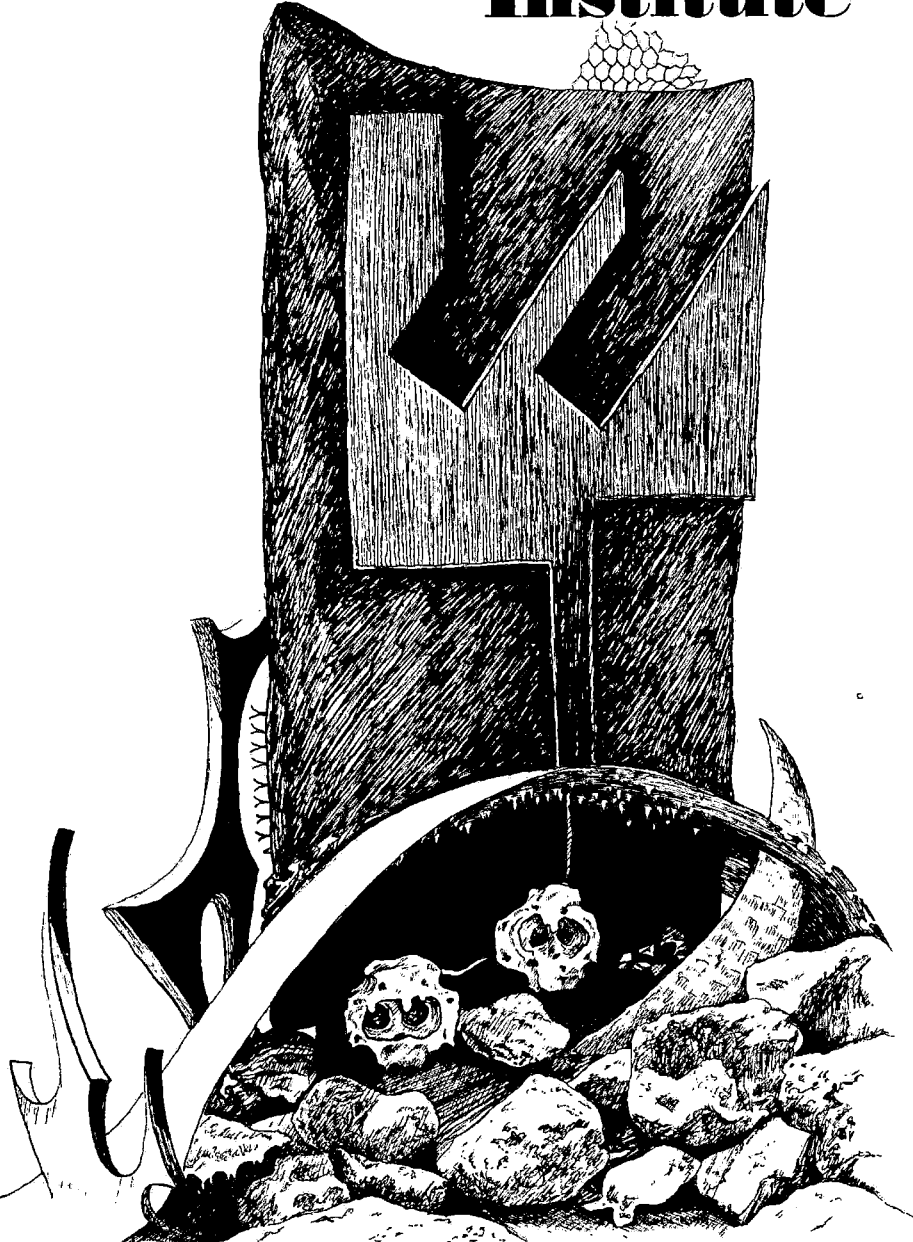


Albuquerque Technical-Vocational Institute



ulletin 1.072-3

COVER: *Metal sculpture by T-VI's welding class symbolizes the rise of a new technological culture tempered by spiritual values. Neptune's trident leads its emergence from the watery crypt of Atlantis, a technological society legend says sank into the sea 10,000 years ago.*

BULLETIN 1972-73

ALBUQUERQUE TECHNICAL-VOCATIONAL INSTITUTE

525 Buena Vista SE
Albuquerque, N.M. 87106
Telephone 842-3782

T-VI BULLETIN Volume VIII

June, 1972

GOVERNING BOARD

Ted Martinez Chairman
Joseph M. Zanetti Vice Chairman
Dan A. McKinnon III Treasurer
Jeannette Stromberg Secretary
Henry M. Willis Jr. Member

ADMINISTRATION

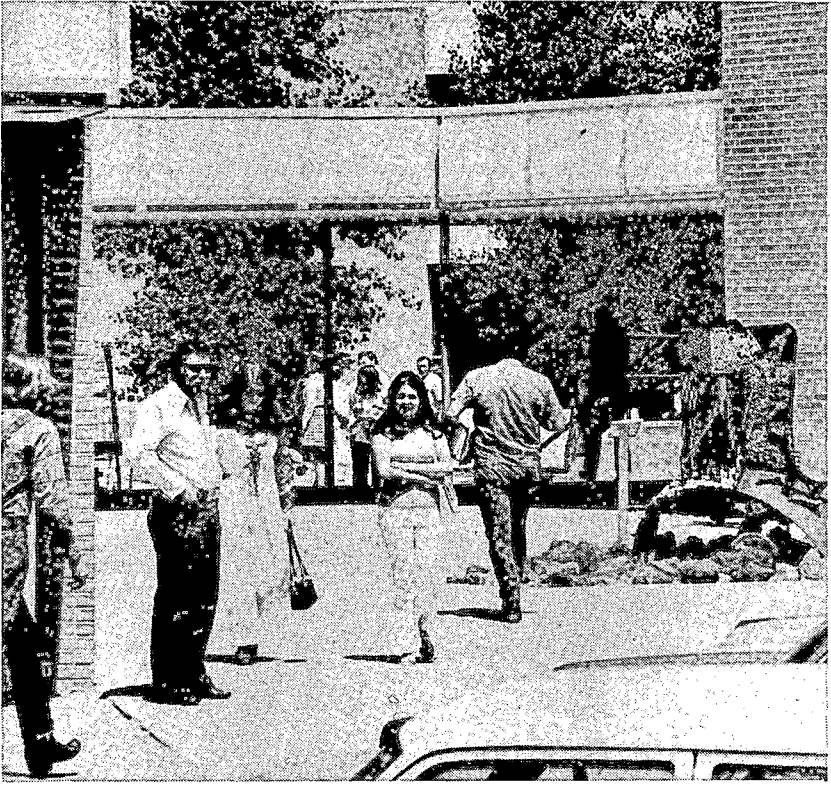
Ernest Stapleton President
Louis E. Saavedra Vice President
Marvin F. Burianek Director, Day Division
Harold W. Jackson Director, Evening Division
David E. Smoker Director, Student Services Division
Delfino Valdez Director, Support Services Division

TABLE OF CONTENTS

General Information	3
School Year	4
Instructional Programs	5
Testing Services	5
Trimester Calendar	6
Period Schedule	7
Admissions Policies	7
Admissions Procedures	8
Student Records	8
Charges and Fees	9
Diplomas and Certificates	10
Standards of Progress	10
Attendance Policies	11
Student Services	11
Financial Assistance	12

PROGRAM DESCRIPTIONS

Preparatory Program	14
Accounting	19
Accounting Clerk	22
Air-Conditioning, Heating and Refrigeration	24
Automotive Collision Repair	26
Automotive Mechanics	28
Bricklaying	30
Carpentry	32
Culinary Arts	34
Data Processing Technology	36
Data Processing (Computer Operator)	40
Diesel Mechanics	44
Diesel Mechanics Advanced Studies	46
Distributive Education	48
Drafting Technology (Architectural)	49
Drafting Technology (Civil Technology)	52
Drafting Technology (Electromechanical)	55
Electronics Technology	59
Inhalation Therapy Technician	63
Machine Trades	66
Mid-Management Marketing	69
Nursing Assistant	71
Office Education	72
Practical Nursing	75
Welding Trades	78



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 areas of the humanities as well as in technical and vocational skills.

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

Its major source of both operating and construction funds is a 3-mill district property tax. However, in recognition of the fact that many New Mexico residents from outside of the Institute district attend T-VI, the State Legislature has also appropriated funds for its operation since 1968.

Because the Institute is a public school supported by both local and state tax resources, tuition is waived on request for legal residents of New Mexico. Tuition for out-of-state students, and for any student whose education is fully underwritten by federal training funds, 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 1972-73, the Fall Trimester will begin on Sept. 7, the Spring Trimester on Jan. 3, and the Summer Trimester on April 30.

Applicants wanting to enter a full-time Day Division Program *must 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, 1972

August 10.....	Day Division Application Deadline
August 24-25.....	Day Division Registration
September 2 (9 a.m.-9 p.m.).....	Evening Division Registration
September 7.....	Classes Begin, Day Division
September 11.....	Classes Begin, Evening Division
October 31.....	Mid-Trimester Grades Due
November 22-24.....	Evening Division Thanksgiving Holiday
November 23-24.....	Day Division Thanksgiving Holiday
December 8.....	Withdrawal Deadline
December 22.....	Last Day of Classes; Commencement
December 25-January 2.....	Trimester Break

SPRING TRIMESTER, 1973

December 11.....	Day Division Application Deadline
December 14-15.....	Day Division Registration
January 3.....	Classes Begin, Day Division
January 6 (9 a.m.-9 p.m.).....	Evening Division Registration
January 15.....	Classes Begin, Evening Division
February 16-19.....	Spring Holiday
February 27.....	Mid-Trimester Grades Due
April 5.....	Withdrawal Deadline
April 19.....	Last Day of Classes (Day Div.); Commencement
April 20-27.....	Day Division Trimester Break
April 27.....	Last Day of Classes (Evening Div.)

SUMMER TRIMESTER, 1973

April 2.....	Day Division Application Deadline
April 12-13.....	Day Division Registration
April 30.....	Classes Begin, Day Division
May 5 (9 a.m.-9 p.m.).....	Evening Division Registration
May 14.....	Classes Begin, Evening Division
June 20.....	Mid-Trimester Grades Due
July 2-6.....	Independence Day Holiday
August 3.....	Withdrawal Deadline
August 17.....	Last Day of Classes (Day Div.); Commencement
August 24.....	Last Day of Classes (Evening Div.)
August 20-31.....	Trimester Break

INSTRUCTIONAL PROGRAMS

THE DAY DIVISION program at the Institute provides full-time instruction leading to diplomas and certificates in 23 major areas. 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 vocational and technical areas, or to provide refresher work for those who have not been in school for some time.

Students in the Day Division attend classes five or six hours a day. However, people not wishing to pursue a diploma may enroll as special students in specific classes as space is available.

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

THE EVENING DIVISION offers more than 80 Skill Improvement Courses to part-time students in the general areas of Office Education, Trade and Industrial, Health Occupations, Distributive Education, and Technical Education. The Adult Basic Education section offers a variety of courses designed to prepare people to take the General Educational Development (GED) exams, as well as for general improvement in written and spoken communication skills, math, and citizenship for aliens. In addition to the T-VI campus, the Evening Division programs-use facilities at several of the city's public high schools.

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

THE APPRENTICESHIP PROGRAM includes classes in many of the construction trades, electronics, and machine tool; and operates in cooperation with various labor-management Joint Apprenticeship Committees. Information about the apprenticeship programs is available by contacting the office of the Evening Division Director (842-3782).

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 842-3782.

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

TRIMESTER CALENDAR

SEPTEMBER, 1972

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

Trimester Break
Sept. 4-6

OCTOBER, 1972

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

NOVEMBER, 1972

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	

Thanksgiving
Nov. 23-24

DECEMBER, 1972

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

Trimester Break
Dec. 25-Jan. 2

JANUARY, 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
29	30	31		

FEBRUARY, 1973

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		

Spring Holiday ¹⁸
Feb. 16-19 ¹⁹

MARCH, 1973

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

APRIL, 1973

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

Trimester Break
Apr. 20-27

MAY, 1973

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	

JUNE, 1973

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

JULY, 1973

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

Independence Day
Holiday, July 2-6

AUGUST, 1973

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)

Trimester Break
August 20-31

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

ADMISSIONS POLICIES

The Institute's Day Division programs are designed for adults who do not presently 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 must be 18 years of age or, if under the age of 18, a high school graduate.

Admission to the Institute is on a first-come, first-served basis with regard to space available each trimester. However, some of the specific majors offered have prerequisites which must be met before an applicant can be admitted to that particular program (see 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 diploma or certificate 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, and the first-come first-served policy applies only after all four steps have been finished:

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 (except Practical Nursing) will be accepted for 1972-73 trimesters as follows:

<i>Trimester</i>	<i>Starting Date</i>	<i>Applications Accepted</i>
Fall 1972	September 7	May 29 to August 10
Spring 1973	January 3	September 22 to December 1
Summer 1973	April 30	January 18 to April 2

(Practical Nursing is already filled for September 1972. Applications for the September 1973 class will be accepted beginning March 1.)

2. APTITUDE TESTING — When a completed application has been submitted, the applicant is scheduled for the aptitude tests related to his choice of major. Missing this test appointment delays completion of the four-step process, and may cause the applicant to find that the desired major 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 applicant will confer about the major fields of interest to the applicant. After the conference, the counselor will approve the applicant for admission. (If the chosen major is filled, this approval is on a standby basis only, and the applicant 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 \$5 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.

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 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.

CHARGES AND FEES

TUITION: For non-residents of New Mexico, and for students whose education is fully underwritten by federal training funds, tuition is \$300 per trimester, or \$13 per trimester hour for schedules of 15 or less hours per week.

For residents of New Mexico, including dependents of members of the armed forces stationed on active duty in New Mexico, there is no tuition charge if the student signs a tuition waiver request form.

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.*

REGISTRATION FEE: There is a \$5 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 papers, 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 had 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 possession 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 1972-73 are as follows: Air Conditioning / Heating / Refrigeration — \$60; Auto Collision Repair — \$65; Auto Mechanics (Chassis & Transmission) — \$65; Auto Mechanics (Electrical & Tune-up) — \$65; Bricklaying — \$65; Carpentry — \$65; Culinary Arts — \$55; Diesel Mechanics — \$60; Inhalation Therapy — \$65; Machine Trades — \$65; Nursing Assistant — \$20; Practical Nursing — \$65; Welding — \$40.

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.

DIPLOMAS AND CERTIFICATES

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

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

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

Certificates are also offered for majors of less than two trimesters.

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

STANDARDS OF PROGRESS

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

The progress reports use the A-B-C-D-F grading system. In a few courses, the grading system is "S" (Satisfactory) and "U" (Unsatisfactory). A grade of "F" or "U" indicates the student is not performing the work of the course at a satisfactory level.

A student who receives an "F" or "U" as the trimester final grade in any class or laboratory will not receive credit for that course toward diploma or certificate requirements. In addition, he will not be allowed to enroll in any course for which the failed course is listed as a prerequisite unless and until he has repeated the failed course and obtained a passing grade.

ACADEMIC PROBATION: A student who fails a required course in his diploma or certificate program is automatically placed on academic probation for the following trimester. If, at the end of the probationary trimester, the student is again failing any of the required courses on the diploma or certificate program, *he or she will not be allowed to continue in the same major field.*

ACADEMIC SUSPENSION: A student who fails to make satisfactory progress toward a diploma or certificate during three successive trimesters will be placed on academic suspension for a period of one year.

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 and tardiness 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 any more absences. A student who is 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 if he or she desires to try 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 recommends one of three courses of action to the Vice President: (1) that the suspension for the balance of the trimester be carried out (2) that the student be readmitted to classes on a specified term of probation, or (3) that the student be readmitted to classes without any probationary stipulation.

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 the career field they want to pursue, and to advise students with any problems related to their studies at the Institute. Applicants and students should feel free to request a counselor interview 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.

(CONTINUED NEXT PAGE)

Student Services (cont.)

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 with an adjusted family income of less than \$15,000 per year 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 they attend T-VI. Additional loans may be applied for each year the student is in school, up to a maximum of \$7,500.

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 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 before the full term of the loan, the unused balance is returned to the State and the student owes only that portion which has been issued to him.

Loan application deadlines are July 1 for fall trimester, December 1 for spring trimester, and April 15 for summer trimester. An applicant who has been admitted to T-VI may apply, before those deadlines, for a loan. However, the first payment will not be made until he or she has actually begun attending school and is in good academic standing.

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 843-3361 (disabled veterans phone 843-2928).

Persons planning to attend T-VI under the GI Bill should be aware that *there is a time lag of about 60 days from the first day the student attends classes until the first support check arrives*, and should be prepared to meet their own living expenses during the first two months of their schooling.

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 842-2531).

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).

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 at T-VI or from the Model Cities Project Coach, 122 Broadway SE (Phone 842-7808).

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.

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 842-3186).

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 this 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 non-credit program; thus, none of the course work applies towards a diploma. 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.

COURSE OFFERINGS	HOURS/WEEK
Enrichment Cluster (see course descriptions).....	5
Introduction to Business Management	5
Personal Typing	5
Communications.....	5
Mathematics	10
Exploratory Cluster (see course description).....	5
G.E.D. Preparatory	5

COURSE DESCRIPTIONS

ENRICHMENT CLUSTER

This cluster consists of a series of five areas intended to strengthen the student's self concept and social understanding. Effort will be made to relate 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 or 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.

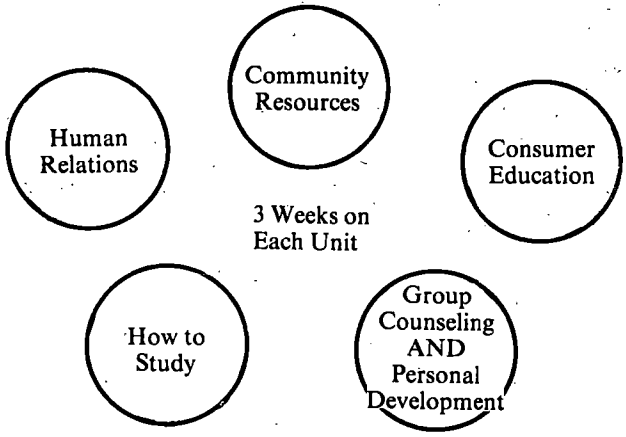
Human Relations

This course studies the special composition of the world of work. It is designed to prepare the students for success in a working environment. The

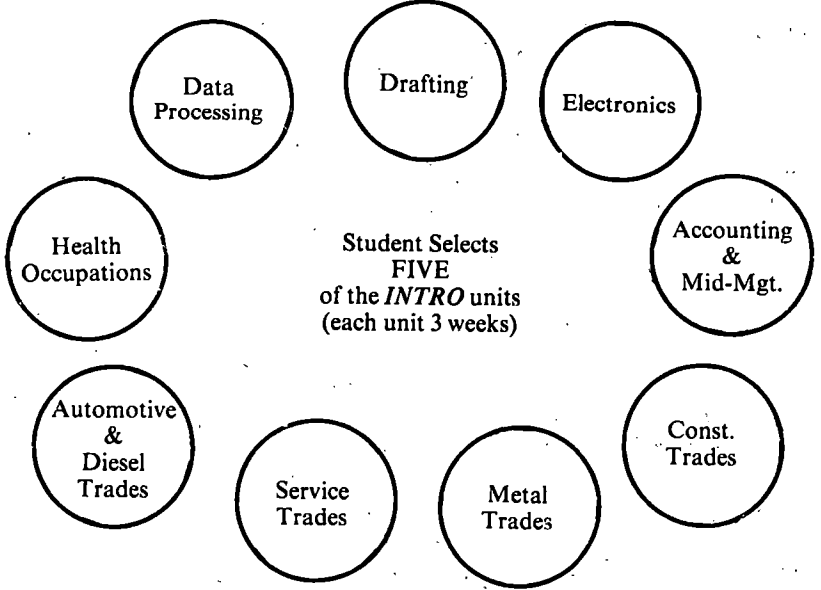
Period

Course Title

1..... Enrichment Cluster (15 weeks)



- 1..... Intro to Business Management (15 weeks)
- 1..... Personal Typing (*Elective*) (15 weeks)
- 2..... Communications (15 weeks)
- 3-4..... Mathematics (15 weeks)
- 6..... G.E.D. Preparatory (15 or 30 weeks)
- 6..... Exploratory Cluster (15 weeks)



(CONTINUED NEXT PAGE)

Preparatory Program (cont.)

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.

Community Resources

This course will acquaint students with the various supportive agencies on which they and their families and friends might call. Through lectures, 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.

INTRODUCTION TO BUSINESS MANAGEMENT

This course is designed to help the student manage his own affairs in financial situations. Banking functions, contracts, budgeting, borrowing money, finance charges and interest rates, savings and retirement plans are covered.

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.*

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.

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.

EXPLORATORY CLUSTER

This cluster of courses presents an overview 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:

Introduction to Drafting

This course covers drafting materials and equipment, elements of the

various types of drafting, design concepts, and use of reference materials related to the fields.

Introduction to Accounting & Mid-Management

This course provides a brief look at many facets of the accounting world-of-work; job opportunities, range of accounting systems, necessary educational background, and equipment and forms.

Introduction to Data Processing

Introduction to Data Processing removes some of the mystery surrounding automation and acquaints students with the terminology used in this field.

Introduction to Electronics

This course acquaints the students with basic electronic theory and electronic components and symbols. It also provides an introduction to simple construction such as mounting and soldering and a survey of present and future electronic job opportunities. This course includes field trips to observe electronic jobs and industries.

Introduction to 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 tours to hospitals and health centers as well as outside speakers. Also, job opportunities and job requirements will be surveyed.

Introduction to Construction Trades

This course provides career information relevant to the trade: an overview of the construction industry; personal, industrial and general safety; policies and standards of the industry; basic measuring techniques; common construction tools, and tours of industrial and laboratory facilities.

Introduction to Metal Trades

The major orientation will involve metal working, welding and sheet metal trades. This course provides instruction in career development and employment opportunities; skills, knowledge and attitudes; personal, industrial and general safety; use and care of tools; design and planning; measuring and layout, and various tooling and production methods used in the industry.

Introduction to Automotive-Diesel

This course provides an introduction to the various automotive mechanics, automotive collision repair and diesel mechanics occupations. Emphasis is placed on specific requirements of the trade: career and employment opportunities; skills, knowledge and attitudes; personal, industrial and general safety; common tools of the industry; objectives of the automotive-diesel majors; tours of auto-diesel shops, and specific requirements and personal equipment needed for successful entry into the major area.

Introduction to Service Trades

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.

(CONTINUED NEXT PAGE)

Preparatory Program (cont.)

G.E.D. Preparatory

This course is designed to prepare students without a high school diploma 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.

Prerequisite: Students registering for the GED prep course must achieve an 8th grade level on the California Achievement Test. The test will be given before students are assigned to a class. **A STUDENT WILL NOT BE ASSIGNED TO A GED CLASS UNLESS HE HAS TAKEN THE CALIFORNIA ACHIEVEMENT TEST.**



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.

All accounting students may select a data processing minor, as detailed below, at the end of Trimester I.

The four-trimester diploma program totals 1500 hours of instruction and 1725 hours of instruction with the data processing minor. Included in the major are 675 hours of laboratory work.

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

Prerequisites for enrollment into the Accounting major are minimum aptitude scores in the general and numerical areas and the ability to work with detail.

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

DIPLOMA PROGRAM

<i>Trimester I</i>	<i>(Hours/Week)</i>
Accounting Principles I Lab	10
Principles of Data Processing	5
Office Machines	5
Accounting Math	5
<i>Trimester II</i>	
Accounting Principles II Lab	10
Posting Machines/Typing Lab	10
Principles of Economics	5
Report Program Generator (D.P. minor)	5
<i>Trimester III</i>	
Intermediate I Accounting Lab	10
Tax Accounting Lab	5
Principles of Management	5
Business Communications I	5
COBOL I (D.P. minor)	5
<i>Trimester IV</i>	
Intermediate II Accounting Lab	5
Cost Accounting Lab	5
Managerial Accounting Lab	5
Business Law	5
Business Communications II	5
COBOL II (D.P. minor)	5

COURSE DESCRIPTIONS

ACCOUNTING PRINCIPLES I LAB

This introductory course is designed for an accounting major. Concepts and procedures underlying financial accounting are examined. Topics included in this course are: collection and presentation of data, income measurement, accounting

(CONTINUED NEXT PAGE)

Accounting (cont.)

for notes and interest, inventories and cost of goods sold, fixed assets and depreciation, manufacturing accounting, payrolls, internal controls, manual, mechanical and electronic accounting systems.

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

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 MATH

This course is intended to give the student a strong background in the basic fundamental operations in arithmetic and to familiarize the student with a wide range of accounting procedures for which mathematics is required. The student preparing to enter the accounting world will have his mathematical skills sharpened through participation in this accounting math course. This course stresses the review of arithmetic fundamentals, equations and percentages; and also helps develop the theory of accounting, finance, insurance, as well as other math-related business courses.

ACCOUNTING PRINCIPLES II LAB

(Prerequisite: Accounting I Lab) This laboratory includes instruction in partnership and corporate accounting, long-term investments and liabilities. Analysis and interpretation of financial statements will be studied along with managerial use of accounting data, the flow of funds and budgeting as well as tax problems to be considered in the business. A brief introduction to cost accounting as used in the manufacturing business will also be made.

POSTING MACHINES/TYPING LAB

Designed for all accounting majors, this course provides instruction in posting machine operable parts and the development of a working knowledge of several makes of posting machines. Alternated with the posting machine instruction is typewriting with emphasis on reports, tabulation and letter writing.

PRINCIPLES OF ECONOMICS

This course is designed to give the student an insight into our 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.

INTERMEDIATE I ACCOUNTING LAB

(Prerequisite: Accounting Principles II Lab) This course is designed to give the student an in-depth study of accounting procedures covered in Accounting I and II, as well as new principles of the accounting cycle.

There is no workbook and no practice set, so the student will be involved with problem solving and designing his own reports and statements.

Students will be encouraged to participate in critical evaluation of accounting concepts so that they can become aware of the conflicts and shortcomings that exist within the traditional structure of accounting theory. To help in this evaluation and to serve as guidelines for decision making, students will study opinions of the Accounting Principles Board, accounting research studies sponsored by the AICPA, and opinions of leading accountants.

TAX ACCOUNTING LAB

(Prerequisite: Accounting Principles I Lab) An examination of the fundamental characteristics of the federal income taxes applied to individuals and corporations. Emphasis is placed upon the recognition of an income tax problem and the timely arrangement of individual and corporate transactions to produce the most favorable income tax consequences.

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.

BUSINESS COMMUNICATIONS I

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

COBOL I

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

INTERMEDIATE II ACCOUNTING LAB

(Prerequisite: Intermediate I Accounting Lab) This course takes an in-depth look at corporation accounting, particularly in the area of stockholder's equity and long-term debt. The student is given practice in error correction and constructing financial statements from incomplete records and the techniques of cash budgeting, fund flow, and financial analysis are discussed and practiced.

There is no workbook and no practice set. The student will be involved with problem solving and designing his own reports and statements.

COST ACCOUNTING LAB

(Prerequisite: Intermediate Accounting I) This advanced accounting course is intended to give the student an understanding of the importance of cost accounting procedures, not only from the standpoint of establishing cost, but for managerial purposes. The procedures for accumulating cost will be stressed along with the use of various reports for communicating meaningful cost data to management.

MANAGERIAL ACCOUNTING LAB

(Prerequisite: Accounting Principles Lab I and II, and Intermediate Accounting Lab I) The objective of this course is to explain how accounting data can be interpreted and used by management in planning and controlling business activities.

(CONTINUED NEXT PAGE)

Accounting (cont.)

An additional subject briefly considered is fund or governmental accounting.
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.

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.

COBOL II

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

ACCOUNTING CLERK (2 Trimesters)

The Accounting Clerk major places emphasis on the accounting cycle, payroll accounting and financial statements. Also emphasized are clerical skills: typing, communications, secretarial procedures.

Students will be trained to fill positions in small professional offices such as doctors and dentists; small retail establishments; insurance companies; and service-oriented establishments.

The two-trimester diploma program totals 825 hours of instruction.

Prerequisites for entrance into this program include a combined interest in basic accounting and clerical skills plus minimum aptitude scores in the numerical, clerical and manual dexterity areas.

DIPLOMA PROGRAM

<i>Trimester I</i>	<i>(Hours/Week)</i>
Accounting Principles I Lab	10
Office Machines	5
Accounting Math	5
Typing	5
<i>Trimester II</i>	
Accounting Principles II Lab	10
Typing/Posting Machines Lab	10
Business Communications I	5
Secretarial Procedures	5

COURSE DESCRIPTIONS

ACCOUNTING PRINCIPLES I LAB

Concepts and procedures underlying financial accounting are examined. Topics included in this course are: collection and presentation of data, income measurement, accounting for notes and interest, inventories and cost of goods sold, fixed assets and depreciation, manufacturing accounting, payrolls, internal controls, manual, mechanical, and electronic accounting systems.

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 MATH

This course is intended to give the student a strong background in the basic fundamental operations in arithmetic and to familiarize the student with a wide range of accounting procedures for which mathematics is required. The student preparing to enter the accounting world will have his mathematical skills sharpened through participation in the accounting math course. This course stresses the review of arithmetic fundamentals, equations and percentages; and also helps develop the theory of accounting, finance, insurance, as well as other math-related business courses.

TYPING

Instruction covers the typewriter keyboard and machine operable parts. Emphasis is placed on vertical and horizontal centering, letters, tabulation and memoranda. Speed and accuracy building are also emphasized.

ACCOUNTING PRINCIPLES II LAB

(Prerequisite: Accounting I Lab) This laboratory continues instruction in journalizing and posting of transactions with emphasis on small partnerships and small corporation types of ownership. The techniques used in journalizing long-term investments and liabilities will be studied and practiced.

The advantages and disadvantages of sole proprietorship, partnership and corporation forms of business ownership will be discussed; also, the accounting for each type of ownership, including profit and loss distribution, stocks, bonds and financing. The student will receive a brief introduction to cost accounting principles as used in the manufacturing business.

POSTING MACHINES/TYPING LAB

This course provides instruction in posting machine operable parts and the development of a working knowledge of several makes of posting machines.

Typing techniques, speed and accuracy are further developed. Preparation of business letters, business forms and statistical reports are emphasized.

BUSINESS COMMUNICATIONS I

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

SECRETARIAL PROCEDURES

Training is provided in a wide range of office activities, including filing. Emphasis is placed on all phases of personality, the ability to work with people, and the understanding of human relations in business.

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 being 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 the installation of necessary equipment for the completion of 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 the servicing of various air-conditioning, heating and refrigeration components, troubleshooting of the systems, and preventive maintenance that is required of all mechanical equipment.

The three-trimester diploma 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 \$60; and must provide their own shop coveralls 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.

DIPLOMA 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 instructions 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 basic arithmetical, algebraic, 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.

BASIC ELECTRICITY

This course offers instruction 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. Instructional emphasis will be placed on 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 provides 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) This course 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 trouble-shooting.

BUSINESS RELATIONSHIPS

This course covers 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. Quality and flat-rate skills are used for rating of 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 complex methods of metal work and painting. Quality and speed skills are used for final rating of the students.

The three-trimester diploma program totals 1350 hours of instruction, of which 600 hours are supporting courses.

Many students enter this major only after completing the one-trimester preparatory program.

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

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.

DIPLOMA PROGRAM

<i>Trimester I</i>	<i>(Hours/Week)</i>
Auto Collision Repair Lab I.....	15
Auto Collision Repair Theory I.....	5
Trade Math I.....	5
Welding I.....	5
<i>Trimester II</i>	
Auto Collision Repair Lab II.....	15
Auto Collision Repair Theory II.....	5
Trade Math II.....	5
Welding II.....	5
<i>Trimester III</i>	
Auto Collision Repair Lab III.....	20
Auto Collision Repair Theory III.....	5
Elective Course.....	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 section repairing, trim and hardware replacement, preparing for painting and basic painting processes.

AUTOMOTIVE COLLISION REPAIR THEORY I

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

TRADE MATH I

This course covers basic arithmetical operations: addition, subtraction, multiplication and division. Whole numbers, common fractions, decimal fractions, surface measurements and direct measurements are thoroughly covered.

WELDING I

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

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) This course provides instruction in frame and panel repair procedures, accessory removal and replacement, finishing procedures and processes and advanced estimating.

TRADE MATH II

(Prerequisite: Trade Math I) This course provides instruction in the use of ratio and proportion, percentage, rules and formulas, and volume as applied to the automotive collision repair area.

WELDING II

(Prerequisite: Welding I) This course continues development of welding skills relative to typical automotive collision welding problems.

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 course provides instruction in bid sheet analysis and auditing, parts and labor costs, crash book estimating and customer relations.

AUTOMOTIVE MECHANICS

(3 Trimesters)

The Automotive Mechanics Program provides practical and realistic experience which will enable the student to gain the level of occupational skills necessary for successful job entry as mechanics specializing in electrical systems and tune-up.

In the first trimester, engine operation and construction, engine testing and diagnosis, and engine disassembly, inspection, cleaning, reconditioning, reassembly and check-out are studied. In the second and third trimesters, emphasis is placed on testing equipment, automotive electrical components, electrical diagnosis, carburetion, smog control devices, ignition systems, air-conditioning systems, and diagnostic procedures.

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

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

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 safety glasses or goggles.

SPECIFIC ENTRANCE REQUIREMENTS

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

DIPLOMA 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
 <i>Trimester II</i>	
Automotive Electrical and Tune-Up Lab I	15
Automotive Electrical and Tune-Up Theory I	5
Automotive Electric Math and Physics	5
Elective Course	5
 <i>Trimester III</i>	
Automotive Electrical and Tune-Up Lab II	15
Automotive Electrical and Tune-Up Theory II	5
Automotive Tune-Up Math and Physics	5
Elective Course	5

COURSE DESCRIPTIONS

AUTOMOTIVE ENGINES AND ENGINE SYSTEMS LAB/THEORY

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 AND THEORY I

(Prerequisite: Automotive Engines and Engine Systems Lab and Theory) This course offers instruction in basic automotive electricity, circuits and accessories. The operation, testing and servicing of batteries, cranking motors and circuits, generators, alternators, regulators and circuits and the ignition system are the major emphasis in this course. Diagnostic procedures are stressed throughout. An automotive battery cranking and charging system specialty is developed.

AUTOMOTIVE ELECTRIC MATH AND PHYSICS

This course is correlated with the Automotive Electrical and Tune-Up Lab and Theory. It gives students basic algebra in the use of Ohm's Law and Kirchoff's Laws in the automotive circuits. Practical application problems are used.

AUTOMOTIVE ELECTRICAL AND TUNE-UP LAB AND THEORY II

(Prerequisite: Automotive Electrical and Tune-Up Lab and Theory I) This course continues the use of automotive electricity in the engine tune-up and emphasizes diagnostic procedures in the engine analysis. The automotive engine tune-up is completed by studying the operation, construction, maintenance and servicing of fuel systems and carburetors, smog control devices and transistorized electrical systems. Automotive air-conditioning is studied as a separate service unit. Specialties developed within the course are: ignition tune-up, carburetion and air-conditioning.

AUTOMOTIVE TUNE-UP MATH AND PHYSICS

(Prerequisite: Automotive Electric Math and Physics) This course is correlated with the Automotive Electrical and Tune-Up Lab and Theory course. The temperature-pressure relationship of gases, fluids in motion and metering of fluids, basic transistor and diode operation, and the relationship of these principles to mechanical and electrical control components are the main points of the course.



BRICKLAYING

(2 Trimesters)

The Bricklaying 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 trades.

In the first trimester, students are instructed in the fundamentals of bricklaying and masonry machines. During the second trimester, emphasis is placed on advanced bricklaying 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 one-trimester Preparatory Program.

The Bricklaying students must pay a once-only personal equipment fee of \$65; and provide their own shop coveralls and safety glasses or goggles.

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.

DIPLOMA PROGRAM

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

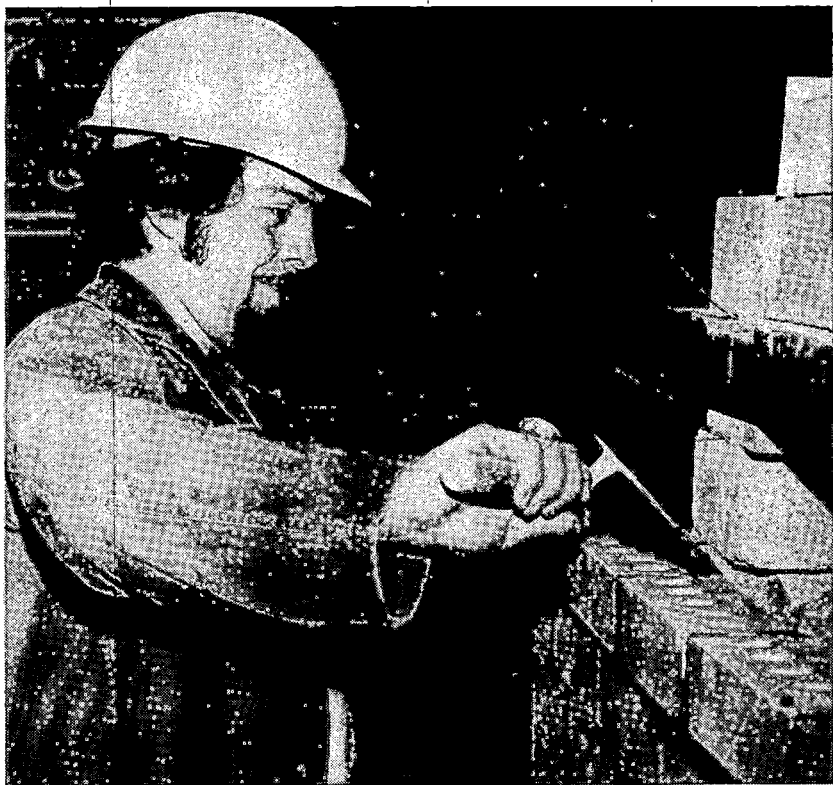
COURSE DESCRIPTIONS

BRICKLAYING LAB AND THEORY I

A laboratory practice class designed to give 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.

TRADE MATH I

This course covers basic arithmetical operations: 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

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 masonry products, and reading a set of blueprints.

BRICKLAYING LAB AND THEORY II

(Prerequisites: All Trimester I courses) This course offers the more sophisticated knowledge and skills in bricklaying, such as chimneys and fireplaces, arches, floors and pavements, estimating masonry materials for the job, 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, 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, brick in landscape architecture, building, and effects of material variations on blueprint reading.

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, cabinet making, 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 one-trimester Preparatory Program.

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

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.

DIPLOMA 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

A laboratory practice class designed to give 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 arithmetical operations: 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 AND THEORY II

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

TRADE MATH II

(Prerequisite: Trade Math I) This course provides instruction 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 introduction study of residential tract homes, multiple family dwellings, commercial buildings and industrial blueprint applications.

CULINARY ARTS

(2 Trimesters)

The Culinary Arts Program is designed to provide instruction in nutritional food preparation which will enable the student to gain the level of skill necessary for successful entry into the food service industry.

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 experiences 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 the uniforms which the student must wear during training, and required personal tools.

HEALTH REQUIREMENT:

Persons enrolled in this major 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 major course of study.

DIPLOMA 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
Business Principles	5
Technical Reading for Food Service	5

COURSE DESCRIPTIONS

FRY COOK LAB

A laboratory class 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 arithmetical operations: 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

The content of this course 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) A laboratory class designed to give instruction in the 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 of meats; salads and salad dressings; fundamental principles of baking; following instructions in menus; and calculation of cost.

DINNER COOK THEORY

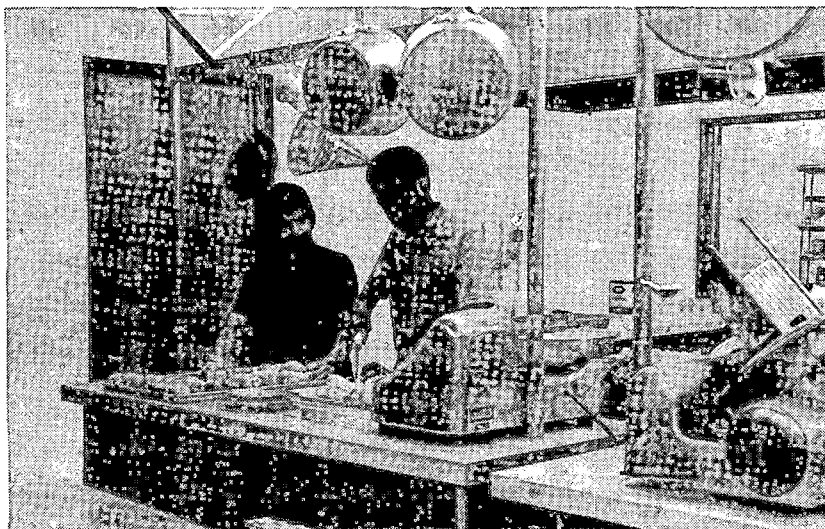
(Prerequisites: All Trimester I Courses) This course supports the work accomplished in the dinner cook lab. Emphasis is placed on the various types of stews, fricassees, garnishes, sauces, gravies and stocks. This course also covers roasting of meats, use of leftover meats and meat trimmings, fundamentals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

BUSINESS PRINCIPLES

This course covers basic instruction in business terminology, business organizations and operations, problems of distributing goods and services, physical facilities, finance, keeping records, invoice and billing procedures, managing merchandise, profit and loss statements, laws for the businessman, giving orders, and taking the lead in the absence of the chef or manager.

TECHNICAL READING FOR FOOD SERVICE

This course is to teach the student to read and interpret daily reports, recipes, dietician charts, conversion tables, bulletins, manuals and trade journals.



DATA PROCESSING TECHNOLOGY (5 Trimesters)

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

The five-trimester diploma program totals a minimum of 2055 hours of instruction, a substantial portion of which involves laboratory experience in facilities which include an IBM S/360 Model 22 computing system with high speed reader, printer, disk drives, keypunches, sorter and other up-to-date supporting equipment.

Entering students are expected to have sufficiently strong reading skills and abilities in arithmetic computation to work with manuals and texts that are quite technical in nature. Many students enter this major only after completing the one-trimester Preparatory Program.

DIPLOMA PROGRAM

<i>Trimester I</i>	<i>(Hours/Week)</i>
* <i>Technical Math I-II</i>	10
* <i>Accounting I</i>	10
* <i>Introduction to Computers</i>	5
* <i>Report Program Generator I</i>	5
<i>Trimester II</i>	
* <i>Technical Math III/FORTRAN</i>	10
* <i>Assembler Language Coding I</i>	10
* <i>Accounting for Data Processing</i>	5
* <i>Managerial Accounting</i>	5
<i>Trimester III</i>	
* <i>Assembler Language Coding II</i>	10
* <i>Intermediate FORTRAN</i>	5
* <i>Systems Analysis I</i>	5
<i>Management Methods I</i>	5
<i>Technical Math IV (Elective, available if 10 or more enroll in this class)</i>	5
<i>Trimester IV</i>	
* <i>COBOL I</i>	10
* <i>Systems Analysis II</i>	5
<i>Management Methods II</i>	5
* <i>Report Program Generator II</i>	5
* <i>Conversational Computers</i>	2
<i>Trimester V</i>	
* <i>COBOL II</i>	5
* <i>Systems Analysis III</i>	5
<i>Management Methods III</i>	5
* <i>Problem Solution (COBOL)</i>	5
* <i>Introduction to Systems Programming</i>	5
* <i>Courses that must be satisfactorily completed for student to be awarded a certificate as outlined on page 10.</i>	

COURSE DESCRIPTIONS

ACCOUNTING I

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

INTRODUCTION TO COMPUTERS

This course provides a review of the history of computers and instruction in memory coding schemes, computer logic and control, flow-charting of computer problems, Boolean logic, basic switching circuits and a sampling of FORTRAN (FORmula TRANslator).

TECHNICAL MATH I-II

A complete review of elementary algebra, this course includes the basic properties of algebra, 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.

REPORT PROGRAM GENERATOR I

(Corequisite or Prerequisite: Introduction to Computers) This course covers the Unit Record principle as it relates to Report Generator data processing on the computer. Instruction is provided on makeup and use of specifications forms. Operations include card to printer, card to disk, and disk to printer operations, editing capabilities, and strengths and weaknesses of the RPG system.

TECHNICAL MATH III WITH FORTRAN

(Prerequisites: Tech Math I-II and Introduction to Computers) This course includes both analytic geometry and trigonometry, and beginning level instruction in FORTRAN. Instruction is provided in analytic geometry of the straight line, circular functions, solutions of trigonometric equations and identities, solution of oblique triangles, and exponential and logarithmic functions. FORTRAN content includes programs relevant to the above mathematical concepts.

Students must achieve passing grades in both the mathematical content and in the programming aspect of this course before advancing to a higher level in the program.

ASSEMBLER LANGUAGE CODING I

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

ACCOUNTING FOR DATA PROCESSING

(Prerequisite: Basic Accounting or Accounting I) This provides the student with a complete accounting vocabulary as an extension to his elementary accounting course. The audit trail and its relationship to difficult types of business organizations is developed. Editing, data control totals and coding techniques, legal and accounting procedures and requirements for different types of financial institutions are related to their accounting and auditing responsibilities.

(CONTINUED NEXT PAGE)

Data Processing (cont.)

MANAGERIAL ACCOUNTING

(Prerequisite: Accounting I) Concepts covered in this course include procedures used in accounting for acquisition, sale, inventory, and depreciation for a single proprietor, partnership or corporation, concepts and application of reports of the status and condition of the business. The course emphasizes cost accounting, encumbrance accounting and special government reports.

ASSEMBLER LANGUAGE CODING II

(Prerequisite: Assembler Language I) This assembler language familiarization course includes instruction in program output formatting, editing, punching techniques and multiple card group handling, error handling, subroutine coding techniques, system linkage, disk programming, device and program status words, channel commands and status words, interrupt level status, interrupt level servicing, and device service subroutines.

SYSTEMS ANALYSIS I

(Prerequisites: All courses in Trimester I and Tech Math III/FORTRAN, Assembler Language I) Business organizations, the systems and methods group, staff and line organization, business and technical procedures 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 flowcharts, systems design and consideration.

MANAGEMENT METHODS I

(Prerequisites: Same as Systems Analysis I) This course covers breakeven 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, rank statistics. The mean, median, mode, variance and the standard deviation. The normal curve, decision making under uncertainty, marginal analysis and applications of the normal probability curve to marginal analysis.

COBOL I

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

SYSTEMS ANALYSIS II

(Prerequisite: Systems Analysis I) This course includes a detailed study of D.O.S., the utility programs, the disk-sort-merge program, service and control programs, file label formats, and all job control cards. An actual business data processing problem is identified and studied. The design and implementation of a new or improved system is started.

MANAGEMENT METHODS II

(Prerequisite: Management Methods I) This course covers the nature of samples, sampling 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 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.

Analysis of variance, the F test. Least squares regression line, coefficients of determination and correlation. Non-linear curve fitting; quadratic, hyperbolic and exponential curve fits. Inventory models, economic order quantities, quantity discounts, economic lot sizes, stock out prevention, lead time, the reorder problem.

CONVERSATIONAL COMPUTERS

(Prerequisite: Introduction to Computers) This course includes the philosophy and techniques of timeshared systems, the BASIC language, man-machine interactive systems, Culler-Fried languages, APL, Computer Assisted Instruction, HELP routines, search and retrieval techniques, data trees, and on-line computer graphics.

REPORT PROGRAM GENERATOR II

(Prerequisite: RPG I) This course contains a review of R.P.G. I and introduces the use of level breaks. It also introduces the use of subroutines. Programs to go from card to disk, and disk to printer are also written, debugged and executed. The assigned programs emphasize practical accounting applications such as accounts receivable, accounts payable, trial balance, inventory, invoice, etc.

COBOL II

(Prerequisite: COBOL I) This course continues development of programming skills in the COBOL language with emphasis on more complicated sentences, statements and clauses. Content includes special techniques such as indexed sequential, sequential and random file creation, updating and processing. Extensive COBOL edit and file maintenance and processing programs are written, compiled, debugged, and tested.

PROBLEM SOLVING (COBOL)

(Prerequisite: COBOL I) This course is designed to introduce the techniques and procedures involved in the solution of DP problems and to acclimate students to the real environment encountered in a real Data Processing Department. This will be done by providing the students selected problems to be programmed and documented.

SYSTEMS ANALYSIS III

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

MANAGEMENT METHODS III

(Prerequisite: Management Methods II) This course covers vectors, determinants, matrix arithmetic and algebra, the identity matrix, singularity, the inverse of a matrix, Linear programming — graphic techniques, the simplex method. Duality and the Minimax Theorem. Markov processes, the matrix of transition probabilities, equilibrium conditions, absorbing states, applications of the Markov Process. Queuing theory, waiting lines, simulation solutions of queuing problems, randomizing techniques. PERT, work breakdown, time considerations, the Beta Distribution, network adjustment, probability of timely completion. CPM, normal and crash activity times, crashing and uncrashing activities. Reporting and updating PERT & CPM networks and schedules.

INTRODUCTION TO SYSTEMS PROGRAMMING

(Prerequisite: Assembler Language II) This course covers the Disk Operating System, system maintenance, generation, updating and modification, disk

Data Processing (cont.)

dumps, core dumps, formatting of data on mass storage devices, cyclic checks, multiprogramming, core partitions, the supervisor error transients, the DOS utilities, and compiler organization.

TECHNICAL MATHEMATICS IV

(Prerequisite: Technical Math III with FORTRAN) The content of this course includes the basic concept of limits, derivatives of polynomials, the product, quotient and power rules, applications of derivatives to problems, the differential, integrals, and their application to areas, volumes, centroids, inertia and other applications, and derivatives of basic trigonometric functions. FORTRAN programs are assigned where relevant.

DATA PROCESSING (COMPUTER OPERATOR) (3 Trimesters)

The Computer Operator Program is designed to provide basic knowledge of computer principles and operation, basic programming principles, and realistic experience which will enable the student to gain the skills necessary for successful employment as a computer operator.

The three-trimester diploma program provides a minimum of 1125 hours of classroom instruction and hands-on experience. The program demands a reading ability level adequate to work with manufacturers' technical manuals. Sufficient manual dexterity and strength is required to operate and handle computer equipment and supplies. Off-campus job training is a required part of the program. These assignments are often at non-school hours.

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

Beginning groups will be offered in the Fall. Beginning groups for the Spring and Summer are not presently being scheduled.

Entering students with prior experience may challenge certain courses, and if able to demonstrate the required knowledge and skills, may apply for a credit waiver for any of the following courses: Basic Accounting, Introduction to Computers and any of the three programming languages offered in the program. The remaining courses are required to be taken by all students in the program.

DIPLOMA PROGRAM

<i>Trimester I</i>	<i>(Hours/Week)</i>
*Data Processing Mathematics	5
*Basic Accounting	5
*Introduction to Computers.....	5
*Report Program Generator I	5
*Computer Operations I	5

Trimester II

- *Data File Organization, Processing and Management.....5
- *Accounting for Data Processing5
- *Console Operations.....5
- COBOL5
- *Computer Operations II5

Trimester III

- *Utilities, Sorts and Job Control Language5
- *Supervised Laboratory 10
- Assembler Language Coding (EASYCODER).....5
- *Computer Operations III.....5
- Principles of Management (Elective, available if 10 or more enroll in this class).....5
- *Courses that must be satisfactorily completed for student to be awarded a certificate as outlined on page 10.

COURSE DESCRIPTIONS

DATA PROCESSING MATHEMATICS

(Corequisite: Introduction to Computers) The course includes the study of Binary, Octal and Hexadecimal counting, addition, subtraction, conversions; Hollerith, BCD, EBCDIC, Display and ASCII codes; fixed and floating point data formats; calculations and formula manipulation related to a wide variety of operations oriented problems.

ELEMENTARY ACCOUNTING

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

INTRODUCTION TO COMPUTERS

This course provides a review of the history of computers and instruction in memory coding, schemes, computer logic and control, flow-charting of computer problems, Boolean logic, basic switching circuits and a sampling of FORTRAN.

REPORT PROGRAM GENERATOR

(Corequisite or Prerequisite: Introduction to Computers) This course covers the Unit Record principle as it relates to Report Generator data processing on the computer. Instruction is provided on makeup and use of specifications forms. Operations include card to printer, card to disk, and disk to printer operations, editing capabilities and strengths and weaknesses of the RPG system.

COMPUTER OPERATIONS I

This course provides basic instruction and familiarization with the Honeywell 200 Series and IBM 360 computing systems. Topics include identification, study and basic operation of I/O units including card readers, line printers, tapes, disks and the console typewriter; the CPU, console lights, keys and switches; channels, adapters and controls, all keys, lights and switches; fuses, circuit breakers; unit record card handling, tape and disk setups and operations, printer setup, operations and forms handling are included.

COBOL

(Prerequisite: Introduction to Computers) Content includes the history of COBOL (COmmon Business Oriented Language), program divisions, the character set, coding sheets; data, condition, procedure, and special names; reserved COBOL words, arithmetic, logical and relational operators, constants,

(CONTINUED NEXT PAGE)

Data Processing (cont.)

literals, comparisons, elements of a sentence. and introduction to Data Division and Procedure Division.

ACCOUNTING FOR DATA PROCESSING

(Prerequisite: Basic Accounting or Accounting I) This provides the student with a complete accounting vocabulary as an extension to his elementary accounting course. The audit trail and its relationship to difficult types of business organizations is developed. Editing, data control totals and coding techniques, legal and accounting procedures and requirements for different types of financial institutions are related to their accounting and auditing responsibilities.

DATA FILE ORGANIZATION, PROCESSING AND MANAGEMENT

(Prerequisites: Data Processing Mathematics and Introduction to Computers)

Tape and disk file concepts are developed including labels, label handling, mass storage organization, directories, libraries, tables of contents and associated storage requirements. Job control cards required for processing and securing data files, are prepared and included in job decks for a wide variety of applications.

CONSOLE OPERATIONS

(Corequisites or Prerequisites: Data File Organization and Operations I) The Honeywell Series 200 and IBM Series 360 Model 22 consoles are 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 and alterations and low core displays and hardware dumps are performed.

COMPUTER OPERATIONS II

(Prerequisite: Operations I) Full knowledge of the basic operation of the Honeywell 200 Series and the IBM Series 360 Model 22 computing systems and their peripherals is assumed. Routine shift maintenance, computer room management and data security and controls are studied. Basic troubleshooting and problem identification techniques are investigated with emphasis upon safety to personnel, the data and the equipment. Working relationships with the systems and programming staff, the data preparation group, the D.P. operations manager and fellow employees are developed. Forms and supply inventory control and storage techniques and problems are studied.

ASSEMBLY LANGUAGE CODING (EASYCODER)

(Prerequisite: Introduction to Computers) The EasyCoder Basic Instruction set is studied. Data formats, constants and literals are examined in detail, internal manipulative instructions are coded using both direct addressing and index registers. Peripheral data transfer and I/O channel status instructions are added to the coding. An 80-80 list, card to printer program, a simple payroll program, and an elementary tape to printer program provide exercises in coding assembling and debugging a problem application.

UTILITIES, SORTS, AND JOB CONTROL

(Prerequisites: Data File Organization, Operations II) Vendor supplied disk resident utility programs and sorts are systematically investigated. The IBM DOS utilities include card to printer, card to disk, disk to printer, punch and file copy routines, and initialize disk routines. Stand alone dumps and copy programs and disk and tape sorts will be prepared and executed. The Honeywell mass storage resident utilities and sorts perform the same functions and are covered in detail.

All parameter, control and modifications cards are prepared and optimizing techniques are explained and tested.

COMPUTER OPERATIONS III

(Prerequisite: Computer Operations II) This course provides an in-depth study of the IBM/360 Full Operating System (OS). Topics include the fundamental concept of the system, OS/HASP, Control Program 67 and related console operations, Remote Access Operating System (RAX), and how these features function together. A study is also made of the OS Job Control Language and the data management organization.

SUPERVISED LABORATORY

(Prerequisite: Operations II) Every effort will be made to place students who have completed all required courses into actual training situations with cooperating employers.

Those students who are off schedule or not ready to work on a job may use this two-hour block to review, repeat or increase their performance in any area of deficiency.

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. The student learns to recognize that business is more than the manufacturing, transporting and selling of goods: that it involves relations with people as customers, employers, members of the public, representatives of government, and owners and managers of business.



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. During the third trimester, emphasis is placed on engine overhaul, troubleshooting and failure analysis, major causes of engine operational or performance failure, and reclaiming engine performance procedures.

The three-trimester diploma 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 one-trimester Preparatory Program.

Diesel Mechanics students must pay a once-only \$60 personal equipment fee. They must also provide their own shop coveralls, and safety glasses or goggles.

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.

DIPLOMA PROGRAM

	<i>(Hours/Week)</i>
<i>Trimester I</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 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, which includes 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 the Diesel Engine Principles and Accessories Lab and Theory. The course covers basic arithmetical 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

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

DIESEL FUEL INJECTION LAB/THEORY

(Prerequisite: Diesel Engine Principles and Accessories Lab/Theory and Trade Math and Precision Measurements) A laboratory practice class designed to give instructions 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

(Prerequisite: Diesel Engine Principles and Accessories Lab/Theory and Trade Math and Precision Measurements) This course offers basic instruction in reading and interpreting drawings related to Diesel Mechanics. Emphasis is on terminology, details, abbreviations and symbols, schematics and sketching of orthographic and isometric drawings.

TECHNICAL READINGS FOR DIESEL MECHANICS

(Prerequisite: 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 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.

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 Diesel Mechanics (3 trimester) diploma program.

The *Prerequisite* for the Diesel Mechanics Advanced Studies Program is graduation from the T-VI Diesel Mechanics diploma program, industrial, or equivalent training.

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 certificate 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, and must provide their own 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.

CERTIFICATE PROGRAM

<i>Trimester I</i>	<i>(Hours/Week)</i>
Diesel Electrical Systems Lab	15
Diesel Electrical Systems Theory	5
Industrial Electricity	5
Elective Course	5
<i>Trimester II</i>	<i>(Hours/Week)</i>
Diesel Transmissions, Final Drives, Clutches, Brakes and Hydraulics Lab	15
Diesel Transmissions, Final Drives, Clutches, Brakes and Hydraulic Theory	5
Business Relationships	5
Elective Course	5

COURSE DESCRIPTIONS

DIESEL ELECTRICAL SYSTEMS LAB/THEORY

(Prerequisite: Diesel Mechanics Diploma 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

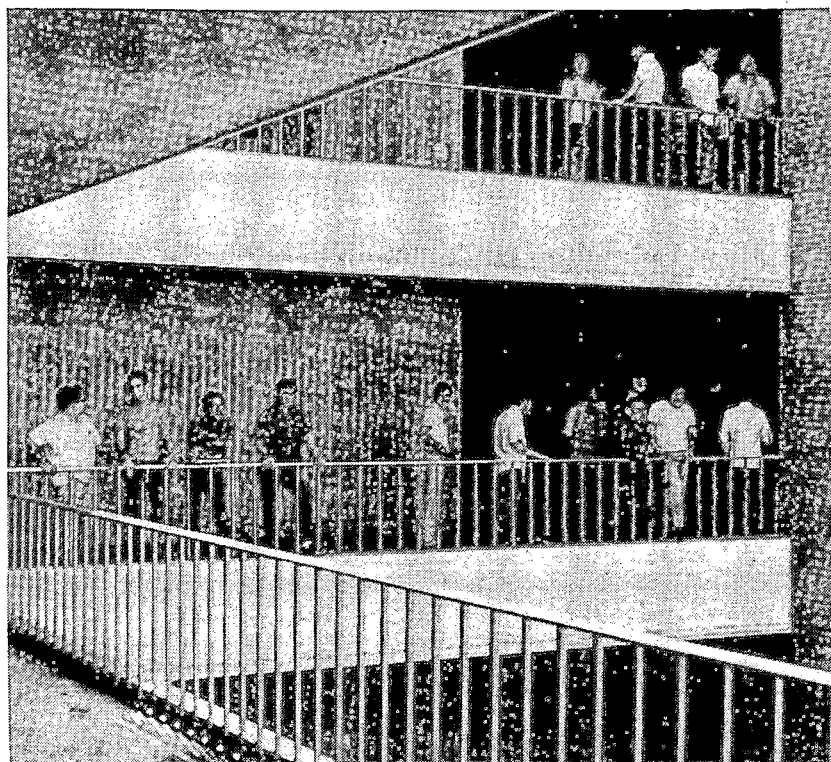
This course covers the basic principles of electricity, electronic components and symbols, schematic reading, transistor and automatic controls. The course includes laboratory experiments in practical applications of electricity and electronics in the Diesel Mechanics field of study.

DIESEL TRANSMISSIONS, FINAL DRIVES, CLUTCHES, BRAKES AND HYDRAULIC LAB/THEORY

(Prerequisite: Diesel Electrical Systems Lab/Theory and Industrial Electricity) A laboratory practice class designed to give instruction in service, repair and troubleshooting of transmissions, torque converters, 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 covers 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.



DISTRIBUTIVE EDUCATION (1 Trimester)

The Distributive Education (Cashier-Sales) Program is designed on a co-operative 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 (15 weeks) major, which leads to a certificate for successful completion, includes a minimum of 375 hours of instruction. All students receive 225 hours of classroom instruction, and at least 150 hours of instruction at the business training station.

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 non-distribution occupations.

The goal of the program is to offer instruction in distribution of goods and services as it relates to the present world of retailing. The objective is to prepare individuals for employment or for advancement in a distributive occupation.

Each day during the three-hour Lab segment, emphasis is placed on merchandising mathematics, store salesmanship, principles of retailing, and cash register operation. Some attention is also given to public speaking, personality development, and formulation of proper work attitudes.

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

CERTIFICATE PROGRAM

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

COURSE DESCRIPTIONS

CASHIER-SALES EDUCATION LAB

During the three-hour lab the instructor may or may not teach the same subject schedule each day so that the student may derive maximum benefit from the classroom activities. Since learning the techniques of operating the cash register is a skill subject this instruction and drill will take place every day. The other two hours 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. 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. However, there are times when it is impossible to place all students in work stations because of economic conditions.

DRAFTING TECHNOLOGY (ARCHITECTURAL) (4 Trimesters)

The Architectural Drafting Technology Program is designed to provide the student with a background necessary to translate architectural design and related systems into graphic and written form and to perform other architectural functions within the profession.

Upon graduation, the individual will find initial employment at various levels within the profession. His choice may be in a variety of fields of architectural, structural, mechanical or electrical engineering. It is anticipated that many students completing the diploma program will enter into continuing education programs while gaining architectural office experience, leading to opportunities at responsible levels within the architectural professional structure.

The four-trimester diploma program totals 1680 hours of instruction, including 750 hours of laboratory instruction and 930 hours of theory and supporting courses. The diploma program requires completion of all laboratory and related courses. The successful student in this program must be intelligent and motivated and possess a willingness to invest time, study and self-development. The program will be correlated with local architectural professional needs.

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

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

DIPLOMA PROGRAM

<i>Trimester I</i>	<i>(Hours/Week)</i>
Architectural Drafting I	10
Building Materials and Methods	5
Stresses and Strength of Materials	5
Technical Math I-II	10
<i>Trimester II</i>	
Architectural Drafting II	15
Technical Math III	5
Building Structural Systems	10
<i>Trimester III</i>	
Architectural Drafting III	15
Mechanical Equipment Theory	5
Physics	5
<i>Trimester IV</i>	
Architectural Drafting Lab IV	10
Materials Testing Lab/Theory	6
Beginning Plane Surveying	6
English	5

(CONTINUED NEXT PAGE)

Architectural Drafting (cont.)

COURSE DESCRIPTIONS

ARCHITECTURAL DRAFTING LAB I

This course introduces the beginning student to the basic skills and techniques used in drafting and begins developing these skills and techniques through the use of various drafting exercises simulating actual working problems in architectural drafting. The course also includes isometric drawing, shades and shadows, and mechanical construction of perspective drawings. An introduction to the preparation of residential house plans is also included.

BUILDING MATERIALS AND METHODS

This course covers the development, properties and composition of building materials. The course includes application of such materials and sources of technical data for use in materials and methods problem solving.

STRESSES AND STRENGTH OF MATERIALS

This course is designed to develop an understanding of the basic principles of statics, strength of materials and simple structures. The student begins to develop competence in elementary structural design of steel, wood and concrete.

TECHNICAL MATHEMATICS I-II

This course covers basic and advanced algebra concepts. The course includes the study of equations, quadratic and simultaneous equations, complex numbers, logarithms and roots of polynomials. Fundamental concepts of geometry are presented and applied to problems encountered in the field of drafting.

ARCHITECTURAL DRAFTING LAB/THEORY II

(Prerequisite: Architectural Drafting Lab I) This course emphasizes the design and drafting techniques used for both residential and non-residential 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 presentation drawing techniques using black and white media. Application consists of preparing sets of working drawings of residential and commercial buildings.

TECHNICAL MATHEMATICS III

(Prerequisite: Tech. Math I-II) This course is designed to cover the concepts of trigonometry and geometry from an applied approach.

BUILDING STRUCTURAL SYSTEMS

(Prerequisite: Stresses and Strength of Materials) This course deals with the determination of stresses induced by loads on structures of wood, steel, and reinforced concrete; selections of appropriate structural members and suitable connections; and loading and conditions causing compression, tension, shear and bending. The student learns design procedures relating to beams, columns, footings and other structural members. This course attempts to familiarize the student with the organization and structure of building codes and the standards and restrictions within which the construction industry operates. Upon completion of the course, the student must be able 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 be aware of the general operational practices of the architect's, engineer's or contractor's office.

ARCHITECTURAL DRAFTING LAB/THEORY III

(Prerequisite: Architectural Drafting Lab II) This course emphasizes construction drawings for commercial and industrial buildings. The student prepares framing plans for buildings using steel and reinforced concrete structural members and prepares presentation drawings in color media. The student also learns to coordinate his work with other members of a project team.

MECHANICAL EQUIPMENT THEORY

In this course 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.

PHYSICS

This course covers the basic principles of mechanics and heat with additional study directed to the principles of sound, light and electricity. Emphasis is placed on construction industry applications and should be closely coordinated with the mechanical equipment laboratory and theory. Upon completion of the course the student will be able to provide fundamental supporting data for the design and implementation of heating, ventilating, air conditioning, illumination and electrical systems.

ARCHITECTURAL DRAFTING LAB IV

This course combines those concepts previously presented with emphasis on larger and more complex structures. The course is to be supplemented with office practice procedures and familiarization with job contracts and estimating. Students also are exposed to shop drawings, how they are drawn and their application to a set of working drawings and building construction.

MATERIALS TESTING LAB/THEORY

(Prerequisite: Building Materials and Methods, and Physics) This course is designed to cover a variety of testing procedures common to the construction and road building industries. The instruction includes the testing and analyzing of aggregates, concrete, wood, steel, aluminum, glass, plastics, masonry and other construction materials.

BEGINNING PLANE SURVEYING

(Prerequisite: Technical Math III) This course introduces the basic techniques and materials used in surveying. Instruction involves not only applied experience in the field but supplemental work such as computations and plotting. Upon completion of this course the student must be able to: identify typical surveying equipment; complete assignments involving leveling, distance, angles, and bearings using transit-stadia techniques; interpret contour surveys, topographic maps and construction surveys; and calculate and record supporting data for all applications.

ENGLISH

This course is designed to expand the students' communicative skills. The student gains experience in verbal, written and listening skills while involved in simulated industrial situations. Upon completion of this course, the student will 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.

DRAFTING TECHNOLOGY

(Civil Technology)

(4 Trimesters)

The Civil Technology Program is designed to provide students with job entry skills which will qualify them for employment as construction draftsmen, survey aides, foreman trainees, estimators and materials testing lab technicians.

The four-trimester diploma program totals 1650 hours of instruction, including 825 hours of laboratory instruction and 825 hours of theory and supporting courses. A student can receive a *Certificate in Construction Drafting* after satisfactory completion of all courses offered in the first two trimesters. This certificate program is established for those students who terminate their training at the end of the second trimester or before the completion of the four-trimester diploma program.

Scheduled offerings will be based on employment opportunities and student interest.

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

DIPLOMA PROGRAM

<i>Trimester I</i>	<i>(Hours/Week)</i>
Architectural 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
Materials Testing Lab/Theory	6
Beginning Plane Surveying	6
<i>Trimester IV</i>	
Estimating and Scheduling	10
Intermediate Plane Surveying w/Cartography	6
English	5
Construction Analysis	5

COURSE DESCRIPTIONS

ARCHITECTURAL DRAFTING LAB/THEORY

This course introduces the general drafting theory and techniques needed to produce light residential and commercial structures. Upon completion, the student must be able 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

This course covers basic and advanced algebra concepts. 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

This course involves subject matter of two basic kinds. First, detailed study is given to 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: Architectural Drafting Lab/Theory) In the theory section of this course 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 must be able to 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) This course familiarizes the student with the organization and structure of building codes and the standards and restrictions within which the construction industry operates. Upon completion of the course, the student must be able 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 is directed to the concepts of trigonometry, a mathematical area relevant to the civil technician. An applied approach based on surveying and mechanical computational needs is encouraged.

PHYSICS

(Prerequisite: Technical Math I-II) This course covers the basic principles of mechanics, heat, light, sound and electricity. Emphasis is placed on construction industry applications. This course also includes some basic principles of statics and strength of materials.

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.

(CONTINUED NEXT PAGE)

Civil Technology (cont.)

MATERIALS TESTING LAB/THEORY

(Prerequisite: Building Materials and Methods, and Physics) This course is designed to cover a variety of testing procedures common to the construction and road building industries. The instruction includes the testing and analyzing of aggregates, concrete, wood, steel, aluminum, glass, plastics, masonry and other construction materials.

BEGINNING PLANE SURVEYING

(Prerequisite: Technical Math III) This course introduced the basic techniques and materials used in surveying. Instruction involves not only applied experience in the field but supplemental work such as computations and plotting. Upon completion of this course, the student must be able to: identify typical surveying equipment; complete assignments involving leveling, distance, angles and bearings using transitstadia techniques; interpret contour surveys, topographic maps and construction surveys; and calculate and record supporting data for all applications.

ESTIMATING AND SCHEDULING

(Prerequisite: Contracts, Codes and Specifications) This course involves a rather 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 the 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 and relate computer capabilities to needs of the architectural and construction industry.

INTERMEDIATE PLANE SURVEYING

(Prerequisite: Beginning Plane Surveying) This course is directed to advance applications of surveying relevant to the building field. Specific interest is placed in site and route surveys for commercial buildings. Upon completion of the course, the student must be able to: 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.

ENGLISH

This course is designed to expand the student's communicative skills. The student gains experience in verbal, written, and listening skills while involved in simulated industrial situations. Upon completion of this course, the student will 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 is designed to incorporate all previous learning experiences in the program into a discussion-oriented 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.

DRAFTING TECHNOLOGY (ELECTROMECHANICAL) (4 Trimesters)

The Electromechanical Drafting Technology Program is designed to produce graduates capable of performing drafting responsibilities, in accordance with typical industrial needs, at varied entry levels. Graduates have a background of conceptual and applied experiences that allow rapid growth and development.

The four-trimester program includes 750 hours of laboratory instruction and 930 hours of drafting theory and supporting courses.

It also provides bi-level employability. The first two trimesters emphasize the electronics drafting function with job opportunities available upon completion. The remainder of the program is directed toward the mechanical aspects to provide versatility and depth for employment in the electromechanical drafting field. A student can receive a *Certificate in Electronics Drafting* after satisfactory completion of all courses offered in the first two trimesters. This certificate program is established for those students who terminate their training at the end of the second trimester or before the end of the four trimester diploma program.

The program is unique as it not only presents drafting fundamentals in electronics applications but also many specialized mechanical drafting and design concepts. To graduate a person capable of applying all the concepts presented, the laboratory experiences closely simulate industrial practices.

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

A Fall Trimester beginning group is planned. Subsequent program offerings will be based on employment opportunities and student interest.

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

DIPLOMA PROGRAM

<i>Trimester I</i>	<i>(Hours/Week)</i>
Electronics Drafting Lab	10
Logic Circuit Design	5
Basic Electronics and Manufacturing Processes.....	5
Technical Math I-II.....	10
<i>Trimester II</i>	
Electromechanical Assemblies Lab.....	10
Electromechanical Assemblies Theory.....	5
Technical Math III with FORTRAN	10
English.....	5
<i>Trimester III</i>	
Mechanical Definition Lab	10
Mechanical Definition Theory	5
Manufacturing Processes and N/C Programming	5
Technical Math IV	5

(CONTINUED NEXT PAGE)

Electromechanical Drafting (cont.)

Trimester IV

Mechanical Processes Lab.....	10
Technical Illustration/Graphic Arts.....	10
Introduction to Mechanical Design.....	5

COURSE DESCRIPTIONS

ELECTRONICS DRAFTING LAB

This course is designed to enable the student to complete drafting applications incorporating the fundamental concepts of the electrical/electronics field. The student must be able to: (1) utilize correct symbology, designations and layout techniques in accordance with military and ASA standards to describe formal schematics, logic diagrams, wiring layouts, and cabling diagrams; (2) provide necessary supplementary information in an industrial format; (3) perform inking techniques on vellum and polyester film; (4) demonstrate freehand and mechanical aided lettering capabilities; and (5) display fundamental drafting capabilities in a quality conducive with industrial standards.

LOGIC CIRCUIT DESIGN

This course is designed to provide the theory for the logic circuit applications in experiences. The students must be able to: (1) apply basic principles of symbolic logic, design function; (2) identify and describe functional capabilities of computer hardware in graphic applications; and (3) design elementary logic circuitry, primarily of a switching function. This course requires close coordination in curriculum with the basic electronics course.

BASIC ELECTRONICS AND MANUFACTURING PROCESSES

This course supplements the electronics drafting lab by providing some basic concepts of electricity and electronics relevant to electromechanical drafting. Priority is centered around elements of circuitry characteristics and functions of components, typical circuitry applications, and the composition of discrete and integrated circuitry. Upon graduation the students should be able to identify: components and their symbols; the function of the components within a circuit as well as the circuit itself; characteristics of the components; and proper circuit layout and composition. This course also provides the student with a background in materials and processes involving producing and assembling discrete-component parts and integrated circuits. Cable and panel/chassis construction are also studied with an emphasis on numerical controlled tooling in the panel/chassis production.

TECHNICAL MATHEMATICS I-II

This course covers basic and advanced algebra concepts. The study of equations is expanded into quadratic and simultaneous equations. Complex numbers, logarithms and roots of polynomials are additional algebraic concepts discussed. Fundamental concepts of geometry are presented in the form of a descriptive approach to Euclidean geometry.

ELECTROMECHANICAL ASSEMBLIES LAB AND THEORY

(Prerequisites: Electronics Drafting Lab, Logic Circuit Design, Basic Electronics, Technical Math II and Electronics Manufacturing Processes) This course is designed to expand the students' experiences in electronic-oriented drafting. A person completing this course will be able to: (1) provide multiview and pictorial representation of components and mechanisms related to the electronics industry;

(2) produce manufacturing and layout panel and chassis drawings; (3) produce complete series of printed circuit drawings given a schematic diagram; (4) complete integrated circuit layouts given a logic diagram; and (5) describe cordwood modules, thin-film and hybrid circuits. Students must be ready to produce all applications in a quality acceptable to typical entry level industrial standards.

TECHNICAL MATHEMATICS III with FORTRAN

(Prerequisite: Technical Math II) This course is directed to the concepts of trigonometry, an area of mathematics extremely relevant to the draftsman. The course is presented in conjunction with FORTRAN IV programming which may be used by the students as a tool for solving problems requiring the solution of varied angles or trigonometric functions.

ENGLISH

This course enables the students to gain experiences in verbal and written communications which simulate actual industrial situations. Upon completion of the course the student will have experienced: various personal encounters requiring oral interaction such as job interview as well as oral to written interpretation; developing concise yet comprehensive sentences and paragraphs; researching and summarizing technical data; functional application of technical vocabulary including abbreviations; and completing resumes and applications.

MECHANICAL DEFINITION LAB/THEORY

(Prerequisites: Electromechanical Assemblies Theory and Lab, and Technical Math III with FORTRAN) This course presents the concepts and functional applications of definition techniques in accordance with mechanical drafting standards. The student must be able to prepare drawings requiring any standard system of views and dimensionally define them with respect to design and production capabilities. He or she must also be able to incorporate any technical data relative to manufacturing processes, materials, or hardware definition.

MANUFACTURING PROCESSES AND N/C PROGRAMMING

This course is designed to enable the students to relate varied production processes to characteristics of a given part. They must be able to identify the required processes and the corresponding equipment for the product based on material characteristics and machine capabilities. Emphasis is placed on providing compatibility between the design function and the production function in terms of required graphic data. Instruction in the areas of Numerical Control (N/C) programming and tape preparation are also included.

TECHNICAL MATHEMATICS IV

(Prerequisite: Technical Math III with FORTRAN) This course covers the concepts of analytic geometry. The circle, parabola, ellipse, hyperbola, conic sections, and equations are introduced. This course will also include Introduction into Basic Principles of Calculus and its application to the solution of mechanical design problems.

MECHANICAL PROCESSES LAB

(Prerequisites: Mechanical Definition Theory and Lab, Manufacturing Processes, and Introduction to Mechanical Design) This course is designed to produce versatility in the student. He learns to prepare varied types of drawings directly related to production processes such as casting, forging, welding, forming, and machining, using appropriate definition techniques. Considerations are also given to inspection requirements. The students are required to design various tooling components for assigned projects in addition to applying recommended mechanical design concepts to electromechanical problems.

(CONTINUED NEXT PAGE)

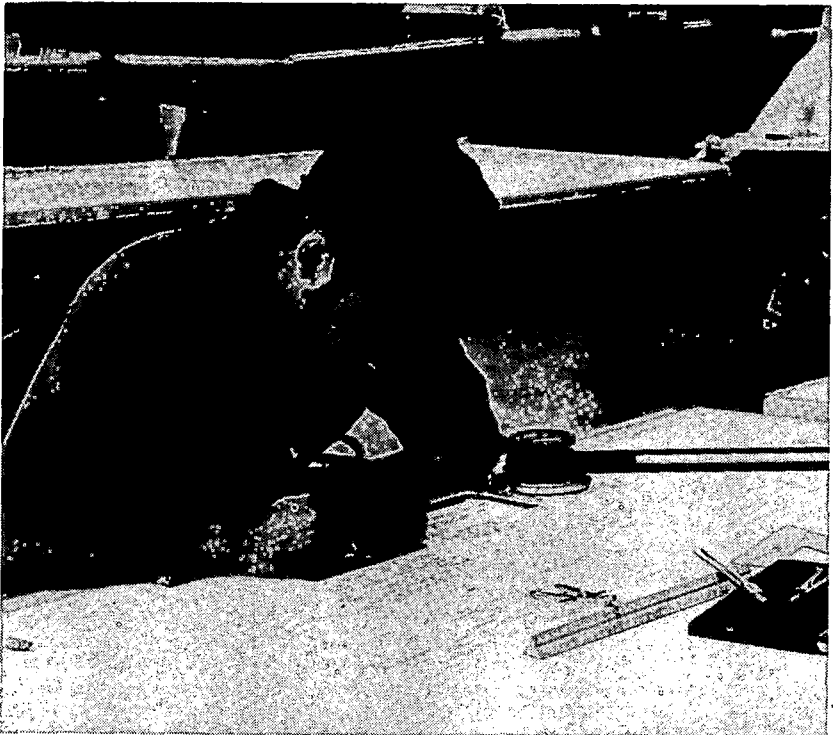
Electromechanical Drafting (cont.)

TECHNICAL ILLUSTRATION/GRAPHIC ARTS

(Prerequisite: Mechanical Definition Theory and Lab) This course is designed to enable students to incorporate modern graphic arts and illustration concepts in electromechanical definition. Application will be directed toward the preparation of multiple three-dimensional representations for use in assembly drawings, and data description. The students will also gain experience in the preparation of photodrawings, the use of commercially prepared patterns, and varied rendering and reproduction techniques.

INTRODUCTION TO MECHANICAL DESIGN

(Prerequisite: Technical Math III with FORTRAN) This course is intended to coordinate the basic elements of physics with mechanical design applications. The student must be able to identify design considerations of varied materials and mechanisms and provide fundamental data to support the graphic definition. The course relies on the concepts learned in the manufacturing processes course and the Mechanical Definition Laboratory.



ELECTRONICS TECHNOLOGY (4 Trimesters)

The Electronics Technology Program prepares students for employment in various areas of the electronics industry. Students who complete the diploma program are thoroughly trained in theory and maintenance of both industrial and consumer electronic equipment. To enter this program a student should have a good working knowledge of algebra.

The student may select one of two terminating points in the program. After three trimesters a student may elect to terminate and receive a certificate in Electronics Testing. After four trimesters, a student will receive 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 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 in math and other supporting areas. This is the level every student should strive to obtain because of the additional training in Advanced Electronic principles, applications and logic; or color television theory and repair. The completion of the diploma program will qualify the student as an electronics technician.

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.

This Electronics Technology Program will be offered evenings on a half-time basis (13 hours per week) whenever 25 or more applicants request the course. This half-time program is approved for V.A. support on a half-time basis.

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
Technical Math III with FORTRAN.....	10
Digital Circuit 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

(CONTINUED NEXT PAGE)

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 and semiconductors, 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

This course deals with the concepts of beginning and advanced algebra, including linear, quadratic and polynomial functions; and 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 circuit 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) This course is a study of single phase and polyphase alternating current applied to electronic circuits. Content includes sine wave fundamentals, reactance, impedance, lead and lag current, AC bridges, transformers, saturable core reactors, series and parallel LCR circuits, resonance, filters and elementary vacuum tube 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.

TECHNICAL MATH III WITH FORTRAN

(Prerequisite: Technical Math I-II) This course includes both analytic geometry and trigonometry, and beginning level instruction in FORTRAN (FORMula TRANslator). Instruction is provided in analytic geometry of the straight line, circular functions, solutions of trigonometric equations and

identities, solutions of oblique triangles, and exponential and logarithmic functions. FORTRAN content includes programs relevant to above mathematical concepts.

DIGITAL CIRCUIT THEORY

This course is designed as an introduction to logic. The topics covered will include binary arithmetic, logic circuits and introduction to Boolean Algebra. A lab of approximately twenty-five hours introducing logic gates will also be incorporated in the course.

ELECTRONICS THEORY III

(Prerequisites: Electronics Theory and Lab II) Instruction in this course covers fundamental vacuum tube and transistor operation and applications in electronic circuits, bias and coupling methods, distortion, oscillators, transmitters, modulators, antennas and receiver circuits. In addition, this course involves a comprehensive study of semiconductor theory, diodes, transistors, amplifiers, unijunction transistors, SCR, tunnel diodes, FET and integrated circuits, and their application to electronic circuitry. Laboratory classes are conducted as an integral part of the theory.

ELECTRONICS LAB III

(Prerequisite: Electronics Theory 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 and network analysis. FORTRAN may be used to solve problems where appropriate.

SEMICONDUCTOR PRINCIPLES AND APPLICATIONS

This course consists of an introduction to transistor theory application. The topics covered will include PN Junction, common emitter, common base and common collector amplifiers, and an introduction to linear amplifiers.

PRINCIPLES OF LOGIC CIRCUITS

(Prerequisite: Digital Circuit Theory) This course is a study of the analysis and design of linear and nonlinear wave shaping, switching and logical circuits, including Boolean Algebra, binary arithmetic, and their application in control and computing devices, including AND, OR, and NOR logic circuits.

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 FET's, SCR's and Tunnel diode. Also, an introduction to Pulse Code Modulation will be included and other industrial applications.

ELECTRONICS LAB IV

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

(CONTINUED NEXT PAGE)

Electronics (cont.)

ELECTRONIC INSTRUMENTS

(Prerequisite: Electronics Theory 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 I

This course includes the study of current industrial applications. The course will be adjusted each trimester to meet the needs of industry. Such topics as the study of instrumentation, computer technology or television theory and repair will be covered. Practical experience in these areas can be obtained in the Electronics Lab IV.

TECHNICAL MATH V

(Prerequisite: Technical Math IV) This course covers the basic concept of limits, derivatives of polynomials, products, quotient and the power rule, applications of derivatives to problems, 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.



INHALATION THERAPY TECHNICIAN (3 Trimesters)

The Inhalation 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 respiration. The program is one year in length and includes classroom instruction and specialized clinical training which is obtained in local hospitals.

Applicants must have either 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 inhalation 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.*

Inhalation Therapy Technician Program requires the \$5 per trimester registration fee and a once only payment of \$65 personal equipment fee. The personal equipment fee covers the cost of required uniforms, special personal inhalation therapy equipment, and an identification tag. It does not cover the school's graduation pin.

The Inhalation Therapy Technician Program has a total of 1350 hours of instruction with students attending classes usually six hours a day Monday through Friday throughout the year. Toward the end of the course, there may be experiences on different hospital shifts other than the day shift. The first trimester or 15-week block consists of pre-clinical training and basic inhalation therapy skills. The second and third 15 weeks are spent in classroom and hospital clinical experiences which progress from simple to complex situations.

DIPLOMA PROGRAM

<i>Trimester I</i>	<i>Total Hours</i>
Orientation to Inhalation Therapy	10
Professional Ethics	20
Fundamentals of Inhalation Therapy	75
Inhalation Therapy Lab I	150
Chemical Principles of Inhalation Therapy	45
Physical Principles of Inhalation Therapy	45
Anatomy and Physiology I	75
Clinical Observation	30
	Total 450
 <i>Trimester II</i>	
Anatomy and Physiology II	75
Microbiology	75
Microbiology Lab	20
Clinical Observation and Experience	160
Psychology of Patients	20
Inhalation Therapy Lab II	100
	TOTAL 450

(CONTINUED NEXT PAGE)

Inhalation Therapy (cont.)

Trimester III

Inhalation Therapy Lab III	75
Pathology and Pharmacology.....	75
Clinical Experience	285
Administrative Procedures.....	15
<hr/>	
Total	450

COURSE DESCRIPTIONS

ORIENTATION TO INHALATION THERAPY

This course surveys inhalation therapy as a paramedical profession; the personal qualifications, expectations and opportunities.

PROFESSIONAL ETHICS

This course considers the ethics that serve as guidelines for the inhalation therapy technician and student in the relationships that exist between him and the patient, and between him and his medical and paramedical associates.

FUNDAMENTALS OF INHALATION THERAPY

This course covers procedures pertinent to inhalation therapy; pulmonary function testing; elementary pharmacology; pathology; application of physics to respiratory functions and to inhalation therapy; and medical terminology.

INHALATION THERAPY LAB I

This laboratory stresses safe practices; regulators and gas supply systems, facial devices, incubators, croupettes, humidification devices, IPPB machines, gas analysis and preventive maintenance.

ANATOMY AND PHYSIOLOGY

This course in anatomy and physiology surveys elementary general anatomy and physiology including the cells, tissues, and systems.

PHYSICAL PRINCIPLES OF INHALATION THERAPY

A general survey of the physics that apply to inhalation therapy; states of matter; gas laws; mechanics; sound; heat; magnetism; electricity; kinetic energy; surface tension; density; pressure and flow.

CHEMICAL PRINCIPLES OF INHALATION THERAPY

Surveys elements, valence, reaction principles and equations, and solution chemistry.

CLINICAL OBSERVATION

Students are given their first observation experiences in hospitals and their first acquaintance with hospital departments of inhalation therapy.

INHALATION THERAPY LAB II

This laboratory stresses resuscitation techniques, resuscitators both mechanical and manual, ultrasonic therapy, patient contact and skills of patient care, isolation techniques, preventive maintenance.

MICROBIOLOGY

Instruction includes classification of phyla and specific information regarding microbes related to inhalation therapy patients and equipment.

MICROBIOLOGY LAB

Culturing of bacteria in the lab and observation of species of bacteria by use of microscopic equipment.

PSYCHOLOGY OF PATIENTS

This course includes psychosomatics of chronic pulmonary disease; stress; psychology of treatment: human relations and Spanish medical conversation.

ANATOMY AND PHYSIOLOGY II

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

CLINICAL OBSERVATION AND EXPERIENCE

This supervised clinical experience in the various hospitals is designed to provide competent and efficient administering of the various therapies prescribed by the physician's medical records.

ADMINISTRATIVE PROCEDURES

Principles and practices involved in the supervision and administration of an inhalation therapy department, supply and finance, are included in this course.

INHALATION THERAPY LAB III

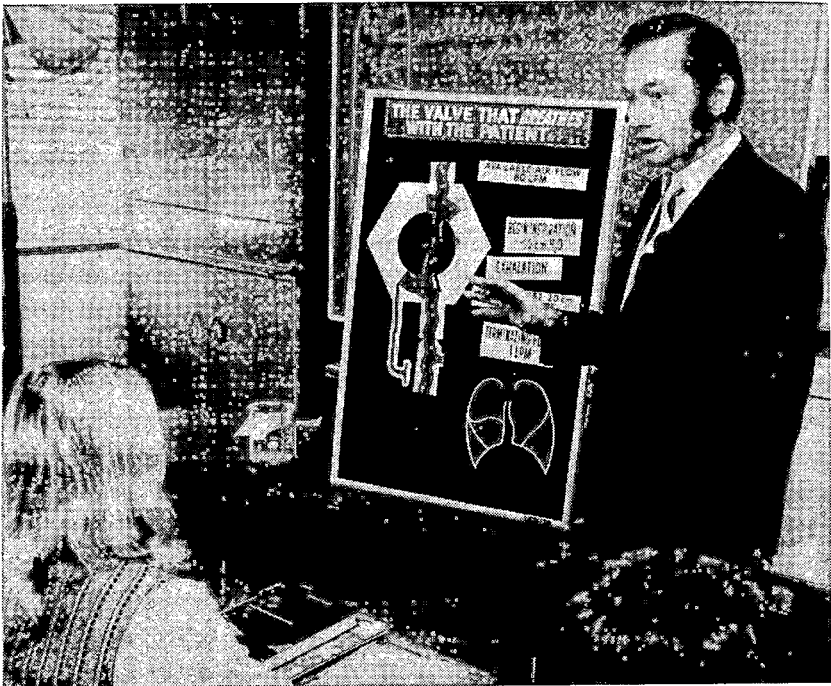
Application of techniques already covered to emergency situations such as respiratory and cardiac arrest; obstetrics and pediatrics; general thoracic and neurosurgery; and post-operative complications.

CLINICAL EXPERIENCE III

Students are given advance experience in hospitals with emphasis on patients in emergencies, pediatrics, post-surgical recovery, and intensive-care units.

PATHOLOGY AND PHARMACOLOGY

A survey of general principles of pharmacology with special emphasis on inhalation therapy pharmacology, and the treatment picture as it pertains to specific pathological conditions that concern the inhalation therapy technician.



MACHINE TRADES

(4 Trimesters)

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

In the first trimester, students are instructed in the fundamental operations of all machines. During the second, third and fourth 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 four-trimester diploma program totals 1800 hours of instruction, of which 900 hours are laboratory work and 900 hours are supporting courses.

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

DIPLOMA PROGRAM

<i>Trimester I</i>	<i>(Hours//Week)</i>
Machine Trades Lab I	15
Machine Trades Theory I	5
Trade Math I	5
Blueprint Reading I	5
<i>Trimester II</i>	
Machine Trades Lab II	15
Machine Trades Theory II	5
Trade Math II	5
Blueprint Reading II	5
<i>Trimester III</i>	
Machine Trades Lab III	15
Machine Trades Theory III	5
Trades Math III	5
Blueprint Reading III	5
<i>Trimester IV</i>	
Machine Trades Lab IV	15
Machine Trades Theory IV	5
Numerical Control Programming	5
Production Planning	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.

TRADE MATH I

This course 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

This course offers basic instruction in reading and interpreting shop drawing. 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 in this course are similar to those covered in Machine Trades Lab I except that students will be exposed to the 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 course involves discussions of problems generated in lab sessions to be reviewed daily. 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) This course provides instruction 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 the utilization of 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) This course involves discussion of problems generated in the Lab sessions to be reviewed daily. Instruction is given on the various measuring tools used in inspection, milling machine application with an introduction to the numerical controlled milling machine, lathe work, and an introduction to basic elements of heat treatment.

TRADE MATH III

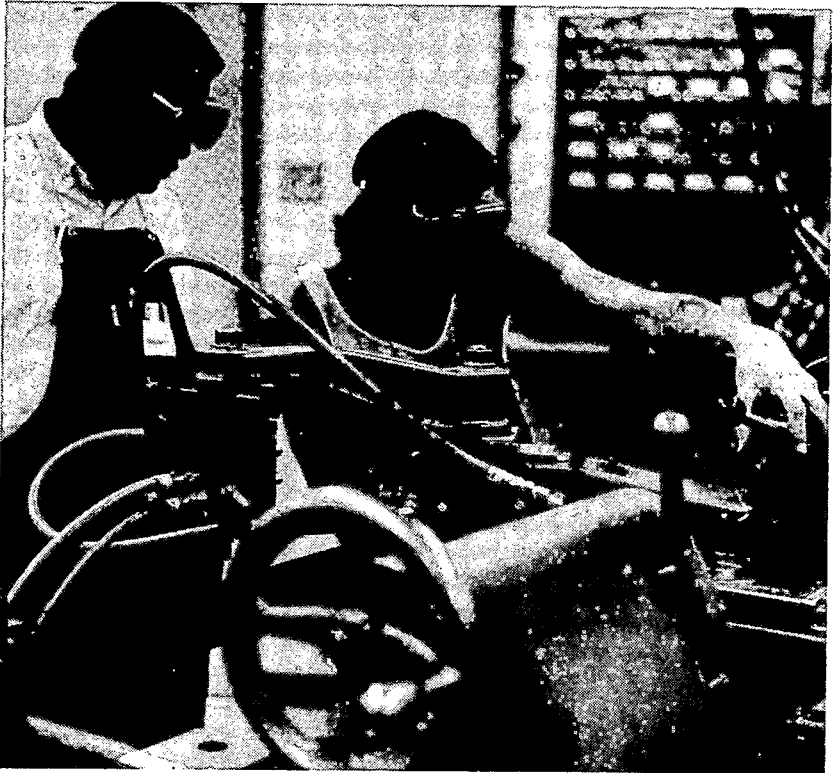
(Prerequisite: Trade Math II) This course provides instruction in the use of mathematical operations from the *Machinery's Hand Book*.

BLUEPRINT READING III

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

(CONTINUED NEXT PAGE)

Machine Trades (cont.)



MACHINE TRADES LAB IV

(Prerequisites: All Trimester III courses) This class deals with advanced lathe work, numerical controlled milling, and more difficult milling machine applications. Industrial processes will be stressed for each.

MACHINE TRADES THEORY IV

(Prerequisites: All Trimester III courses) This course involves discussions of problems generating from work done in the lab sessions to be reviewed daily. Instruction will be given on off-set 4-jaw chuck work, faceplate work, soft jaw work, and acme threads as applied to the lathe. Also milling applications with hole production, types of toolings and index work.

NUMERICAL CONTROL PROGRAMMING

This course offers instruction in the areas of N/C programming and tape preparation, and trouble shooting of existing equipment.

PRODUCTION PLANNING

(Prerequisites: All Trimester III courses) This course covers the study of material allocation, methods planning, job routing, time and cost estimating, and production planning terminology.

MID-MANAGEMENT MARKETING (3 Trimesters)

The Mid-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 450 hours of laboratory work.

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

DIPLOMA PROGRAM

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

COURSE DESCRIPTIONS

MERCHANDISING LAB

Merchandising math and cashiering are the foundation for this course. The ability to supervise and train employees for cashiering positions is an important aspect of management; therefore, the merchandising lab will be approached from a supervisory viewpoint.

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 SALESMANSHIP

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

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.

(CONTINUED NEXT PAGE)

Mid-Management (cont.)

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 mediums 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

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.

CONSUMER PROBLEMS

The general study of our economic system is pursued through problems encountered in the study of the Uniform Commercial Code.

PRINCIPLES OF MANAGEMENT

An introductory course which delves into the development of modern management: basic factors in organization and operation, division of responsibility, line of 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.



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 \$5 registration fee and a \$20 *personal equipment fee* which covers the cost of the required uniform and laboratory tests. A watch with a minute 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.

CERTIFICATE PROGRAM

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

COURSE DESCRIPTIONS

ENGLISH

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

MATHEMATICS

The 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.

OFFICE EDUCATION

(2 or 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.

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

The receptionist major, which has instruction totaling 750 hours during the two-trimester diploma program, places emphasis on typing, office machines, telephone etiquette and cashiering.

The clerical major, which provides instruction totaling 1125 hours during the three-trimester diploma program, leads to employment in such office positions as typist, clerk-typist and general office worker. Stress is placed on developing speed, accuracy and production rate in the typing skill.

The secretarial major, which has instruction totaling 1350 hours during the three-trimester diploma program, also places emphasis on the typing skill. In addition, the secretarial major adds the shorthand skill.

Entering students who already possess a strong background in math, English, office experience and typing instruction may waive the first trimester by examination. If they demonstrate that they already possess the skill levels of the Trimester I courses, they may enter the diploma program at Trimester II.

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.

DIPLOMA PROGRAM

<i>Trimester I</i>	<i>(Hours/Week)</i>
Typing Lab I	10
Business English.....	5
Business Methods	10
Shorthand I (secretarial).....	5
 <i>Trimester II</i>	
Typing Lab II.....	10
Office Machines	5
Secretarial Procedures.....	5
Business Letter Writing (clerical & secretarial)	5
Cashiering (receptionist)	5
Shorthand II or Shorthand I (secretarial).....	5
 <i>Trimester III</i>	
Typing Lab III	15
Fundamentals of Data Processing	5
Secretarial Accounting	5
Transcription or Shorthand II (secretarial).....	5

COURSE DESCRIPTIONS

TYPING LAB I (BEGINNING)

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

BUSINESS ENGLISH

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

BUSINESS METHODS

A background of business information with emphasis on the operations of businesses and the practical mathematical problems that result from these functions.

Topics covered include: banking, insurance, credit, securities, business organization, saving and investing, transportation and the role of our government in our economy.

SHORTHAND I

This course is for students who have not had any shorthand or do not have an adequate knowledge of shorthand principles. The course is designed to prepare students for Shorthand II in the Office Education curriculum.

TYPING LAB II (INTERMEDIATE)

(Prerequisite: Typing Lab I) This laboratory covers development of typing techniques, speed and accuracy. It includes preparation of business letters, manuscripts, business forms, statistical reports and other related data:

OFFICE MACHINES

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

SECRETARIAL PROCEDURES

This course provides an insight into the operational and managerial duties of the professional secretary. Training is provided in a wide range of office activities, including filing. Emphasis is placed on all phases of the secretary's personality, the ability to work with people, and the understanding of human relations in business. Major emphasis is also placed on proper telephone procedures and etiquette.

BUSINESS LETTER WRITING

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

CASHIERING

This course covers procedure for handling cash and studies the role of the cashier in meeting the public. Operation of a variety of cash registers is included. Theory of selling, sales approaches and effective listening are also covered.

SHORTHAND II

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

TYPING LAB III (ADVANCED)

(Prerequisite: Typing Lab II) This laboratory is an intensive preemployment review of the knowledge and advanced clerical skills necessary for positions in business, industry and government. Emphasis is also placed on transcribing into mailable copy from dictation equipment, and a basic skill in operating the Flexowriter.

(CONTINUED NEXT PAGE)

Office Education (cont.)

FUNDAMENTALS OF DATA PROCESSING

This course provides an introduction to processing business data by Data Processing machines and is offered to all potential workers in the business field. It removes some of the mystery surrounding automation, acquaints the student with the terminology used in this field, and provides some knowledge of preparation of input.

SECRETARIAL ACCOUNTING

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

TRANSCRIPTION

(Prerequisite: Shorthand II) Designed for the secretarial major, this course develops and increases the transcription speed at the typewriter, and increases dictation speed on new material.



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 New Mexico State Board of Nursing.

The school is housed in facilities at Presbyterian Hospital. Most of the classroom theory, supervised laboratories, and clinical experiences are obtained at Presbyterian Hospital Center.

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. *Applications for the September, 1973 class will not be accepted until after March 1, 1973.*

Practical Nursing requires the \$5 per trimester registration fee and a one-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 minute hand, uniform shoes, graduation uniform, the school's graduation pin or state board exam fees.

The Practical Nurse Program has a total of 1350 hours of instruction with students attending classes six hours a day Monday through Friday throughout the year. The first trimester or 15-week block consists of pre-clinical training in nursing skills with related theory courses. The second and third 15 weeks are spent in classroom and clinical experiences related to medical-surgical and maternal-child health nursing. Completion of the first trimester is a prerequisite for the second trimester.

DIPLOMA PROGRAM

<i>Study Units</i>	<i>Total Hours</i>
Nursing Principles and Skills	
Classroom Theory	52
Lab and Clinical Practice	122
Case Conferences	15
Body Structure and Function	45
Personal and Community Health	45
Personal and Vocational Relationships	35
Dosages and Solutions	30
Introduction to Medical-Surgical Nursing	18
First Aid	10
Nutrition	48
Medical-Surgical Nursing	
Classroom Theory	105
Lab and Clinical Practice	380
Case Conferences	15

(CONTINUED NEXT PAGE)

Practical Nursing (cont.)

Maternal-Child Health Nursing	
Classroom Theory	105
Lab and Clinical Practice	220
Case Conferences	15
Directed Studies	90

COURSE DESCRIPTIONS

NURSING PRINCIPLES AND SKILLS

This course introduces the student to the principles and skills involved in the care of the sick. It includes practice in the laboratory situation and gives the student a background for clinical experience. Fundamentals of medications and techniques for administering are included.

BODY STRUCTURE AND FUNCTION

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

PERSONAL AND COMMUNITY HEALTH

Personal Health is designed to help the student become aware of the health needs of an individual as a basis for understanding the health needs of the community. Community Health is geared toward health problems in the community and includes communicable disease, social diseases, and the problems of disease control and sanitation. Problems of the aged are also included. Mental health is emphasized in both portions of the course.

PERSONAL AND VOCATIONAL RELATIONSHIPS

The course is designed to help the student adjust to his or her chosen career. It includes study techniques; history and development of nursing and practical nursing; nursing organizations; relationships, both personal and vocational; and the ethical and legal responsibilities involved in practicing nursing. The last four lessons cover career opportunities and responsibilities.

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 of measure to another are also included. Safety in calculating and preparing dosages is stressed.

INTRODUCTION TO MEDICAL-SURGICAL NURSING

The course is designed to help the student understand that disease conditions are a deviation from normal body function, and the part that practical nurses play in aiding the physician in diagnosis and treatment. Terminology and common diagnostic tests are discussed, along with the responsibility of the nurse in preparing the patient for tests. Care of the aged and chronically ill is also included.

FIRST AID

This is the basic first aid course, and it is taught by a qualified person from the Red Cross. The student learns the principles of first aid and how to cope with various emergencies.

NUTRITION

This course includes 24 hours of basic nutrition, with emphasis on the importance of nutrients in the normal diet; and 24 hours of study in therapeutic diets and reasons for diet modifications in disease conditions.

MEDICAL-SURGICAL NURSING

This unit helps the student gain an understanding of the common diseases with which she will come in contact in giving nursing care. The symptoms, treatment, nursing care and drugs commonly used are discussed. Also covered is the important part the nurse plays in observing, reporting and recording. Total patient care, which includes the physical, mental, spiritual and emotional aspects, is stressed.

MATERNAL-CHILD HEALTH

Growth and development is integrated with the study of the sick child, and diseases common to the various age groups are studied. Emphasis is placed on the normal with deviations in the sick child. Obstetrics includes normal processes of the reproductive organs, prenatal and post-partum care, care during labor, and care of the newborn, including the more common anomalies seen in the newborn.

DIRECTED STUDIES

This time block is devoted to supervised study related directly to students' clinical experiences, and to personal and vocational counseling.



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 diploma program totals 1350 hours of instruction, of which 750 hours are laboratory and field work, and 600 hours are supporting courses.

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

Welding Trades students must pay a once-only \$40 personal equipment fee; and provide a construction workers' helmet upon entry into Welding Fabrication in Trimester III.

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.

DIPLOMA PROGRAM

<i>Trimester I</i>	<i>(Hours/Week)</i>
Welding Lab I.....	15
Welding Metallurgy I.....	5
Trade Math I.....	5
Elective Course.....	5
<i>Trimester II</i>	
Welding Lab II.....	15
Welding Metallurgy II.....	5
Trade Math II.....	5
Basic Blueprint Reading.....	5
<i>Trimester III</i>	
Welding Fabrication.....	20
Trade Math III with Advanced Blueprint Reading.....	10

COURSE DESCRIPTIONS

WELDING LAB I

A laboratory practice class designed to give 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, and shielded metal-arc welding procedures and processes.

WELDING METALLURGY I

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



TRADE MATH I

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

WELDING LAB II

(Prerequisites: Welding Lab I, Welding Metallurgy I, and Trade Math I) A laboratory practice course designed to provide instruction in inert gases, gas arc welding equipment, gas arc welding and power sources, gas tungsten arc torches, electrodes, wire feed systems and resistance welding.

WELDING METALLURGY II

(Prerequisites: Welding Lab I, Welding Metallurgy I, and Trade Math I) This course offers instruction in 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, conversion factors and metric reminders.

(CONTINUED NEXT PAGE)

Welding (cont.)

TRADE MATH II

(Prerequisite: Trade Math I) This course provides instruction in the use of rules and formulas, ratio and proportion and volume as applied to the welding area.

BASIC BLUEPRINT READING

(Prerequisite: Welding Lab I, Welding Metallurgy I, and Trade Math I) This course covers welding symbols, terminology, detailed fittings and angle layout as applied to the welding area.

WELDING FABRICATION

(Prerequisites: All Trimester II courses) This course offers instruction in pipe welding, layout and assembly of pipe, types of field work, production work, shop fabrication, metallurgy, shop management and materials processing.

TRADE MATH III WITH ADVANCED BLUEPRINT READING

(Prerequisites: Trade Math II and Basic Blueprint Reading) This course provides students with a working knowledge of mathematics and blueprint reading. Instruction includes specifications for various types of pipe and fabrication welding, transferring of measurements from working drawings and blueprints, design considerations, shearing stress, bending stresses in structural members, and descriptive geometry layout.

