I-II) The student learns basic principles of mechanics, heat, light, sound and electricity with emphasis on construction industry applications. This course also includes some basic principles of statics and strengths of materials and some of the test procedures common to the construction industry.

Structural Drafting Lab

(Prerequisite: Mechanical Equipment Lab) This course instructs the student in techniques used in producing framing plans and other structural drawings for buildings framed in wood, steel or reinforced concrete. Upon completion of the course the student must be able to do detailing for steel structures and detailing for steel reinforcement in reinforced concrete structures.

Surveying

(Prerequisite: Technical Math III) Basic techniques and materials used in surveying are introduced. Instruction involves not only applied experience in the field but supplemental work such as computations and plotting. Upon completion of this course, the student can identify typical surveying equipment; complete assignments involving leveling, distance, angles and bearings using transitstadia techniques; interpret contour surveys, topographic maps and construction surveys; calculate and record supporting data for all applications; complete a survey of a relatively rugged terrain with definite precision; operate such instruments as the odolites, subtense bars, surveying altimeters and various electronic measuring devices.

Civil Technology Lab IV

(Prerequisite: Contracts, Codes, and Specifications) This course provides an extensive coverage of construction estimating, planning and control and the application of the computer in the construction field. The student is familiarized with methods of labor quantity surveys, resource allocation, and Program Evaluation and Review Technique (PERT) system of operational scheduling. Upon completion of the course, the student will be able to estimate and prepare material quantity surveys, prepare operational schedules using the Critical Path Method (CPM), and relate computer capabilities to needs of the architectural and construction industry.

Civil Technology Lab IV (Option to Above)

When job opportunities dictate, emphasis on civil and map drafting will be substituted for the estimating segment of the above course in the fourth trimester. This course will include the study of symbols, abbreviations, classifications, scales, types of maps (cartographic and topographic) and application of drawing techniques to land surveying. The course will also include problems in bridge structures, land cross sections and drainage systems.

English

Designed to expand the student's communicative skills, verbal, writing and listening skills are used in simulated industrial situations. Upon completion of this course, the student should be able to write objectively in a well-structured manner, function in group participation sessions such as planning meetings, research and summarize technical data, present as well as receive and interpret verbal and written instructions, and correctly complete resumes and job applications.

Construction Analysis

(Prerequisites: Structural Drafting Lab; Contracts, Codes, and Specifications; and Physics) This course incorporates all previous learning experiences in the program into a study of building design. Designs are analyzed and evaluated in terms of strength and material requirements, functional design, codes and specifications and feasibility studies to give the student a complete view of the construction process.

Architectural Drafting Lab/Theory II (Optional)

This course emphasizes the design and drafting techniques used for both residential and nonresidential structures. Among the various construction drawings the student prepares are framing plans for roofs with wood structural members. The student learns to use manufacturers' materials and standard references in developing his drawings and learns presentation drawing techniques using black and white media. Application consists of preparing sets of working drawings for residential and commercial buildings.

DATA PROCESSING TECHNOLOGY (4 Trimesters)

The Data Processing Technology Program is designed to qualify students as business application programmers with emphasis on the COBOL Language, accounting-related problems and program-systems relationships.

The computing facilities include an IBM System/360, printer, card read-punch, disk drives, key punch machines and a sorter. Classroom and laboratory experiences allow the student to use these facilities in many of his courses. Some training is also offered in the field of computer time-sharing through the use of a computer terminal.

The four-trimester program totals 1695 hours of instruction, including laboratory experience.

Candidates for this program must have sufficiently strong reading and mathematics skills to work with manuals and texts that are quite technical in nature. The candidate must also arrange a preenrollment interview with the data processing coordinator or a data processing staff member.

After the first trimester, a two-trimester program to earn an *Operator/Coder Certificate* may be offered for students who do not wish to continue in programming. A minimum of 15 students is required.

After successful completion of the first two trimesters, a *Certificate of Proficiency* will be given to those who complete their training objective. This certificate will indicate subjects and areas of study successfully completed up to the time of exit.

Students who fail or neglect to take a course should consult the data processing coordinator about prerequisites for advanced courses.

DIPLOMA PROGRAM

<i>Trimester I</i>	<i>(Hours/Week)</i>
Technical Math I-II	10
Basic Accounting for Data Processing	5
Introduction to Computers	5
COBOL I	10
<i>Trimester II</i>	
Technical Math III/FORTRAN	10
Managerial Accounting for Data Processing	5
JCL, Files, Utilities and Sorts	5
COBOL II	10
<i>Trimester III</i>	
Assembler I	5
Management Methods I	5
Systems Analysis I	5
Report Program Generator	10
<i>Trimester IV</i>	
Introduction to Systems Programming	10
Management Methods II	5
Systems Analysis II	5
COBOL Problems	5
Conversational Computers	3

COURSE DESCRIPTIONS

Technical Math I-II

This course is a complete review of elementary algebra. It includes the basic properties of linear equations and their solutions, signed numbers, algorithms for polynomials, simple functions and their properties, simultaneous equations, exponents and radicals, quadratic equations and basic trigonometric functions.

Basic Accounting for Data Processing

An introductory course designed to familiarize data processing students with the accounting theory, practice and terms relating to application of computers in the business field. Successful completion of this course will enable the student to prepare and/or modify: accounts receivable routines including the production of accounts and subsidiary controls, their reporting and retention; payroll routines; and stock accounting. Activities and projects in this class will be closely coordinated with COBOL I.

Introduction to Computers

Instruction is provided in computer arithmetic ((binary, octal, hexadecimal), memory coding schemes; memory dumps; computer logic and control; flow charting of computer problems and some system flowcharting; terminology and concepts of modern data processing.

COBOL I

Introduction of job control language as it pertains to the COBOL language. Includes the required entries in the four basic divisions of COBOL. Projects directly related to programming business and accounting applications will be assigned. Data structures, special names, arithmetic, logical and conditional operators, constants, literals, loops, and arrays are introduced as they are needed to complete the assigned projects.

Technical Math III/FORTRAN

Analytic geometry and trigonometry plus beginning instruction in FORTRAN are included in this course. Instruction includes geometry of the straight line, circular functions, solution of trigonometric equations and identities, solution of oblique triangles, exponential and logarithmic functions. The FORTRAN content includes programs relevant to the mathematical contents taught.

Managerial Accounting for Data Processing

An extension of the elementary course in accounting, this course provides the student with a complete description of the accounting responsibilities and an understanding of the paper and information flow within a typical business. The audit trail and date control techniques are emphasized. Personnel, payroll, accounts payable and receivable, capital assets and inventory accounting are examined. The requisition, purchase order, invoicing and voucher systems are also studied. The particulars of demand deposit accounting and banking responsibilities are developed in detail. Cost accounting, encumbrance accounting and the preparation of special government reports, as well as the status and condition of the business complete the course.

JCL, Files, Utilities and Sorts

The standard Disk Operating System utilities and job control language, as well as standard direct-access storage devices and their uses for data file organization, creation and maintenance are studied in this course.

COBOL II

This course continues development of programming skills in the COBOL language with emphasis on more complicated sentences, statements and clauses.

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Data Processing (cont.)

Content includes special techniques such as sequential, index sequential and random file creation, updating, processing and maintenance. Extensive COBOL edit and file maintenance and processing programs are developed, coded, compiled, debugged, tested and completely documented.

Assembler I

The fundamentals of binary and packed arithmetic, branching techniques, and methods of data manipulation in the IBM Assembler Language make up the course content. Instruction covers assembly language operation codes, RX, RR, RS, SI and SS formats and their related instructions as well as base coding techniques; core dump organization and formats; system written I/O, physical I/O for unit record devices and student written routines to handle output formatting and editing.

Management Methods I

Covers break-even analysis; marginal, joint and conditional probabilities under both independence and dependence; additive probabilities; introduction to descriptive statistics; distributions; continuous and discrete variables; histograms; frequency polygons; and rank statistics. Also included are the normal curve, decision making under uncertainty, marginal analysis; inventory models; economic order quantities; quantity discounts; economic lot sizes; stock out prevention; lead time; and the reorder problem.

Systems Analysis I

A study of business organizations, the systems and methods group, staff and line organization, business and technical procedure writing, coding schemes, the collating sequence, EDP group organization, data security, source data controls, processing controls, output review, editing, the auditor and the audit trail. Preliminary work studies, work analysis, forms analysis, systems flow charts, systems design and consideration are also included. An actual business data processing problem is identified and studied. The design and implementation of a new or improved system is started.

Report Program Generator (RPG)

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 specification forms. Operations include card to printer, card to disk, and disk to printer programming. Editing capabilities and strengths and weaknesses of the RPG system are investigated. Introduction to the use of level breaks and the use of Assembler-written subroutines are included.

Introduction to Systems Programming

The purpose of this course is to further develop programming fundamentals of the IBM Assembler Language as well as develop programming techniques to more fully exploit features of the system which can often enhance the use of the higher-level languages. Topics include a review of the machine instructions studied in Assembler I; simple macro writing; floating point and half-word arithmetic; an in-depth study of some of the "rich" instructions; use of the Source Statement Library; documentation standards; program linkages and the use of some of the IBM I/O Modules. Some of the programs written will incorporate features to implement STXIT's, self-relocating programs and the Checkpoint/Restart feature.

Management Methods II

Course content covers the nature of sample distributions; the Central Limit Theorem; standard error of the mean; finite-universe corrections; making estimates from sample data; small and large samples; estimates and degrees of freedom; confidence intervals and their meaning; sample size; hypotheses; the null hypothesis; alpha and beta risks; Type I and II errors; acceptance regions; power curves; steps in testing hypotheses; least squares regression line; coefficients of determination and correlation; nonlinear curve fitting; quadratic, hyperbolic and exponential curve fits. Lectures and demonstrations are given in linear programs; Critical Path Method (CPM); and Program Evaluation and Review Technique (PERT).

Systems Analysis II

All necessary data collection, refinement and editing procedures for the project started in Systems Analysis I are designed and implemented. Processing programs are written in appropriate languages, checked out and refined into production form. Procedure manuals and run books are prepared to document all input, output forms, programs and procedures.

COBOL Problems

Designed to introduce the technique and procedures involved in solving data processing problems and to acclimate students to the real environment encountered in a processing department. This will be done by providing the students with selected problems to be programmed and documented.

Conversational Computers

This course includes the philosophy and techniques of timeshared systems; the Basic language; man-machine interactive systems; Culler-Fried languages; Computer Assisted Instruction; Help Routines; search and retrieval techniques; and telecommunication systems. (Also included will be topics on finding and getting a job, preparing a resume, job applications, reference forms, interviewing and performance on a job.)

Optional Courses by Arrangement for Operator/Coder Certificate Program (Minimum of 15 Students Required)

COURSE DESCRIPTIONS

Console Operations

The IBM Series 360 Model 22 console is studied in detail with particular emphasis on actions and messages required to control the I/O peripherals. The console typewriter is carefully developed as the control interface with the system. Register, auxiliary and main memory storage displays, low core displays and hardware dumps are performed.

Computer Operations I

This course provides an introduction to the IBM System 360 and the associated peripherals. An overview of system design and function precedes the detailed instruction in specific components. Component topics include: CPU; console, card reader, line printer, and magnetic disk files.

Managing Computer Facilities

Preferred practices in the selection, organization, administration, and maintenance of all electronics data processing facilities are studied, including personal equipment, supplies, programs, projects, reports and data base.

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Data Processing (cont.)

Computer Operations II

The purpose of this course is to study in greater depth the Disk Operating System features and its multiprogramming facilities and to investigate principle features of the IBM OS/360, or Operating System. Topics included in this course are use of the system files under DOS as alternate I/O units; the study of Operator Messages in detail; the label cylinder; sense bytes and low core error bytes; SPOOLING under POWER II and HASP; and an introduction to OS/360 concepts, data management and its Job Control Language.



ELECTRONICS TECHNOLOGY (4 Trimesters)

The Electronics Technology Program prepares the students for employment in various areas of the electronics industry. Students who complete the program are thoroughly trained in theory and maintenance of both industrial and consumer electronic equipment.

The student may select one of two exit points in the program. After three trimesters a student may complete training for a *Certificate in Electronics Testing*. After four trimesters, a student can qualify for a *Diploma in Electronics Technology*.

The three-trimester certificate program consists of 1305 hours of instruction of which 900 hours are electronics theory and laboratory work and 405 hours are in math and other supporting areas. This provides a student with the basic job entry-level skills.

The four-trimester diploma program consists of 1680 hours of instruction of which 1275 hours are electronics theory and laboratory work and 405 hours are in math and other supporting areas. It provides additional training in advanced electronics principles, applications and logic, or color television theory and repair.

Entering students who already possess a strong background in math and have had recent training or equivalent experience in basic electronics may waive those courses in which adequate knowledge can be demonstrated.

Many students enter this major after completing the one-trimester Preparatory Program, where they can obtain valuable training in mathematics and other basic skills.

CERTIFICATE/DIPLOMA PROGRAM

<i>Trimester I</i>	<i>(Hours/Week)</i>
Electronics Theory I	5
Electronics Lab I	10
Technical Math I-II	10
Drafting for Electronics	2
<i>Trimester II</i>	
Electronics Theory II	5
Electronics Lab II	10
*Physics (Optional)	5
Technical Math III/FORTRAN	10
Digital Circuits Theory	5
<i>Trimester III</i>	
Electronics Theory III	5
Electronics Lab III	10
Technical Math IV	5
Semiconductor Principles and Applications	5
Principles of Logic Circuits	5
*English (Optional)	5

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Electronics (cont.)

Trimester IV

Electronics Theory IV	5
Electronics Lab IV	10
Electronic Instruments	5
Industrial Applications	5
*Industrial Applications Lab (Optional)	5
*Technical Math V (Optional)	5
*Offered when 10 or more students request course.	

COURSE DESCRIPTIONS

Electronics Theory I

This course covers direct current electricity as it relates to electronic components and circuitry. Content includes structure of matter, electrical units, basic laws and principles of conductors, network theorems, series and parallel circuits, meters, bridges and the DC properties of inductance and capacity.

Electronics Lab I

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

Technical Math I-II

Students study the concepts of beginning and advanced algebra, including linear, quadratic and polynomial functions; 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 schematic, printed and integrated circuit definitions, the course also provides the student with techniques used in the fabrication of printed circuits and other solid state circuits construction techniques.

Electronics Theory II

(Prerequisite: Electronics Theory and Lab I and Technical Math I-II) The study of single phase and polyphase alternating current applied to electronic circuits is emphasized. Content includes sine wave fundamentals, reactance, impedance, lead and lag current, AC bridges, transformers, saturable core reactors, series and parallel LCR circuits, resonance, filters, elementary vacuum tube and transistor theory.

Electronics Lab II

(Prerequisite: Electronics Theory and Lab I, and Technical Math I-II) This laboratory provides additional experiences 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.

Physics

(Prerequisite: Technical Math I-II) Basic principles of mechanics, heat, light, sound, electricity, atomic and nuclear physics are covered. Emphasis will be placed on modern trends in physics which apply to electronics.

Technical Math III/FORTRAN

(Prerequisite: Technical Math I-II) Both analytic geometry and trigonometry, and beginning level instruction in FORTRAN (FORMula TRANslator) are included in this course. Instruction is provided in analytic geometry of the straight line, circular functions, solutions of trigonometric equations and identities, solutions of oblique triangles, exponential and logarithmic functions. FORTRAN content includes programs relevant to above mathematical concepts.

Digital Circuits Theory

This introduction to logic includes binary arithmetic, logic circuits and an introduction to Boolean algebra. A lab of approximately 25 hours introducing logic gates will also be incorporated in the course.

Electronics Theory III

(Prerequisites: Electronics Theory II and Lab II) Instruction in this course covers fundamentals of vacuum tube and transistor operations and applications in electronic circuits. These circuits include a study of oscillators, transmitters, modulators, antennas and receivers.

Electronics Lab III

(Prerequisite: Electronics Theory II and Lab II) In this laboratory, the student becomes familiar with several additional test instruments, such as the distortion analyzer, dual trace oscilloscope 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.

Technical Math IV (Electronics)

(Prerequisite: Technical Math III) Emphasis in this course is on the use of algebra, geometry and trigonometry in the solution of advanced electronic problems where appropriate.

Semiconductor Principles and Applications

This introduction to transistor theory application includes PN Junction, common emitter, common base and common collector amplifiers, and an introduction to linear amplifiers.

Principles of Logic Circuits

(Prerequisite: Digital Circuit Theory) Students study the analysis and design of linear and nonlinear wave shaping; switching and logic circuits, including Boolean algebra binary arithmetic; and their application in control and computing devices. The course also includes a thorough study of the basic logic circuits such as NAND gates, NOR gates, Flip-Flops, counters, shift registers and memories. Emphasis will be placed on DTL and TTL logic.

English

The student gains experience in verbal, written and listening skills while involved in simulated industrial situations. Upon completion of this course, the student must be able to write objectively in a well-structured manner; function in group participation sessions such as planning meetings; research and summarize technical data; present as well as receive and interpret verbal and written instructions; and correctly complete resumes and job applications.

Electronics Theory IV

(Prerequisites: Electronics Theory and Lab III) The course will cover the advanced semiconductor theory and application, an introduction to modern solid state devices such as FETs, SCRs and tunnel diode. An introduction to Pulse Code Modulation and other industrial applications will also be included.

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Electronics (cont.)

Electronics Lab IV

(Prerequisite: Electronics Theory III and Lab III) Emphasis will be placed on semiconductor applications. The laboratory will parallel and reinforce the topics covered in the theory course and in industrial applications. Here, the student is provided the opportunity to specialize in electronics repair or other electronic applications.

Electronic Instruments

(Prerequisite: Electronics Theory III and Lab III) This course involves the 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, VTVM, signal generators, frequency meters, bridges, oscilloscopes, digital readout devices, and tube and transistor testers.

Industrial Applications

Since this course includes the study of current industrial applications, it will be changed each trimester to meet the needs of industry. Such topics as the study of instrumentation, computer technology, microwave technology, servomechanisms and television theory and repair will be covered. Emphasis will be placed on theory and repair of transistorized color television. Practical experience in these areas can be obtained in the Industrial Applications Lab.

Industrial Applications Lab

This lab includes the repair and maintenance of instruments, equipment and selected experiments in microwave technology, servomechanisms and television. The course will complement the theoretical work undertaken in the Industrial Applications course.

Technical Math V

(Prerequisite: Technical Math IV) This course covers the basic concept of limits; derivatives; integrals and their application to solving areas; volumes; centroids; inertia; and other applications and derivatives of basic trigonometric functions. FORTRAN programs are assigned where relevant.



Trades and Industrial



AIR-CONDITIONING, HEATING AND REFRIGERATION (3 Trimesters)

The Air-Conditioning, Heating and Refrigeration Program is designed to qualify students for successful entry into the installation, maintenance and service field in this specialty. With further training offered by prospective employers at the dealer, distributor and mechanical contractor level, the graduate of this program should be able to assist the journeyman mechanic in installing the equipment necessary to complete residential and commercial projects. This includes the installation of mechanical equipment and electrical controls.

The graduate will be able to assist the journeyman mechanic in servicing various air-conditioning, heating and refrigeration components, troubleshooting the systems, and preventive maintenance that is required of all mechanical equipment.

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

Many students enter this major only after completing the one-trimester Preparatory Program.

Air-Conditioning, Heating and Refrigeration students must pay a personal equipment fee of \$65; and must provide their own shop coveralls.

SPECIFIC ENTRANCE REQUIREMENTS

1. Must demonstrate a 9th-grade mathematics proficiency.
2. Must possess the ability to lift a maximum of 50 pounds.
3. Must have a personal interview with program coordinator.

AIR-CONDITIONING, HEATING AND REFRIGERATION PROGRAM

<i>Trimester I</i>	<i>(Hours/Week)</i>
Air-Conditioning, Heating, Refrigeration Lab I	15
Air-Conditioning, Heating, Refrigeration Theory I	5
Trade Math I	5
Basic Electricity	5
<i>Trimester II</i>	
Air-Conditioning, Heating, Refrigeration Lab II	15
Air-Conditioning, Heating, Refrigeration Theory II	5
Trade Math II	5
Blueprint Reading I	5
<i>Trimester III</i>	
Air-Conditioning, Heating, Refrigeration Lab III	15
Air-Conditioning, Heating, Refrigeration Theory III	5
Business Relationships	5
Blueprint Reading II	5



COURSE DESCRIPTIONS

Air-Conditioning, Heating, Refrigeration Lab/Theory I

These laboratory-oriented courses give the beginning student instruction in shop safety, basic tools and equipment, introduction to physics and chemistry, basic controls and systems, and installation, maintenance and service knowledge for residential type heating and cooling equipment encountered in the industry.

Trade Math I

This course reviews the basic arithmetic, algebra and slide rule operations needed to solve specific problems in temperature conversion, dimensions, area, standard volumes, force, work and energy, power, therm, British thermal unit, specific and latent heat, and various mathematical laws as applied to the major.

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Air-Conditioning (cont.)

Basic Electricity

Instruction is offered in the areas of units and symbols, classes of materials and their usage, electrical circuits and laws of electricity, magnetic circuits-electric meters, transformers and motors, relays, contactors, starters, circuit protection and test and measuring equipment.

Air-Conditioning, Heating, Refrigeration Lab/Theory II

(Prerequisites: All Trimester I courses) These courses provide instruction in the installation, maintenance and service of light commercial air-conditioning, heating and refrigeration systems. Instruction will emphasize electrical problems and controls, gas-electric packages, heat pumps, compressors, condensers, pressure reducing devices, load calculations, heat transfer, psychrometrics, winter air-conditioning-heating, summer air-conditioning-cooling and safety code for mechanical refrigeration.

Trade Math II

(Prerequisite: Trade Math I) This course offers instruction in rules and formulas, ratio and proportion, volume, pulley speeds, load calculations, geometric construction and velocity as applied to the air-conditioning, heating and refrigeration program.

Blueprint Reading I

(Prerequisites: All Trimester I courses) Instruction covers terminology, freehand sketching of orthographic and isometric drawings, construction details, abbreviations and symbols, electrical constants and unit prefixes, schematics and color code for piping.

Air-Conditioning, Heating, Refrigeration Lab/Theory III

(Prerequisites: All Trimester II courses) These courses provide instruction in the installation, maintenance and service of commercial air-conditioning, heating and refrigeration systems. Instructional emphasis will be placed on applications to commercial systems, installing and servicing, heat loads and piping, principles and applications of absorption systems, special refrigeration devices and applications, air distribution, advance controls, service problems and troubleshooting.

Business Relationships

Course content includes business terminology, business organizations and operations, problems of distributing goods and services, physical facilities, finance, keeping records, invoice and billing procedures, managing merchandise, laws for the businessman, and customer and personnel relations as they relate to the air-conditioning, heating and refrigeration industry.

Blueprint Reading II

(Prerequisite: Blueprint Reading I) This course covers measurement review, angular measurement, drawing review, building trade symbols, types of construction in residences and commercial building, sheet metal shop procedures, general sheet metal work, types of insulation encountered in construction, duct systems and duct design methods, duct materials, warm-air heating plans, ventilation plans, air-conditioning plans, interpretation of mechanical and electrical plans for residential and commercial buildings, craftsmanship and design concepts, and the roles of the architect, engineer, contractor, manufacturer and craftsman.

AUTOMOTIVE COLLISION REPAIR (3 Trimesters)

The Automotive Collision Repair Program is designed to qualify a student for employment as a metal man or painter in the automotive industry. The student is allowed to qualify in the area of his choice and ability.

In the first trimester, students are given instruction and practical experience in minor body work and basic automotive painting procedures. Students are encouraged to specialize as they progress in their training. The quality of work and the flat-rate manual are used to determine the student's rating.

The second trimester is set up for two areas. The metal man does more complex R & R (removal and replacement) of panels, front-end sections, and medium frame and body damage repair. Quality and flat-rate skills are used for rating students. The painting area is based on quality and the amount of supervision being used.

During the third trimester, emphasis is placed on obtaining full flat-rate skills in all of the basics, and in complex methods of metal work and painting. Quality and speed skills are used for final rating of the students.

The three-trimester program totals 1350 hours of instruction, of which 750 are laboratory work and 600 hours are supporting courses.

Many students enter this major only after completing the Preparatory Program.

Automotive Collision Repair students are required to pay a once-only \$65 personal equipment fee; and must also provide their own padlock and shop coveralls.

SPECIFIC ENTRANCE REQUIREMENTS

1. Must demonstrate an 8th-grade mathematics proficiency.
2. Must be free of chronic respiratory diseases.
3. Must possess the ability to lift a maximum of 50 pounds.
4. Must have a personal interview with program coordinator.

AUTOMOTIVE COLLISION REPAIR PROGRAM

<i>Trimester I</i>	<i>(Hours/Week)</i>
Auto Collision Repair Lab I	15
Auto Collision Repair Theory I	5
Auto Collision Welding	10
<i>Trimester II</i>	
Auto Collision Repair Lab II	15
Auto Collision Repair Theory II	5
Trade Math	5
Auto Collision Estimating and Organization	5
<i>Trimester III</i>	
Auto Collision Repair Lab III	20
Auto Collision Repair Theory III	5
Automotive Circuitry	5

COURSE DESCRIPTIONS

Automotive Collision Repair Lab I

A laboratory practice course designed to give instruction in shop safety, chassis construction, hand and power tool operation, minor fender and body

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Auto Collision (cont.)

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, uses of grinders and abrasives, metal working techniques, metal finishing with lead and plastic, and basic painting procedures.

Automotive Collision Welding

Students get practical experience in use of the oxyacetylene torch for welding, brazing and soldering various types and sizes of sheet metal. This course continues development of welding skills in basic shielded arc welding for frame repair, and inert gases and gas-arc welding for body repairing.

Automotive Collision Repair Lab II

(Prerequisites: All Trimester I courses) A laboratory practice course which covers body section replacement and alignment, upholstery removal and replacement, spray painting procedures and processes, surface buffing and polishing, frame and body pulls, and basic unitized body alignment.

Automotive Collision Repair Theory II

(Prerequisites: All Trimester I courses) Students are instructed in frame and panel repair procedures, accessory removal and replacement, finishing procedures and processes and advanced estimating.

Trade Math

This course covers basic arithmetic operations: addition, subtraction, multiplication and division. Whole numbers, common fractions, decimal fractions, surface measurements and direct measurements, ratio and proportion, percentage, rules and formulas, and volume are thoroughly covered and applied to the automotive collision repair area.

Automotive Collision Estimating and Organization

(Prerequisite: All Trimester I courses) This is a combination laboratory and theory course designed to provide a detailed study of the procedures of estimating, business terminology, business organizations and operations, giving orders, taking the lead in the absence of the manager, and working arrangements and shop layout relating to efficient auto collision repair shop operations.

Automotive Collision Repair Lab III

(Prerequisites: All Trimester II courses) A laboratory practice course designed for refinement of basic metal work, major body damage, removal and replacement of panels, spot painting and complete painting to flat-rate standards.

Automotive Collision Repair Theory III

(Prerequisites: All Trimester II courses) This class provides instruction in bid sheet analysis and auditing, parts and labor costs, crash book estimating, and customer and personal relations as they relate to the automotive collision industry.

Automotive Circuitry

This practical laboratory and theory course provides instruction in the basic principles of electricity, terminology, electrical components and symbols, schematic reading, conductors, insulators and resistors, Ohm's law and Watt's law, series, parallel and series-parallel circuits, alternating and direct current, and basic automotive electrical systems encountered in the automotive collision repair area.

AUTOMOTIVE MECHANICS

(3 Trimesters)

The Automotive Mechanics Program provides practical and realistic experiences which will enable the student to gain the technical knowledge and occupational skills necessary for successful entry into the automotive service field.

The designated trimester levels are nonsequential and students may take them in any order providing that space in the class is available in the trimester chosen and they have met the specific entrance requirements and prerequisites.

In the first trimester, students are instructed in the fundamentals of engine operation and construction, engine testing and diagnosis, and engine disassembly, inspection, cleaning, reconditioning, reassembly and check-out. In the second trimester, emphasis is placed on the basics of electricity, tests and operations of batteries, cranking motors; and charging, ignition, fuel, emission control and air-conditioning systems. During the third trimester, emphasis is placed on brakes, front suspensions, steering, alignment, transmissions and drive train mechanisms.

The courses are designed to give the students a general background in automotive mechanics prior to their selection of a specialty in the automotive mechanics field.

By taking advantage of further training being offered by prospective employers at the dealerships, independent garages and other service centers, the graduate of this program should be qualified to do general automotive maintenance work and repairs.

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

To receive credit for a course, the student must demonstrate competence by performance on jobs as well as other kinds of examination in the areas of major study.

Many students enter this major only after completing the one-trimester Preparatory Program.

Automotive Mechanics students must pay a once-only \$65 personal equipment fee; and must provide their own padlock, shop coat or coveralls, and clip board.

SPECIFIC ENTRANCE REQUIREMENTS

1. Must demonstrate a 9th-grade mathematics proficiency.
2. Must be free of chronic respiratory diseases and/or allergies to automotive fuels and solvents.
3. Must possess the ability to lift a maximum of 50 pounds.
4. Must have a personal interview with program coordinator.

AUTOMOTIVE MECHANICS PROGRAM

<i>Trimester I</i>	<i>(Hours/Week)</i>
Automotive Engines and Engine Systems Lab	15
Automotive Engines and Engine Systems Theory	5
Basic Math and Precision Measurements	5
Technical Readings for Automotive Mechanics	5

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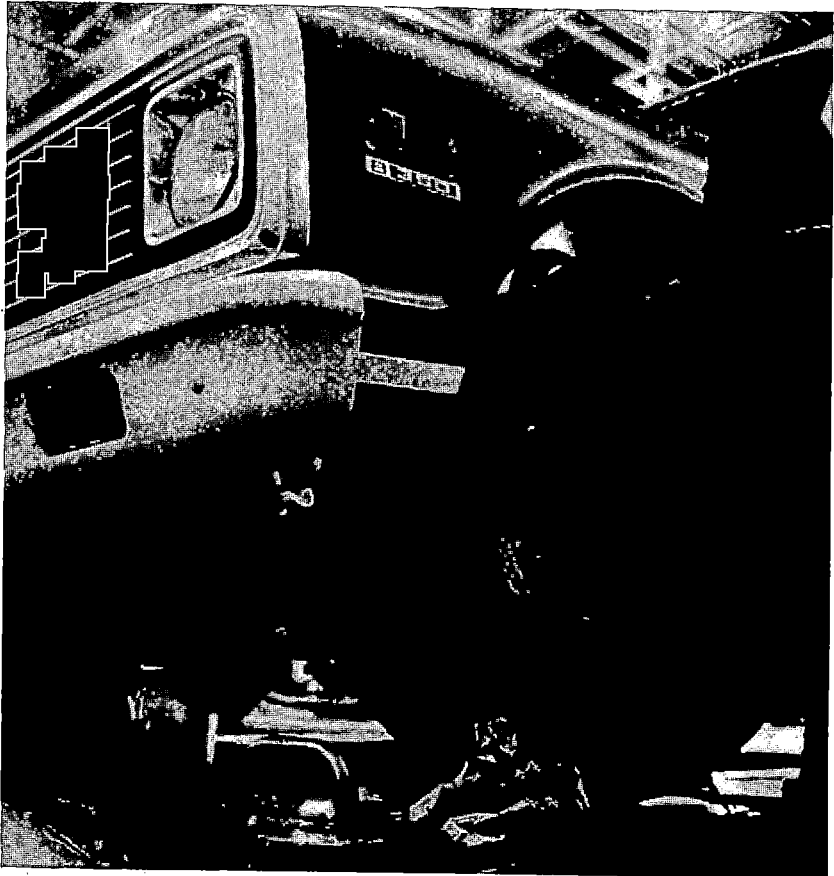
Auto Mechanics (cont.)

Trimester II

Automotive Electrical and Tune-Up Lab	15
Automotive Electrical and Tune-Up Theory	5
Basic Automotive Electrical and Tune-Up Math and Physics	5
Automotive Electric Circuits	5

Trimester III

Brakes, Front-End Alignment and Drive Trains Lab	15
Brakes, Front-End Alignment and Drive Trains Theory	5
Basic Math and Physics for Brakes, Front-End Alignment and Drive Trains	5
Technical Readings for Brakes, Front-End Alignment and Drive Trains	5



COURSE DESCRIPTIONS

Automotive Engines and Engine Systems Lab/Theory

(Prerequisite: Specific Entrance Requirements and/or satisfactory completion of Trimester II or III) This course offers instruction in automotive shop safety, basic tools and equipment used by automotive mechanics; engine systems operation and maintenance; engine operation and construction; engine testing and diagnosis; and engine disassembly, inspection, cleaning, reconditioning, reassembly and check-out. Proper shop procedures and job operations are emphasized.

Basic Math and Precision Measurements

This course will review basic mathematics as required by the class. Precision measurements will be emphasized and practical application will be the main part of the course.

Technical Readings for Automotive Mechanics

This course is to teach the student to read and interpret technical data from automotive shop bulletins, manuals, and trade journals.

Automotive Electrical and Tune-Up Lab/Theory

(Prerequisite: Specific Entrance Requirements and/or satisfactory completion of Trimester I or III) This course introduces the student to the automotive electrical and tune-up field. Basic electricity, elementary tests on batteries, basic operation of batteries, cranking motors, charging systems, ignition systems, fuel systems, and emission control systems are the main points of the course. Automotive air-conditioning will be introduced and studied as a separate service unit. Safety and basic operation steps will be emphasized throughout the program.

Basic Automotive Electrical and Tune-Up Math and Physics

This course is correlated with the Automotive Electrical and Tune-Up Lab and Theory to give the math and physics required for an operational understanding of automotive D.C. circuits, Ohm's law, fluids in motion and metering of fluids, and temperature-pressure relationships of gasses.

Automotive Electric Circuits

This course emphasizes the reading of schematic drawings of automotive circuits. The course is correlated with the Automotive Electrical and Tune-Up Lab and Theory classes to provide additional practice on electric circuits.

Brakes, Front-End Alignment and Drive Trains Lab/Theory

(Prerequisite: Specific Entrance Requirements and/or satisfactory completion of Trimester I or II) This course introduces the student to the automotive specialties in brakes, front suspensions, steering, alignment, transmissions, and drive train mechanisms. The student should learn basic hydraulic principles as applied to hydraulic brake systems and automatic transmissions; and basic trouble shooting techniques in the operation and function of the various systems. Safety and basic servicing steps and procedures will be emphasized.

Basic Math and Physics for Brakes, Front-End Alignment and Drive Trains

This course is correlated with the Brakes, Front-End Alignment and Drive Trains Lab and Theory to give the math and physics required for an operational understanding of hydraulics, gear applications, steering geometry, forces and stresses, and power transmission.

Technical Readings for Brakes, Front-End Alignment and Drive Trains

This course provides practice in technical research involving manuals, bulletins, trade journals and other related material. Special emphasis will be placed on power flow circuits and basic diagnosis as correlated with lab projects.

CARPENTRY (2 Trimesters)



The Carpentry Program is designed to provide practical and realistic experiences, including actual construction trade exposure, which will enable the student to gain the level of occupational skill and knowledge necessary for successful entry into the construction industry.

During the first trimester, students are given instruction in the fundamentals of residential framing and tools of the trade. In the second trimester, emphasis is placed on interior finish, millwork, cabinetmaking, estimating, and field experiences.

The two-trimester program consists of 900 hours of instruction, of which 450 hours are laboratory and field experiences and 450 hours are supporting courses.

Many students enter this major after completing the Preparatory Program.

The Carpentry students must pay a once-only personal equipment fee of \$65; and provide their own carpenters' overalls.

SPECIFIC ENTRANCE REQUIREMENTS

1. Must demonstrate a 9th-grade mathematics proficiency.
2. Must be free of chronic wood or wood product allergies.
3. Must possess the ability to lift a maximum of 50 pounds.
4. Must have a personal interview with the program coordinator.

CARPENTRY PROGRAM

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

COURSE DESCRIPTIONS

Carpentry Lab and Theory I

This combined theory and laboratory practice class gives instruction in hand and power tools, site layout and foundations, rough framing, roof framing, structural shell basics, stair construction, exterior finish and safety as related to carpentry equipment and the construction industry.

Trade Math I

This course covers basic arithmetic: addition, subtraction, multiplication and division. Reading the rule, whole numbers, common fractions, decimal fractions, cubic and weight measures, area calculations, surface and direct measurements and framing square computations are thoroughly covered.

Blueprint Reading I

This course offers basic instruction in residential working drawings and blueprints. Emphasis is placed on specifications, dimensions, scale and working drawings, site and plot plans, elevations, wall sections, foundations, plan symbols and indications, schedules, framing plans and detail drawings.

Carpentry Lab and Theory II

(Prerequisite: All Trimester I courses) Materials covered in this course are a continuation of Trimester I lab and theory, with emphasis placed on interior trim and millwork, finish carpentry, cabinetmaking, and installation. Coverage includes wood identification, hand and power tools, woodworking machines, and safety as related to millwork and cabinet shops.

Trade Math II

(Prerequisite: Trade Math I) Instruction is provided in the use of rules and formulas, ratio and proportion, volume, geometric construction, basic surveying computations, and estimating as applied to carpentry.

Blueprint Reading II

(Prerequisite: All Trimester I courses) This course includes an introductory study of residential tract homes, multiple family dwellings, commercial buildings and industrial blueprint applications.

CULINARY ARTS

(Hotel-Motel, Restaurant and Cafeteria Cook)

(2 Trimesters)

The Culinary Arts Program is designed to provide instruction in nutritional food preparation which will enable students to gain the level of skill necessary for successful entry into the food service industry, as fry cooks after the first trimester or dinner cooks upon completion of the full program.

In the first trimester, students are instructed in the fundamentals of food preparation and principles of cookery, use of tools, and cleanliness of equipment. During the second trimester, students are given instruction in the cooking of various foods, proper care of foods, refrigeration of foods, fundamentals of baking, background knowledge and basic instruction in cutting of meats, and ordering and purchasing procedures.

The two-trimester program consists of 900 hours of instruction, of which 450 hours are laboratory training experience and 450 hours are supporting courses.

The Culinary Arts students must pay a once-only personal equipment fee of \$55 which covers the cost of uniforms the student must wear during training and required personal tools.

HEALTH REQUIREMENT: Persons enrolled in this program must present to the school authorities, upon their initial enrollment, a certificate stating that they are free from tuberculosis in a transmissible form. The certificate must be signed by a licensed physician, and must be secured not more than 90 calendar days prior to the starting date of the program.

CULINARY ARTS PROGRAM

<i>Trimester I</i>	<i>(Hours/Week)</i>
Fry Cook Lab	15
Fry Cook Theory	5
Food Service Math	5
Human Relations	5
<i>Trimester II</i>	
Dinner Cook Lab	15
Dinner Cook Theory	5
Food Science	5
Technical Reading for Food Service	5

COURSE DESCRIPTIONS

Fry Cook Lab

This laboratory class is designed to give instruction in the different methods of preparing meats, vegetables, soups, sauces and thickening agents, sandwiches and salads. Emphasis is placed on food costs, nutrition, personal hygiene and sanitation, safety, and tools and stationary equipment.

Fry Cook Theory

The theory class offers instruction in sauteed dishes, cuts of meat, mixing, breading, color and appearance of food, neatness of serving, cooking methods and techniques, speed and efficiency, and cleanliness. Basic instruction is given in saute frying, broiling of sea foods, and methods of serving.

Food Service Math

This course covers basic arithmetic: addition, subtraction, multiplication and division. Whole numbers, common fractions, decimal fractions, percentage, rules and formulas, ratio and proportion, weights and measures, and volume are thoroughly covered and applied to the Culinary Arts major.

Human Relations

This class deals with employee-employer relations, employee-fellow employee relations, and on-the-job attitude, dependability, and initiative. Classroom discussions, questioning, audio-visual presentations, and field trips will be part of this course.

Dinner Cook Lab

(Prerequisites: All Trimester I Courses) This laboratory class gives instruction in cooking methods and techniques; preparation of food by using steaming, roasting, broiling, sauteing, frying and cooking in liquid; herbs and spices; background knowledge and basic instruction in cutting meats; salads and salad dressings; fundamental principles of baking; following instructions in menus; and calculation of cost.

Dinner Cook Theory

(Prerequisites: All Trimester I Courses) Instruction supports the work accomplished in the dinner cook lab. Emphasis is placed on various types of stews, fricassees, garnishes, sauces, gravies and stocks. This course also covers roasting meats, use of leftover meats and meat trimmings, fundamentals of baking, storage of foods, bacteria and sanitation, and care and operation of kitchen equipment.

Food Science

(Prerequisite: Fry Cook Lab and Theory) This course covers the principles of good nutrition in menu planning and food preparation, therapeutic diets, deteriorative factors and their control, heat and cold preservation and processing, food dehydration and concentration, food irradiation and microwave heating, food fermentations, food additives, wholesomeness and consumer protection, substitute and convenience foods, inspection and grading of foods, environmental health requirements, and technological changes in the food service industry.

Technical Reading for Food Service

The student learns to read and interpret daily reports, recipes, dietician charts, conversion tables, bulletins, manuals and trade journals.



DIESEL MECHANICS

(3 Trimesters)

The Diesel Mechanics Program is designed to prepare students for entry into the job market by equipping them with the technical knowledge and skills needed for satisfactory performance in the diesel industry.

During the first trimester, students are instructed in basic engine block assembly design, component parts disassembly, inspection and reassembly, diesel engine accessories, and diagnosis and troubleshooting. In the second trimester, emphasis is placed on various fuel injection systems, injectors, governors and analysis procedures. Third trimester instruction emphasizes engine overhaul, troubleshooting and failure analysis, major causes of engine operational or performance failure, and reclaiming engine performance procedures.

The three-trimester program totals 1350 hours of instruction, of which 750 hours are laboratory training experiences, and 600 hours are supporting courses.

Many students enter this major only after completing the Preparatory Program.

Diesel Mechanics students must pay a once-only \$65 personal equipment fee. They must also provide their own shop coveralls.

SPECIFIC ENTRANCE REQUIREMENTS

1. Must demonstrate a 9th-grade mathematics proficiency.
2. Must be free of chronic respiratory diseases and/or allergies to diesel fuels and solvents.
3. Must possess the ability to lift a maximum of 50 pounds.
4. Must have a personal interview with program coordinator.

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
Trade Math and Precision Measurements	5
Human Relations	5
<i>Trimester II</i>	
Diesel Fuel Injection Lab	15
Diesel Fuel Injection Theory	5
Technical Readings for Diesel Mechanics	5
Blueprint Reading	5
<i>Trimester III</i>	
Diesel Engine Overhaul Lab	15
Diesel Engine Overhaul Theory	5
Trade Math and Physics	5
Welding	5

COURSE DESCRIPTIONS

Diesel Engine Principles and Accessories Lab/Theory

This combined laboratory practice and related theory course offers instruction in diesel shop safety and basic tools and equipment used by the diesel mechanic. Emphasis is placed 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; lubricating, cooling, air intake and fuel systems; governor control design; oil pressure and heat safety control devices; and diagnosis and troubleshooting.

Trade Math and Precision Measurements

This course is correlated with Diesel Engine Principles and Accessories Lab and Theory. The course covers basic arithmetic operations: addition, subtraction, multiplication and division. Whole numbers, common fractions, decimal fractions, powers and roots, percentages, formulas, graphs, mensuration and precision measuring instruments are thoroughly covered.

Human Relations

Employee-employer relations, employee-fellow employee relations, on-the-job attitude, dependability, initiative and customer relations as they relate to the diesel industry make up the content of this course. Classroom discussions, questioning, audio-visual presentations and industrial field trips also will be part of this course.

Diesel Fuel Injection Lab/Theory

(Prerequisites: Diesel Engine Principles and Accessories Lab/Theory and Trade Math and Precision Measurements) This combined theory and practice class provides instruction in fuel system design, theory, construction, operating principles and servicing procedures; distributor-type and multiplunger fuel systems; testing procedures for various fuel systems; injectors and governors; and troubleshooting and analysis sequence procedures.

Blueprint Reading

(Prerequisites: Diesel Engine Principles and Accessories Lab/Theory and Trade Math and Precision Measurements) Basic instruction in reading and interpreting drawings related to diesel mechanics are offered in this course. Emphasis is on terminology, details, abbreviations and symbols, schematics and sketching of orthographic and isometric drawings.

Technical Readings for Diesel Mechanics

(Prerequisites: Diesel Engine Principles and Accessories Lab/Theory and Trade Math and Precision Measurements) This course familiarizes the student with technical data from reference and specification materials, shop bulletins, manuals and trade journals.

Diesel Engine Overhaul Lab/Theory

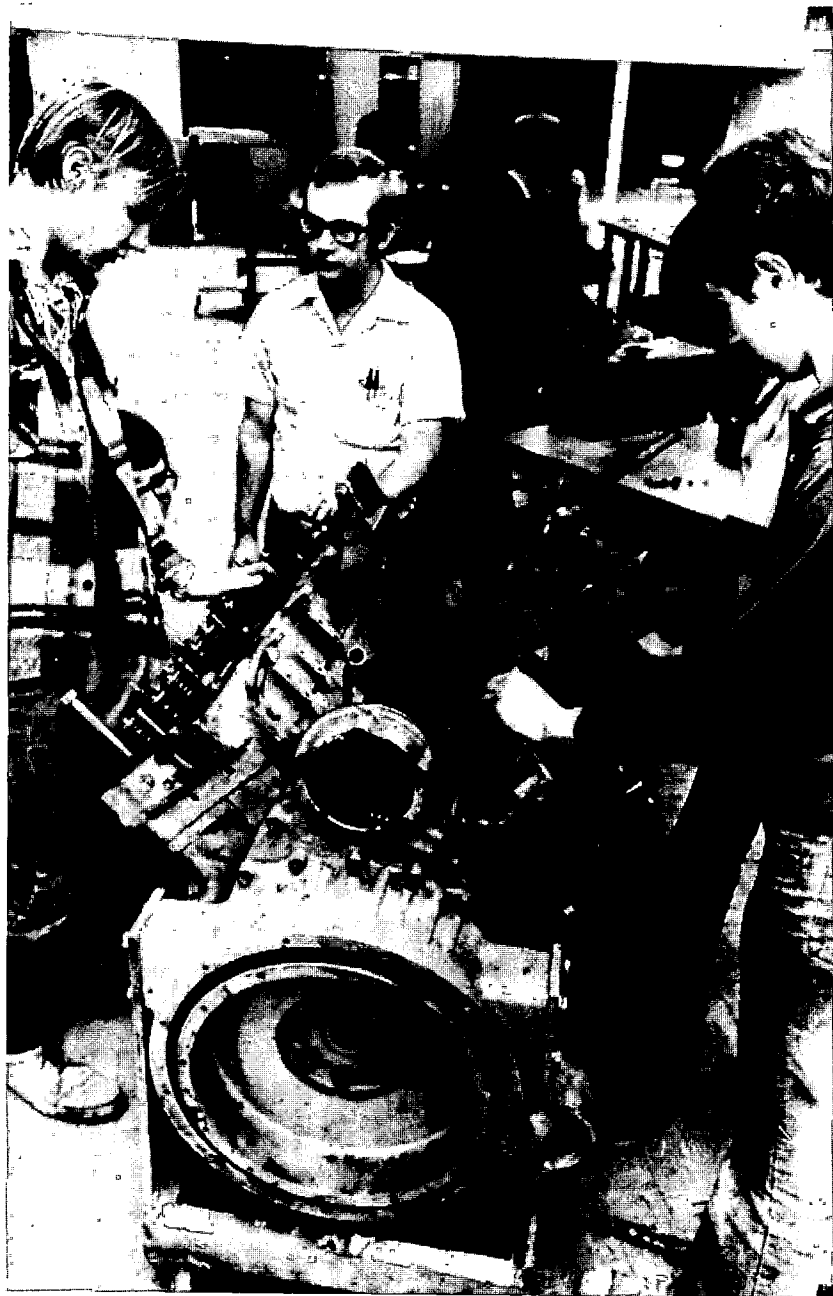
(Prerequisite: All Trimester II courses) This combined laboratory and theory course provides instruction in the disassembling of the diesel engine, engine performance characteristics, engine operational or performance failure, major wear failure causes, salvage operations, wear failure tolerances and specifications, reclaiming engine performance procedures, reassembly of the diesel engine, and testing and troubleshooting.

Trade Math and Physics

(Prerequisite: Trade Math and Precision Measurements) This course offers instruction in the use of rules and formulas, ratio and proportion, volume, pulley speeds, velocity or surface speed, application of algebraic calculations, geometric figures and trigonometric functions, and physics principles as associated with engine operation and engine life expectancy.

Welding

A laboratory practice class designed to give instruction in safety practices, general tools and equipment, sources of heat, operational procedures, metals and their properties, and applications of oxyacetylene and arc welding to diesel repairs.



DIESEL MECHANICS ADVANCED STUDIES (2 Trimesters)

The Diesel Mechanics Advanced Studies Program is designed for individuals desiring technical knowledge and skills beyond those offered in the three-trimester Diesel Mechanics Program.

The *prerequisite* for the Diesel Mechanics Advanced Studies Program is graduation from the T-VI Diesel Mechanics Program, or equivalent training or industry experience.

In the first trimester, basic and advanced electricity, various heavy duty electrical systems, and testing and service procedures are studied. In the second trimester, emphasis is placed on transmissions, final drives, clutches, brakes and hydraulics.

The two-trimester program totals 900 hours of instruction, of which 450 hours are laboratory work and 450 hours are supporting courses.

All courses require a final qualification of performance and a final examination in the areas of specialty.

Advanced Diesel Mechanics students must provide their own personal equipment, shop coveralls and safety glasses or goggles.

SPECIFIC ENTRANCE REQUIREMENTS

1. Must have successfully passed Trade Math and Precision Measurements and Trade Math and Physics or equivalent.
2. Must be free of chronic respiratory diseases and/or allergies to diesel fuel and solvents.
3. Must possess the ability to lift a maximum of 50 pounds.
4. Must have a personal interview with program coordinator.

DIESEL MECHANICS ADVANCED STUDIES PROGRAM

Trimester I *(Hours/Week)*

Diesel Electrical Systems Lab	15
Diesel Electrical Systems Theory	5
Industrial Electricity	5
Diesel Machine Trades	5

Trimester II

Diesel Transmissions, Final Drives, Clutches, Brakes and Hydraulics Lab	15
Diesel Transmissions, Final Drives, Clutches, Brakes and Hydraulics Theory	5
Business Relationships	5
Diesel Metallurgy	5

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Diesel Mechanics Advanced (cont.)

COURSE DESCRIPTIONS

Diesel Electrical Systems Lab/Theory

(Prerequisite: Diesel Mechanics Program or Equivalent) This course offers instruction in basic and advanced diesel electricity, electrical circuits and components; carburetion on gasoline, liquified petroleum and natural gas engines; magneto design, construction and maintenance; and heavy-duty direct current usage in generators, regulators, cranking motors and their controls. Test and service procedures are stressed throughout the course.

Industrial Electricity

Basic principles of electricity, electronic components and symbols, schematic reading, transistor and automatic controls are covered. The course includes laboratory experiments in practical applications of electricity and electronics in the diesel mechanics field.

Diesel Machine Trades

(Prerequisite: Diesel Mechanics Program or Equivalent) A combination laboratory and theory course designed for instruction in shop safety, basic benchwork, precision measuring instruments, machine construction, and basic operations on the drill press, milling machine, lathe and band saw. The fundamental machining and benchwork operations on bushings, bearings, gear shafts, drilling and reaming holes in diesel engine blocks, transmission final drive housings and ancillary accessories are thoroughly covered.

Diesel Transmissions, Final Drives, Clutches, Brakes and Hydraulic Lab/Theory

(Prerequisite: Diesel Mechanics Program or Equivalent) A laboratory practice class designed to give instruction in service, repair and trouble shooting of transmissions, torque convertors, final drives, crawler tractor undercarriages, clutches and brakes. Hydraulic pump operating principles, control devices, cylinders, tubing, heat exchangers and hydraulic motors, fits, tolerances and service specifications are thoroughly covered.

Business Relationships

This course includes business terminology, business organization and operations, problems of distributing goods and services, physical facilities, finance, keeping records, invoice and billing procedures, managing merchandise, laws for the businessman, and customer and personal relations as they relate to the diesel industry.

Diesel Metallurgy

(Prerequisite: Diesel Mechanics Program or Equivalent) This course covers the principles of metallurgy as they relate to diesel engine block metals, sleeves, crankshaft materials and alloys, piston rings, connecting rods, piston alloys, and main and connecting rod bearings. Manufacturing processes, terminology, structure and properties of metal, effects of alloying elements, heat treatment of metals, destructive and nondestructive testing, and diagnosis and failure analysis of diesel engine parts and accessories are thoroughly covered.

ELECTRICAL TRADES (RESIDENTIAL) (2 Trimesters)

The Electrical Trades Program is designed to provide students with job entry skills and knowledge which will enable them to qualify for employment in the residential construction industry.

During the first trimester, students are given instructions in the fundamentals of installing residential electrical wiring, use of tools and equipment, and electrical codes. In the second trimester, emphasis is placed on installation of electric service for appliances and special equipment, calculating service entrances, application codes, estimating electrical materials, and job planning and coordinating.

The two-trimester program consists of 900 hours of instruction, of which 450 hours are laboratory and field experiences and 450 hours are supporting courses.

Many students enter this major after completing the Preparatory Program.

The Electrical Trades students must pay a once-only personal equipment fee of \$65; and provide their own shop work clothes.

SPECIFIC ENTRANCE REQUIREMENTS

1. Must demonstrate a 9th-grade mathematics proficiency.
2. Must possess the ability to lift a maximum of 50 pounds.
3. Must have a personal interview with the program coordinator.

ELECTRICAL TRADES PROGRAM

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

COURSE DESCRIPTIONS

Electrical Trades Lab and Theory I

This combined laboratory and related theory course gives the beginning student instruction in shop and working safety, safe and proper use of tools and equipment, electrical codes and utility regulations, basic electrical principles and measurements, wiring materials and devices, splices and connections, basic procedures and wiring systems, residential wiring circuits; installing outlets, switch boxes, nonmetallic sheathed cable, overcurrent devices, low voltage equipment, branch circuits and service entrances.

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Electrical Trades (cont.)

Trade Math I

This course covers basic arithmetic: addition, subtraction, multiplication and division. Reading the rule, whole numbers, common fractions, decimal fractions, cubic and weight measures, area calculations, surface and direct measurements, simple electrical formulas, and various trade application problems involving calculations of materials, Ohm's law, series, parallel and combination circuits; mechanical work and power, resistance of wire, size of wire and circuit loads are thoroughly covered.

Blueprint Reading I

This course offers basic instruction in working drawings and blueprints. Emphasis is placed on elevation and floor plans, symbols and notations used on floor plans, scaling and dimensioning practices, structural information, detail drawings, plot plans, specifications for electrical products, electrical codes, circuit and lighting schedules, and reading a set of blueprints.

Electrical Trades Lab and Theory II

(Prerequisite: All Trimester I courses) This course offers a more in-depth study of the technical knowledge and skills necessary in the electrical trades, such as the installation of range and clothes dryer circuits, installation of electric service for water heaters, space heaters, motors, and furnace controls; methods of wiring flexible armored cable and electrical metallic tubing, installing service and metering equipment, remote control wiring, outside wiring, signal and communication systems, modernizing electrical systems, electric lighting, electrical wiring design, and estimating electrical wiring and supplies for the job.

Trade Math II

(Prerequisite: Trade Math I) This course provides instruction in electrical rules and formulas, ratio and proportion, volume, basic principles of square root, trade applications of geometric principles and right triangles, basic algebraic principles applying to electrical work, calculating service entrances, and estimating materials for the electrical trades.

Blueprint Reading II

(Prerequisite: All Trimester I courses) This course includes a detailed study of electrical drawings, knowledge of terms, methods of installation, local, state and national electrical codes; interpreting residential blueprints, and planning and coordinating the job.

MACHINE TRADES

(3 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 on at least one type of machine in addition to continuing to develop skills on various types of machines.

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

Many students enter this major only after completing the Preparatory Program.

Machine Trades students must pay a once-only personal equipment fee of \$65; and must provide their own padlock and safety glasses or goggles.

SPECIFIC ENTRANCE REQUIREMENTS

1. Must demonstrate a 9th-grade mathematics proficiency.
2. Must possess the ability to lift a maximum of 50 pounds.
3. Must have a personal interview with program coordinator.

MACHINE TRADES 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
Blueprint Reading III	5

COURSE DESCRIPTIONS

Machine Trades Lab I

This laboratory practice course gives the beginning student instruction in the areas of shop safety, basic benchwork, precision measuring instruments, machine construction, and basic operations on the drill press, milling machine, lathe and band saw.

Machine Trades Theory I

This course supports the work accomplished in Machine Trades Lab I. It covers the fundamental principles of various machines such as the lathe, drill press, band saw and bench grinder, along with benchwork fundamentals.

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Machine Trades (cont.)

Trade Math I

Instruction covers powers and roots, percentages, surface measurements and direct measurements, threads and tapers, and an introduction into basic arithmetical slide rule function.

Blueprint Reading I

Basic instruction in reading and interpreting shop drawings is offered. Emphasis is on terminology, dimensions, and visualizing and sketching of orthographic and isometric shop drawings.

Machine Trades Lab II

(Prerequisites: All Trimester I courses) Materials covered are similar to those covered in Machine Trades Lab I except that students will be exposed to more complex operations of various machine tools. Instructional emphasis will be placed on the engine lathe, tracer lathe and basic milling machine operations. The student will be allowed to specialize on a particular type of machine if he so desires.

Machine Trades Theory II

(Prerequisites: All Trimester I courses) This class involves daily discussions of problems generated in lab sessions. Emphasis is placed upon discussion of the technical aspects of toolings as they apply to the various machine tools assigned in the lab.

Trade Math II

(Prerequisite: Trade Math I) Instruction is provided in the use of rules and formulas, ratio and proportion, volume, pulley speeds, velocity or surface speed, slide rule application and indexing as applied to the machine trades area.

Blueprint Reading II

(Prerequisite: Blueprint Reading I) 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

(Prerequisites: All Trimester II courses) Materials covered in this course will be similar to that covered in Machine Trades Lab I and II but in more depth. Major emphasis will be placed on milling machine operations and less time will be spent on lathe work. Students are given practical experience in utilizing precision measuring equipment as they apply to the inspection of fabricated parts. A student may continue to specialize on machines of his choice.

Machine Trades Theory III

(Prerequisites: All Trimester II courses) Problems generated in the lab sessions are reviewed daily. Instruction is given on the various measuring tools used in inspection, milling machine application with an introduction to the numerically controlled milling machine, lathe work, and an introduction to basic elements of heat treatment.

Trade Math III

(Prerequisite: Trade Math II) This course provides instruction in the use of mathematical operations from the *Machinery's Hand Book*.

Blueprint Reading III

(Prerequisites: All Trimester II courses) The studies include the interpretation, sketching, and research of specifications, and terms as applied to job shop, production and government blueprints.

MASONRY TRADES

(2 Trimesters)

The Masonry Trades Program is designed to provide practical and realistic experiences which will enable the student to gain the level of occupational skill necessary for successful entry into the masonry construction field.

In the first trimester, students are instructed in the fundamentals of masonry and masonry machines. During the second trimester, emphasis is placed on advanced masonry skills, such as chimneys, fireplaces, arches, floors, estimating and field experiences.

The two-trimester program consists of 900 hours of instruction, of which 450 hours are laboratory and field experiences and 450 hours are supporting courses.

Many students enter this major only after completing the Preparatory Program.

Masonry Trades students must pay a once-only personal equipment fee of \$65 and provide their own shop coveralls.

SPECIFIC ENTRANCE REQUIREMENTS

1. Must demonstrate a 9th-grade mathematics proficiency.
2. Must be free of chronic lime or cement product allergies.
3. Must possess the ability to lift a maximum of 50 pounds.
4. Must have a personal interview with program coordinator.



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Masonry Trades (cont.)

MASONRY TRADES PROGRAM

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

COURSE DESCRIPTIONS

Masonry Trades Lab and Theory I

This combined theory and laboratory practice class provides instruction in masonry trades safety, tools and equipment, scaffold building; essentials of good masonry construction, brick, mortar, metal ties, bond, pattern, texture, reinforced brick masonry, and wall types; concrete block, structural clay tile, slump rock, basic fireplaces and patio floors, and basic builders' level and transit set-ups for masonry trades.

Trade Math I

This course covers basic arithmetic: addition, subtraction, multiplication and division. Reading the rule, whole numbers, common fractions, decimal fractions, weights and measures, square cubic measure, measures of weight and capacity, mensuration, and estimating masonry materials are thoroughly covered.

Blueprint Reading I

Basic instruction is offered in working drawings and blueprints. Emphasis is placed on elevation and floor plans, symbols and notations used on floor plans, scaling and dimensioning practices, structural information, detail drawings, plot plans, specifications for masonry products, and reading a set of blueprints.

Masonry Trades Lab and Theory II

(Prerequisite: All Trimester I courses) This combined theory and laboratory course offers more sophisticated knowledge and skills in masonry trades, such as chimneys and multiple face fireplaces, arches, decorative stone, concrete block walls and building construction, basic concrete plastering and cement work, various types of patios, estimating masonry materials for the job, advanced builders' level and transit set-ups, and field experiences.

Trade Math II

(Prerequisite: Trade Math I) This course provides instruction in the use of rules and formulas, ratio and proportion, volume, geometric construction, advanced estimating, and keeping cost records as applied to the masonry trades.

Blueprint Reading II

(Prerequisites: All Trimester I courses) This course includes a detailed study of developments and variations in design, construction practices and materials, an explanation of specifications, varying of blueprints due to the purpose of the building, masonry materials in landscape architecture, building, and effects of material variations on blueprint reading.

PLUMBING (RESIDENTIAL)

(2 Trimesters)

The Plumbing Program is designed to provide practical and realistic experiences which will enable the student to gain the level of occupational skill and knowledge necessary for successful entry into the residential plumbing industry.

During the first trimester, students are given instruction in the fundamentals of layout, assembly, installing, altering and repairing piping systems; manipulative skills, and tools of the trade. In the second trimester, emphasis is placed on layout rigging, planning and coordinating the job, application of codes, and installation of water, soil and vent lines.

The two-trimester program consists of 900 hours of instruction, of which 450 hours are laboratory and field experiences and 450 hours are supporting courses.

Many students enter this major after completing the Preparatory Program.

Plumbing students must pay a once-only personal equipment fee of \$65 and provide their own shop work clothes.

SPECIFIC ENTRANCE REQUIREMENTS

1. Must demonstrate a 9th-grade mathematics proficiency.
2. Must possess the ability to lift a maximum of 50 pounds.
3. Must have a personal interview with the program coordinator.

PLUMBING PROGRAM

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

COURSE DESCRIPTIONS

Plumbing Lab and Theory I

This combined theory and laboratory practice class provides instruction in the safe and proper use of tools and equipment, elements of plumbing, identification of plumbing fittings and pipe, basic hydraulics and pneumatics, and layout, assembly, installing, altering and repairing piping systems.

Trade Math I

This course covers basic arithmetic: addition, subtraction, multiplication and division. Reading the rule, whole numbers, common fractions, decimal fractions, cubic and weight measures, area calculations, surface and direct measurements and pipe length calculations are thoroughly covered.

Blueprint Reading I

This course offers basic instruction in working drawings and blueprints. Emphasis is placed on elevation and floor plans, symbols and notations used on floor plans, scaling and dimensioning practices, structural information, detail

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Plumbing (cont.)

drawings, plot plans, specifications for plumbing products, plumbing codes, plumbing fixture layout, and reading a set of blueprints.

Plumbing Lab and Theory II

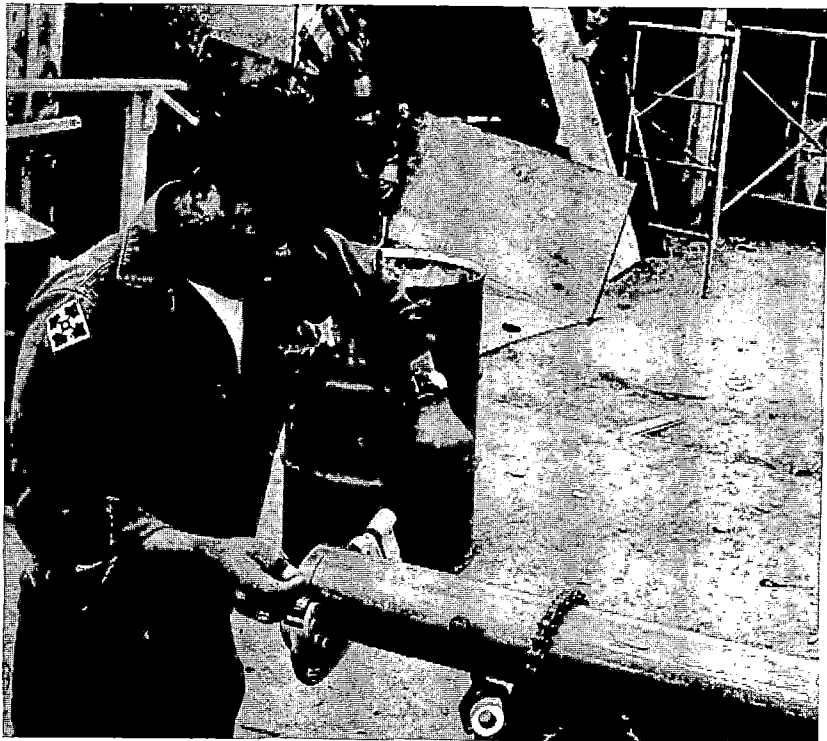
(Prerequisites: All Trimester I courses) Materials covered in this course are a continuation of Trimester I lab and theory, with emphasis placed on design, layout and installation of water, soil and vent lines, related fixtures and fittings, inspecting and testing systems, soldering and brazing, rigging, and maintenance and repair of plumbing systems.

Trade Math II

(Prerequisite: Trade Math I) Instruction is provided in the use of rules and formulas, ratio and proportion, volumes, pressure and capacities, geometric construction, basic surveying computations, and estimating as applied to plumbing.

Blueprint Reading II

(Prerequisites: All Trimester I courses) Course content includes a detailed study of piping drawings, isometric pipe layouts, interpreting residential blueprints, application of plumbing codes, knowledge of terms, and planning and coordinating the job.



SHEET METAL (RESIDENTIAL)

(2 Trimesters)



The Sheet Metal Program is designed to prepare students for entry into the job market by equipping them with the technical knowledge and skills needed for satisfactory performance in layout, fabrication, installation, and maintenance of residential sheet metal work.

During the first trimester, students are instructed in sheet metal processes performed with hand, bench, cutting and layout tools. In the second trimester, emphasis is placed on sheet metal machines and accessories, pattern development, and sheet metal applications.

The two-trimester program consists of 900 hours of instruction, of which 450 hours are laboratory and field experiences and 450 hours are supporting courses.

Many students enter this major after completing the Preparatory Program.

Sheet Metal students must pay a once-only personal equipment fee of \$55 and provide their own shop work clothes.

SPECIFIC ENTRANCE REQUIREMENTS

1. Must demonstrate a 9th-grade mathematics proficiency.
2. Must be free of chronic respiratory diseases and/or allergies to sheet metal fluxes and metals.
3. Must possess the ability to lift a maximum of 50 pounds.
4. Must have a personal interview with the program coordinator.

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Sheet Metal (cont.)

SHEET METAL PROGRAM

<i>Trimester I</i>	<i>(Hours/Week)</i>
Sheet Metal Lab I	15
Sheet Metal Theory I	5
Trade Math I	5
Blueprint Reading I	5
<i>Trimester II</i>	
Sheet Metal Lab II	15
Sheet Metal Theory II	5
Trade Math II	5
Blueprint Reading II	5

COURSE DESCRIPTIONS

Sheet Metal Lab and Theory I

This combined theory and laboratory practice class provides instruction in sheet metal processes performed with hand, bench, cutting and layout tools; safety in the sheet metal industry; care of tools and equipment; sheet metal materials and supplies; straight, parallel and radial line pattern development; soldering techniques; and the fabrication, erection and maintenance of residential ventilating, air-conditioning and heating sheet metal systems.

Trade Math I

This course covers basic arithmetic: addition, subtraction, multiplication and division. Reading the rule, whole numbers, common fractions, decimal fractions, cubic and weight measures, area calculations, surface and direct measurements, angular measure, geometrical constructions, geometric figures and solids, and basic right triangle calculations are thoroughly covered.

Blueprint Reading I

This course offers basic instruction in working drawings and blueprints. Emphasis is placed on elevations and floor plans, symbols and notations used on floor plans, scaling and dimensioning practices, structural information, detail drawings, plot plans, specifications for sheet metal products, city codes, straight, parallel and radial line pattern development, and reading a set of blueprints.

Sheet Metal Lab and Theory II

(Prerequisites: All Trimester I courses) Materials covered in this course will be a continuation of Trimester I lab and theory, with emphasis placed on theory and operation of sheet metal machines and accessories, radial line and transition pattern development, soldering techniques on various metals, and residential ventilating, air-conditioning, heating, roofing and spouting applications.

Trade Math II

(Prerequisite: Trade Math I) Instruction is provided in the use of rules and layout formulas, ratio and proportion, volumes, geometric construction, calculations related to allowances, pipes, Y-branches, transitions, elbows, offsets and conical caps, and estimating as applied to residential sheet metal jobs.

Blueprint Reading II

(Prerequisite: All Trimester I courses) This course includes a detailed study of measurement, drawing review, symbols, sheet metal shop procedures, general sheet metal work, warm-air heating plans, ventilation plans, air-conditioning plans, application of sheet metal codes, knowledge of terms, and planning and coordinating the job.

WELDING TRADES

(3 Trimesters)

The Welding Trades Program is designed to qualify students for employment in the metals processing industry. Emphasis is placed on oxyacetylene, shielded metal arc, gas tungsten arc, gas metal arc, automatic and semiautomatic cutting, pipe welding, and welding fabrication.

During the first trimester, students are given instruction in oxyacetylene and shielded metal arc welding. In the second trimester, emphasis is placed on gas tungsten arc, gas metal arc, and resistance welding. During the third trimester, emphasis is placed on pipe welding, welding fabrication, materials testing, and field work experiences.

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

All courses require a final qualification of performance and a final examination in each area of specialty.

Many students enter this major only after completing the Preparatory Program.

Welding Trades students must pay a once-only \$45 personal equipment fee; and they must also provide their own shop coveralls.

SPECIFIC ENTRANCE REQUIREMENTS

1. Must demonstrate a 9th-grade mathematics proficiency.
2. Must be free of chronic respiratory diseases.
3. Must possess the ability to lift a maximum of 50 pounds.
4. Must have a personal interview with program coordinator.

WELDING PROGRAM

	<i>(Hours/Week)</i>
<i>Trimester I</i>	
Welding Lab I	15
Welding Metallurgy I	5
Trade Math I	5
Industrial Electricity	5
<i>Trimester II</i>	
Welding Lab II	15
Welding Metallurgy II	5
Trade Math II	5
Blueprint Reading I	5
<i>Trimester III</i>	
Welding Fabrication	15
Trade Math III	5
Blueprint Reading II	5
Strength of Welding Materials	5

Welding (cont.)

COURSE DESCRIPTIONS

Welding Lab I

This laboratory practice class provides instruction in welding safety, general tools and equipment, common gases and their properties, welding materials, welding joints, oxyacetylene welding and brazing, metal cutting with gas, resistance welding, and shielded metal-arc welding procedures and processes.

Welding Metallurgy I

Instruction is offered in manufacturing processes, welding terminology, welding methods and processes, structure and properties of metal, temperature changes in welding, effects of alloying elements, variations of fluxes, slags and gases for shielding, and various symbols, weights and conversion factors.

Trade Math I

This course covers basic arithmetic: addition, subtraction, multiplication and division. Whole numbers, common fractions, decimal fractions, powers and roots, percentages, surface measurements and direct measurements are thoroughly covered.

Industrial Electricity

This practical course provides instruction in the basic principles of electricity, terminology, electrical components and symbols, schematic reading, conductors, insulators and resistors, Ohm's law and Watt's law, series, parallel and series-parallel circuits, alternating and direct current, transformers, and common practices in electrical circuits related to the welding area.

Welding Lab II

(Prerequisite: All Trimester I courses) This laboratory practice course provides advanced instruction in shielded arc welding and beginning instruction in inert gases and gas-arc welding through the use of various gas-arc welding power sources, torches, electrodes and wire-feed systems. Occupational safety standards and practice are emphasized throughout.

Welding Metallurgy II

(Prerequisite: All Trimester I courses) Instruction is offered in filler metal for joining iron and steel, shrinkage and distortion in weldments, preheating and postheating, difficulties and defects in welds, welding carbon steel, welding alloy steels, welding tests conversion factors, and symbols, weights and properties.

Trade Math II

(Prerequisite: Trade Math I) The use of rules and formulas, ratio and proportion and volume as applied to welding make up the course content.

Blueprint Reading I

(Prerequisites: Welding Lab I, Welding Metallurgy I, and Trade Math I) Basic drawing interpretation, welding symbols, terminology, detailed fittings and angle layout as applied to the welding area are covered in this course.

Welding Fabrication

(Prerequisites: All Trimester II courses) Instruction is offered in pipe welding, layout and assembly of pipe, types of field work, production work, shop fabrication, metallurgy, shop management, materials processing, and industrial safety.

Trade Math III

(Prerequisite: Trade Math II) This course provides instruction in the development of geometric figures and layout, mathematics of mechanics and

simple machines, basic shop trigonometry, logarithms, and the use of the slide rule as applied to the welding trades.

Blueprint Reading II

(Prerequisites: Trade Math II and Blueprint Reading I) Students are provided with a working knowledge of welding fabrication techniques and problem-solving skills encountered in the Welding Fabrication lab. Instruction includes specifications for various types of pipe and fabrication welding, materials estimating, pipe layout and development, pipe and structural print reading, transferring of measurements from working drawings and blueprints, design considerations, and descriptive geometry layout as related to welding fabrication.

Strength of Welding Materials

(Prerequisites: Welding Metallurgy II and Trade Math II) This combination laboratory and theory course provides instruction in destructive and nondestructive testing, advanced fabrication theory and welding joint design, procedures and welder qualifications, welding equipment trouble shooting, and advanced metallurgy theory.



