1969

General College Catalog 1968-1969

Utah Technical College at Salt Lake

1968-69 GENERAL CATALOG

UTAH TECHNICAL COLLEGE
at salt lake

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AT SALT LAKE

GENERAL CATALOG

1968-1969

★

A state supported trade and technical college operated under the direction of the Utah State Board for Vocation Education.

★

MAIN CAMPUS: 4600 South Redwood Road (Phone 299-3411) 84107

DOWNTOWN CAMPUS: 431 South Sixth East (Phone 328-8521) 84102

Salt Lake City, Utah

COLLEGE CALENDAR
1968-69

	Summer Quarter
May 27 through 31	Registration, Day School
June 3	Instruction Begins *Late Fee in Effect*
July 4	Independence Day
July 24	Pioneer Day
August 16	Summer Quarter Ends *Summer Graduation*
	Fall Quarter
August 1 through Sept. 13	Registration *(Until 8:30 p.m. from August 26th)*
September 12	Practical Nursing Graduation, Class #37
September 16	Instruction Begins, Day/Evening School *Late Fee in Effect*
October 18 through 21	Harvest Holiday
November 28 and 29	Thanksgiving Holiday
December 16 through 20	Registration for Winter Quarter
December 19	Fall Quarter Ends, Day/Evening School
	Winter Quarter
January 2	Instruction Begins, Day School *Late Fee in Effect*
January 8	Instruction Begins, Evening School *Late Fee in Effect*
March 10 through 14	Registration for Spring Quarter, Day School
March 13	Winter Quarter Ends, Day School
April 10	Winter Quarter Ends, Evening School
	Spring Quarter
March 17	Instruction Begins, Day School *Late Fee in Effect*
March 20	Practical Nursing Graduation, Class #38
April 11	Registration, Evening School
April 14	Instruction Begins, Evening School *Late Fee in Effect*
May 22	Spring Quarter Ends, Evening School
May 26 through 29	Registration for Summer Quarter, Day School
May 28	Spring Quarter Ends, Day School *Graduation*
	Summer Quarter
June 2	Instruction Begins *Late Fee in Effect*
July 4	Independence Day
July 24	Pioneer Day
August 1—continuing	Registration for Fall Quarter
August 15	Summer Quarter Ends *Summer Graduation*

Except where otherwise indicated the term **Registration** implies both Day and Evening School Registration.

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JAY L. NELSON
President

STAFF

R. H. HANSEN
Vice-President

BURTON A. TALMAGE
Treasurer

LLOYD V. TILT
Dean of Students

PAUL R. GUNDERSEN
Supervisor

D. A. BLACKHAM
Supervisor

A. CLAIR THOMSON
Supervisor

JOSEPH S. JOHNSON
Supt. of Buildings and Grounds

BRYAN B. GARDNER
Librarian

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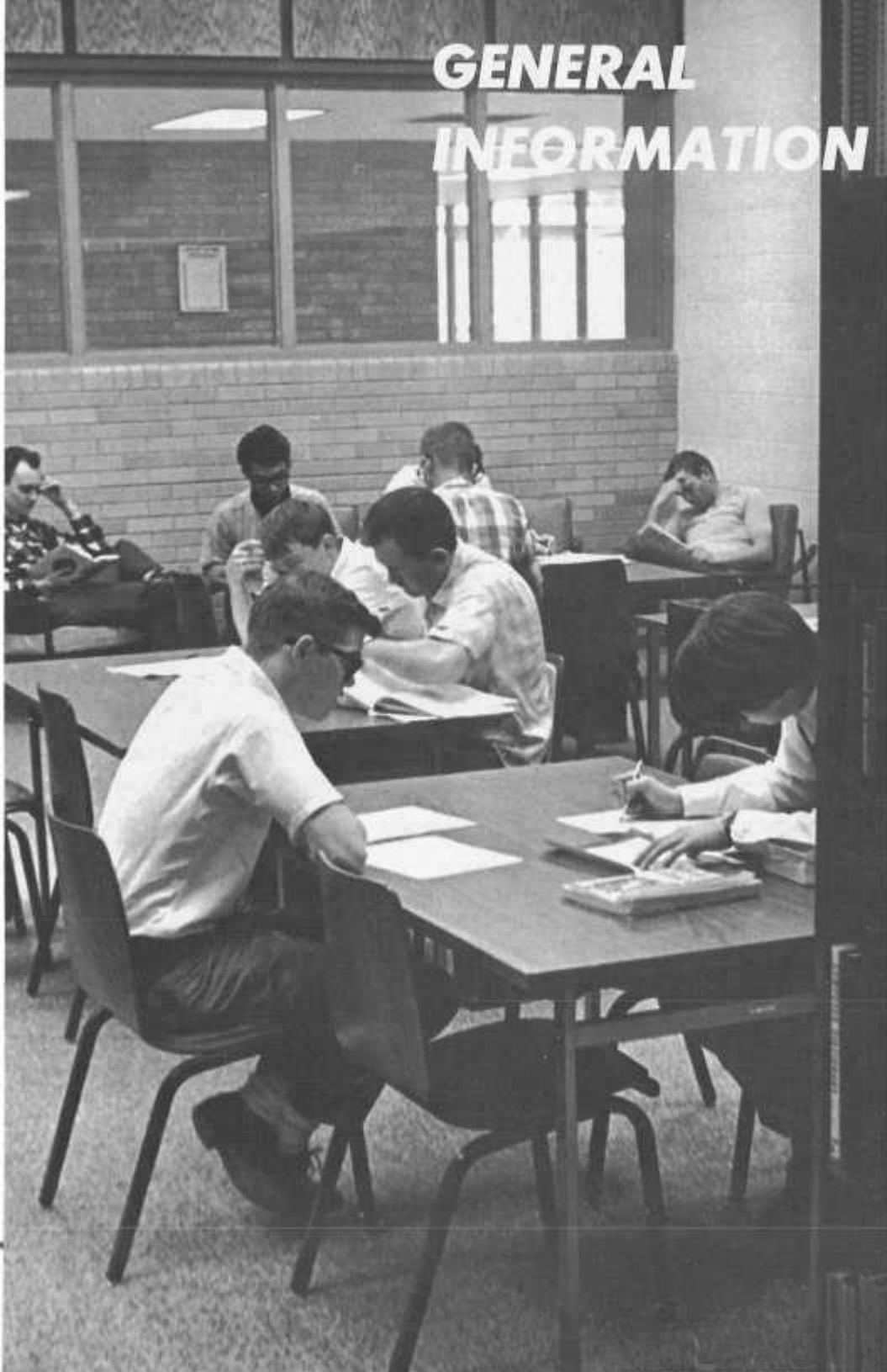
Frank V. Nelson
Mark Nichols
Fred L. Petersen
Lemonte Peterson
Von H. Robertson
Frank D. Sawyer
Hugh M. Thomson
Walter E. Ulrich, Jr.

GENERAL INFORMATION



AREAS OF INSTRUCTION

The objective of Utah Technical College is to train persons to qualify for new or advanced opportunities in industry. These major types of programs provide training designed to meet the needs of particular groups of individuals.

DAY SCHOOL OCCUPATIONAL PREPARATORY: Full-time programs designed to train students to enter an occupation are conducted at least 30 hours each week. The student is required to attend theory and related instruction classes for a portion of the day. The remainder of the school day is spent in the shop or laboratory in developing necessary skills.

PART-TIME DAY CLASSES: Designed for the student who is interested in receiving training in a single subject. For example, the typing program provides training in that subject alone.

EVENING OCCUPATIONAL PREPARATORY: Part-time training programs designed to teach the skills and technical knowledge needed to obtain employment in a skilled occupation or to teach new skills to those workers now employed, but who face loss of jobs in the future because of automation or technical progress. Classes are held Monday through Thursday evenings for an average of 16-20 hours weekly. Some classes also operate on Saturday.

APPRENTICE RELATED INSTRUCTION: A related training program for the worker who is learning his trade through apprenticeship or on-the-job training. The apprentice learns to master manual skills at his place of employment and gains technical information in the classroom. Occasionally, a related training course will include shop work. These courses are offered only in the Evening School.

OCCUPATIONAL EXTENSION: Programs designed to aid the fully-trained worker or journeyman to keep abreast of new developments in his trade and to help prepare him for job advancement. The programs include related technical information and shop practice. Occupational extension training is offered in the Evening School.

SUPERVISORY TRAINING: Special courses to assist foremen, supervisors and executives and those preparing for such positions to become familiar with new techniques, developments and improved methods in dealing with the complex problems of business and industrial supervision and management. These programs are offered only in the Evening School.

MANPOWER TRAINING PROGRAM: A federal program to provide qualified persons with new skills and job retraining. Workers who have lost their jobs because of automation, unemployed youths aged 16 to 22, farm workers with less than $1,200 annual family income, and some part-time workers who cannot obtain full-time jobs without retraining are

accepted in this program. These special training programs, authorized by the Clark-Holland Bill in Congress, provide free tuition, cash allowances for heads of families who have held jobs for at least three years and for youths 19 to 22, even without previous employment. Some persons may qualify for living and travel expenses. Applicants should contact their local State Employment Security office for information.

VOCATIONAL IMPROVEMENT PROGRAM: (VIP) A federal training project administered by the Community Action Program. The major objective of this program is teaching adult basic education in reading, writing, arithmetic and social development, and introduction to various vocational programs.

The Federal portion of the cost is paid through Title II of the Economic Opportunity Act of 1964. Only applicants residing in Salt Lake and Davis Counties may apply and contact should be made through their local State Employment Security Office.

PRE-TECHNICAL PROGRAMS: These courses in mathematics, physics and reading are designed to upgrade students desiring to enter technical programs who lack the necessary entry skills. Students must register for the classes, but the credit does not count toward graduation.

REMEDIAL PROGRAMS: These courses are designed for students who are enrolled in regular programs, but who are having difficulty in mathematical or reading skills. The classes are generally taught in the late afternoon or evening. Entry into these classes is based on the recommendation of the regular instructors or counselors. These are non-credit classes and no registration fees are charged.

Advisory Committees

ADVISORY COMMITTEES, composed of leaders in industry and business, regularly review each course. This insures that courses offer up-to-date technological information, and training that supplies all the needs and skills for the various trades and technical programs.

JOINT APPRENTICESHIP COMMITTEES, composed of representatives from both labor and management, meet regularly with college officials to evaluate and review training programs offered to trade apprentices, to keep them constantly abreast of modern developments and techniques.

Veterans

Utah Technical College at Salt Lake is approved by the Veterans Administration to train veterans.

Veterans or surviving children of veterans entitled to training benefits may contact the Veterans Administration Regional Office, 125 South State Street, Salt Lake City, for further information.

Referral Agencies

Students referred by the State Department of Vocational Rehabilitation, County Departments of Public Welfare or other agencies must present written authorization and a completed Agency Reference Form. Books, tools, equipment and training materials supplied by the College Store do not become the property of these students until training is satisfactorily completed. Students withdrawing before completion must return these items to the appropriate agency. Transfers in training programs must be approved by the student's agency counselor.

University of Utah

A cooperative program is being planned with the University of Utah in which students attending either of the schools may register in the other school for part of their training. Students may take part of their courses at the University, and part of their courses at the Technical College. Details on this program are available at the Dean of Students office at Utah Technical College and at the Division of Continuing Education at the University of Utah.

Admission Procedure

Enrollment in occupational preparatory classes is open to applicants 16 years of age or older, except for barbering students, who must be 17, and practical nursing students, who must be between the ages of 17 and 55.

All applicants for enrollment in these classes should:

1. Complete the Application for Admission form, which can be obtained at the school or mailed to the applicant on request. (See form at back of this catalog.)

2. (a) Provide the school with a transcript of high school and post-high school credits from the school previously attended;

or

(b) Take the series of aptitude tests. Tests are offered the first Tuesday of each month at 8 a.m. and the following Thursday at 5:45 p.m.

Applicants are notified of their acceptance by the school.

Persons of high school age must receive permission to attend Utah Technical College from their local district Board of Education office. High school counselors are provided information to answer inquiries about registration procedures.

Applicants are required to complete additional forms and pay the tuition and fees before they are admitted.

Referral agencies must submit written authorization covering tuition, fees and required books, tools and supplies before applicants planning to attend under agency sponsorship can be admitted. The school cannot hold a place in a class for such students until written authorization is received by the school.

Readmissions

Former students returning to the college after official withdrawal must clear with the registration office before reporting to class.

College Hours

DAY SCHOOL classes operate between 7 a.m. and 7 p.m., five days per week. Clock hours of instruction are shown on the course outlines.

EVENING OCCUPATIONAL PREPARATORY classes are held Monday through Thursday from 6 p.m. to 10 p.m. except for the barbering class, which is held from 4 p.m. to 10 p.m. Monday through Thursday, and Saturday from 8:30 a.m. to 5 p.m.

EVENING SCHOOL classes operate between 7 p.m. to 10 p.m. and Saturday from 8 a.m. to 4 p.m.

Scholarships

A liberal number of tuition scholarships are available to prospective students, and are provided by the following agencies:

STATE BOARD FOR VOCATIONAL EDUCATION — Several scholarships from this source are made available to high school graduates interested in any of the occupational preparatory classes. They cover tuition and registration fees for three quarters, and are awarded on the recommendations of the high school principal, counselor or teacher. Applicants must have had some training in industrial arts, home economics or business, capability to learn a skilled trade, a scholarship average of at least "C" and be residents of Utah.

KENNECOTT COPPER CORP. — Scholarships from this company are granted each year, with preference to students from the families of Kennecott employees.

HOSPITAL — Several local hospitals make scholarships available to Practical Nursing students who have the necessary qualifications.

ALPHA XI DELTA PHILANTHROPY — This group grants one or more partial scholarships each year.

ALPHA KAPPA DELTA — A partial scholarship is granted to a needy female student by this philanthropic organization.

AMERICAN WELDING SOCIETY — One scholarship is awarded each year to a student in the welding program.

MEMORIAL SCHOLARSHIP — One scholarship each year is granted from a memorial fund established by the school.

HAYES BROTHERS BUICK — Provides assistance to a worthy automotive student.

HOME BUILDERS OF GREATER SALT LAKE AUXILIARY — Provides a scholarship to a worthy second year student in the building trades or in a related field.

ALTRUSA INTERNATIONAL FOUNDATION INC. — Provides substantial funds for the aid of qualified and needy women students.

Tuition and Fees

DAY SCHOOL

$ 77.00 per quarter
244.00 per quarter non-resident
(Part time 1/6th the total tuition for each hour daily)

EVENING OCCUPATIONAL PREPARATORY

$ 45.00 per quarter
129.00 per quarter non-resident
(Barbering students—$77.00 per quarter resident and $244.00 per quarter non-resident)

EVENING SCHOOL

Apprentice Related Training	$ 23.00 per quarter
Occupational Extension	23.00 per quarter
Supervisory, Management & Technical Courses	15.00 per course
Welding 1 & 2*	30.50 per quarter
Plumbing 5*	30.50 per quarter
Inert Gas Arc Welding*	38.00 per quarter
Operating Room Technician*	28.00 per quarter
Color Camera*	33.00 per quarter
Men's Hair Styling*	33.00 per quarter
Business and irregular classes	
4 hours per week or less	17.00 per quarter
5 to 8 hours per week	23.00 per quarter
9 to 12 hours per week	30.00 per quarter
12 to 16 hours (evening occupational preparatory rates)	45.00 per quarter

*Special lab. fee included.

A non-refundable $5.00 fee is charged for testing and/or admission. However, this fee is applicable toward registration and will be deducted from total charges at the time of registration. It is necessary for students to present the $5.00 receipt at the time of taking the test or submitting the application of enrollment. In order to receive the reduction when registering, the receipt must be surrendered.

Special Fees and Exceptions

HIGH SCHOOL STUDENTS: Students whose tuition is paid by a sponsoring school district are required to pay $9 per quarter for student fees. These fees are not refundable.

NON-RESIDENT FEES: Residence in Utah merely for the purpose of attending Utah Technical College does not entitle the student to resident classification. Requirements for resident classification include resi-

dence within the State of Utah for at least one year immediately preceding registration with the intention to maintain permanent residence within the state.

SCHOLARSHIP FEES: Students attending on a tuition-paid scholarship are required to pay $9 per quarter for student fees. These fees are not refundable.

LATE REGISTRATION FEE: Students who do not make fee payments by the due dates will be charged a late registration fee of $3. Anyone whose check is dishonored by a bank will be charged the late fee plus $3 for handling.

Refunds

Tuition only is refunded on a pro-rated basis, and application for a refund must be made within 10 days after withdrawal. Students must relinquish receipts for fees paid before the refund can be processed. Students withdrawing during the first three weeks of a quarter may receive two-thirds of the tuition. Those withdrawing between the fourth and sixth weeks may receive one-third of the tuition. Full refund of tuition is made for quarters not yet started at the time of withdrawal. Fees are not refundable.

Books — Tools — Supplies

Cost of books, tools and supplies varies according to the class. Fluctuation in costs of these items may necessitate increases in price without notice. Students must acquire the books, tools and supplies that are required for the classes in which they are enrolled. The lists are available through the Dean of Students office.

Graduation

To be eligible for graduation from Utah Technical College, a student must qualify for one of the following certificates:

CERTIFICATE OF GRADUATION: This certificate is awarded after satisfactory completion of a minimum of 48 quarter credit hours in a prescribed course of study. The chosen course of study includes the required general education, theory and laboratory classes. Students transferring from other post high school institutions must have their credits evaluated during the first quarter of study at Utah Technical College. At least one half of the credits required for graduation must be taken in residence at Utah Technical College.

ASSOCIATE IN APPLIED SCIENCE DEGREE: This degree is awarded to those students who have satisfactorily completed a minimum

of 96 quarter credit hours in a prescribed course of study. This includes a minimum of 24 quarter credit hours in general education-type classes. These general education classes are designed to enhance the vocational and technical classes offered at the college and are not designed specifically for transfer to other institutions to be used toward a baccalaureate degree. Students transferring from other post high school institutions must have their credits evaluated during the first quarter of study at Utah Technical College. At least one half of the credits required for graduation must be taken in residence at Utah Technical College.

CERTIFICATE OF COMPLETION: This certificate is awarded to those students who satisfactorily complete requirements for programs of less than 48 quarter credit hours in length.

Attendance

Attendance regulations have been adopted to help students form good work habits and attitudes that will be beneficial in future employment. One day of absence will be charged for each three times a student is tardy. Four days' absence per quarter will result in termination, unless written justification for the absence is accepted by the administration.

Withdrawals

A referral form is initiated by the instructor and is transmitted to the office whenever a withdrawal occurs, except in the case of students who withdraw at the end of a quarter. The referral form must be appraised by the Counseling Department. Agencies which authorize students to attend will be notified of withdrawal action.

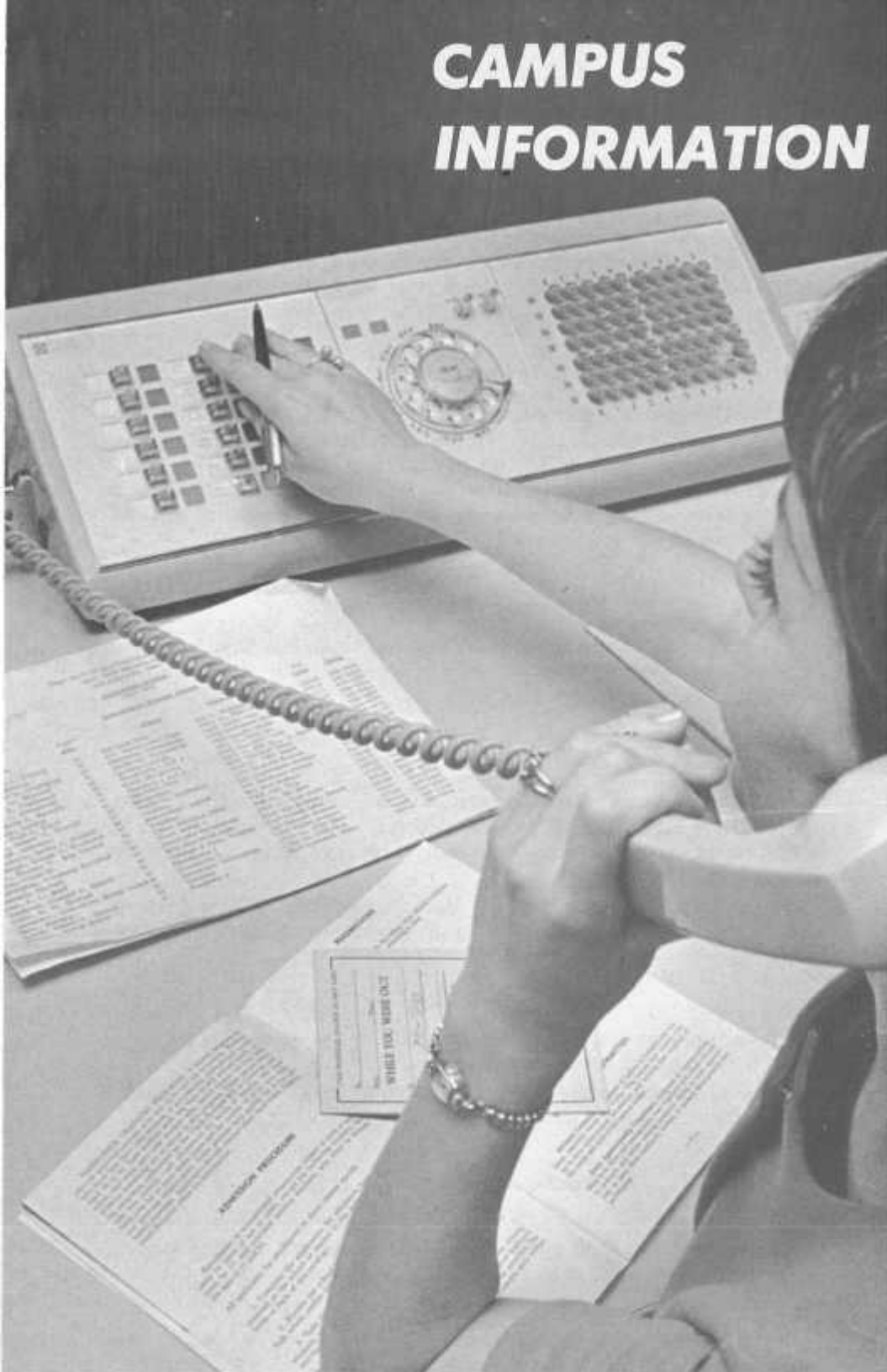
Grades and Reports

Report cards are distributed to occupational preparatory students at the end of each quarter. Evaluation of performance and performance characteristics are graded as follows:

Outstanding	A
Above Average	B
Average	C
Below Average	D
Not Satisfactory	F

A "not satisfactory" grade necessitates improvement during the next 12-week period. A second grade of "not satisfactory" will result in either termination, or, if recommended by the counseling service, a change in the occupational objective. Hours rated "not satisfactory" are not counted toward completion of the course.

CAMPUS INFORMATION



Counseling Service

The College can help students most when they are engaged in an occupational program that is in harmony with natural ability and which will offer favorable opportunities for success. Counseling service is provided to assist persons in selecting suitable occupational courses and in solving personal problems that may have a bearing on school work. The counseling service administers aptitude tests to prospective students, and also offers interest and personality testing to assist students. All students are invited to avail themselves of this service at any time throughout their training.

Placement

The Director of Placement assists students in locating part-time jobs while they are attending college. He also aids graduates who are seeking employment opportunities. The college maintains friendly and cooperative relations with labor, management and the employment offices in this area. In cooperation with these agencies, the school gives its graduates all possible assistance in securing jobs.

Part-time Employment

A cosmopolitan city the size of Salt Lake offers a large variety of part-time employment. However, employment must not interfere in any way with school hours and school work.

Student Projects

All work projects must be approved by the instructor before they are started. It is expected that projects undertaken by the student will be related to the course of instruction and practical from the standpoint of training needs.

Students are not permitted to remove completed projects from the school until all financial obligations to the school have been paid.

Housing

It is recommended that students moving to Salt Lake City to attend school make advance arrangements for housing.

The school will do all possible to assist in locating housing, but cannot assume responsibility for securing such facilities.

Instructional Media Center

The Instructional Media Center is open to students and faculty members from 7 a.m. to 8:30 p.m. during Fall, Winter and Spring Quarters. Books in the library are principally technical volumes related to the areas

of instruction offered. Trade manuals, periodicals and reference materials are available. Other library facilities are in the audio-visual aids section, which provides classes with film, film strips, recording devices and duplicating machines. A color film on the program and mission of the College, entitled "Future in Your Hands," is available on a loan basis to schools and groups interested in learning more about the school.

College Store

The College Store carries all required books, tools and supplies as well as other sundry items. School sweat shirts, jackets, rings and mugs are also provided for sale to the students and faculty.

Cafeterias

The school's cafeterias provide limited snack bar service from 7 a.m. to 9 p.m. Full cafeteria service is provided during the breakfast and lunch hours. Eating areas and facilities are provided for those who do not wish to purchase lunches in the cafeteria. Vending machines located throughout the campus dispense beverages, fresh fruits, pastries, candy and ice cream.

Student Government

A democratic school government operates under an established constitution and by-laws through elected officers and Student Council. Student activities include dances, assemblies, sports events, outings and safety programs throughout the year. Several student clubs are in operation on the campus.

Yearbook

A student editor is appointed to prepare a yearbook for and about the studentbody. Anyone interested in assisting with copy writing, photography and art work should contact the faculty advisor.

Student Newspaper

A newspaper is published periodically by the studentbody, and is printed by the school Printing class. The editorial staff is selected from the studentbody, and any interested person may apply for a post on the newspaper staff.

Awards

Students who have made significant contributions to activities and those who have distinguished themselves scholastically receive recognition for their achievements at an awards assembly.

Alumni Association

An active Alumni Association is organized for former students of Utah Technical College. Annual Alumni Day activities and a Fellowship Dinner are held on or near February 22.

A newsletter is sent to alumni shortly before the Fellowship Dinner.

Sports

The college fosters a variety of intramural sports including basketball, volleyball, badminton, horseshoes and ping pong. Several bowling teams are sponsored by the studentbody. An all-star basketball team represents the college in the Salt Lake Industrial League.

Parking

Parking space is provided for visitors and students. Students are requested to use the parking lots to avoid street congestion. Some parking zones are reserved for visitors. Parking violations will result in citations and fines. It is expected that speed limits will be observed as posted and that student, faculty and staff automobiles parked on the campus will display the school decal.

Smoking

For reasons of safety and to comply with state law, smoking is prohibited in shops and classrooms of the school. Smoking areas are designated and containers are provided to help keep the campus clean.

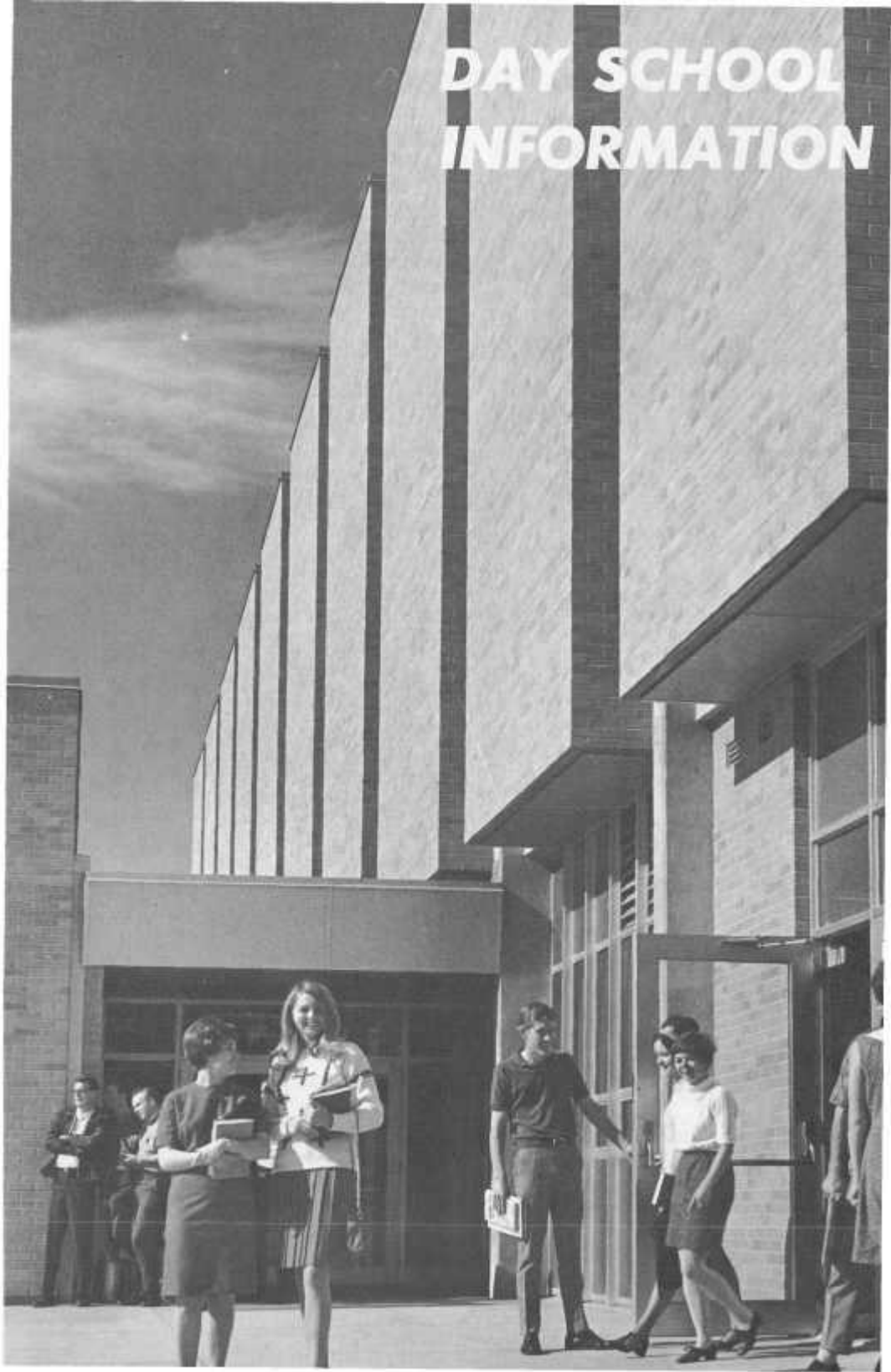
Visitors

The College is open to visitors who wish to see the trade and technical training that is offered. All visitors are requested to apply at the information desk in the main building for a pass and a guide before visiting departments.

Tours may be arranged for small groups by advance request to the Librarian. Evening tours may be conducted in special circumstances.

Records

Permanent records of students' attendance and achievement are maintained in the school office. Transcripts will be furnished on request with 24 hours notice. The first transcript is furnished free of charge, and others will be provided at a cost of $1 each.


DAY SCHOOL
INFORMATION

ARCHITECTURAL DRAFTING TECHNOLOGY

Students are instructed in the architectural drafting field with emphasis on practice in an atmosphere of a professional drafting room. Architectural projects are carried through from preliminary sketches to completed working drawings. Leads to Associate in Applied Science Degree.

FIRST YEAR

First Quarter	Hrs./wk. Lec.	Lab.	Cr.
ADT 110 (Basic Draft.)	....	15	5
ADT 111 (Mat. & Methods)	3	2	4
MTH 120 (Applied Math.)	5	....	5
COM 120 (Communications)	5	....	5
	13	17	19
Second Quarter			
ADT 120 (Arch. Graphics)	....	15	5
ADT 121 (Adv. Mat. & Meth.)	3	2	4
PHY 110 (App. Physics)	3	2	3
MTH 121 (Applied Math.)	5	....	5
	11	19	17
Third Quarter			
ADT 130 (Adv. Arch. Graphics)	....	15	5
ADT 131 (Str. of Mat.)	5	....	5
BUS 130 (Office Mach.)	....	5	2
PSY 120 (Ind. Psy.)	5	....	5
	10	20	17

SECOND YEAR

Fourth Quarter	Hrs./wk. Lec.	Lab.	Cr.
ADT 210 (Arch. Det.)	....	15	5
ADT 211 (Structures)	5	....	5
ADT 202 (Mech. Equip.)	2	3	3
ADT 203 (Codes & Spec.)	5	....	5
	12	18	18
Fifth Quarter			
ADT 220 (Arch. Wkg. Dr.)	....	15	5
ADT 221 (Prof. Pract.)	3	....	3
ADT 222 (Constr. Est.)	....	2	1
PS 110 (Pol. Science)	5	....	5
ADT (Elective)	3	2	4
	11	19	18
Sixth Quarter			
ADT 230 (Adv. Arch. Wkg. Dr.)	5	15	10
ADT 231 (Constr. Layout)	3	2	4
ADT (Elective)	3	2	4
	11	19	18

Students completing the first year only may be awarded a certificate of graduation in Architectural Drafting.

COURSE DESCRIPTIONS

(In general, courses must be taken in numbered sequence with lecture and related lab. classes being taken concurrently.)

ADT 110 — Basic Drafting
15 hrs./wk. 5 cr.

Basic drafting techniques including lettering, orthographic projection, isometrics, intersections and developments and basic working drawings.

ADT 111 — Materials and Methods
5 hrs./wk. 4 cr.

Introduction to wood, steel and concrete construction and their use in various structural systems.

ADT 120 — Architectural Graphics
15 hrs./wk. 5 cr.

Experience in working drawings on fireplaces, stairs, masonry and frame walls, cabinet details and perspective.

ADT 121 — Advanced Materials and Methods
5 hrs./wk. 5 cr.

Study of building products, roofing, siding, metals, hardware, and finish materials.

ADT 130 — Advanced Architectural Graphics
15 hrs./wk. 5 cr.
The study of site and room planning and the completion of a set of working drawings on a residence.

ADT 131 — Strength of Materials
5 hrs./wk. 5 cr.
Basic theory of forces, section modulus, shear, tension, compression, deflection, etc. in static structures.

ADT 202 — Mechanical Equipment
5 hrs./wk. 3 cr.
Design of electrical heating, air conditioning, acoustical, and plumbing requirements.

ADT 203 — Codes and Specifications
5 hrs./wk. 5 cr.
Uniform Building Code, city and county zoning ordinances, and specification writing.

ADT 210 — Architectural Detailing
15 hrs./wk. 5 cr.
Research in a unit of construction and a complete detail of that unit.

ADT 211 — Structures
5 hrs./wk. 5 cr.
Application of theories of mechanics and strength of materials in sizing structural members in wood, steel, and concrete.

ADT 220 — Architectural Working Drawing
15 hrs./wk. 5 cr.
Planning, calculating, researching and development of a small commercial structure and the preparation of preliminary working drawings.

ADT 221 — Professional Practice
3 hrs./wk. 3 cr.
Exploration of the legal implications of the architect or engineer and the relationship with other professionals, contractors, and owners.

ADT 222 — Construction Estimating
2 hrs./wk 1 cr.
Introduction to methods of quantity surveys.

ADT 230 — Advanced Architectural Working Drawings
20 hrs./wk. 10 cr.
Working drawings on a small commercial structure including specifications, structural calculations, code search, contract forms and all necessary data for the completion of architectural services.

ADT 231 — Construction Layout
5 hrs./wk. 4 cr.
Introduction to basic surveying techniques with special emphasis on construction layout and site work.

Electives

ADT 223 — Architectural Presentation
5 hrs./wk. 4 cr.
Introduction to basic rendering medias of pencil, colored pencil, chalk, watercolor and perspective.

ADT 224 — Structural Drafting
5 hrs./wk. 4 cr.
Introduction to structural detailing.

ADT 225 — Architectural Model Construction
5 hrs./wk. 4 cr.
Construction of an architectural model for client presentation as well as structural model construction.

AUTO BODY PAINTING

Auto Body Painting is designed to emphasize techniques and processes of automobile painting and refinishing. Includes preparation, application, and mixing and matching of colors. It is recommended that students return for a second year in Auto Body Repair.

First Quarter	Hrs./wk. Lec.	Lab.	Cr.
ABP 110 (Auto Paint. Lab.)	....	20	7
ABP 111 (Auto Painting)	5	....	5
MTH 110 (Gen. Tr. Math.)	5	....	5
	10	20	17

Second Quarter	Hrs./wk. Lec.	Lab.	Cr.
ABP 120 (Color Applic. Lab.)	....	20	7
ABP 121 (Color Application)	5	....	5
COM 110 (Communications)	3	....	3
CIV 115 (Voc. Civics)	2	....	2
	10	20	17

Third Quarter	Hrs./wk. Lec.	Lab.	Cr.
ABP 130 (Color Match. Lab.)	....	25	8
ABP 131 (Color Matching)	5	....	5
	5	25	13

COURSE DESCRIPTIONS

(In general, courses must be taken in numbered sequence with lecture and related lab. classes being taken concurrently.)

ABP 110 — Automotive Painting Lab
20 hrs./wk. 7 cr.

Procedures and practices in handling equipment, use of materials, and in basic surface preparation for painting.

ABP 111 — Automotive Painting
5 hrs./wk. 5 cr.

Use and maintenance of equipment. Painting materials and preparation of surfaces.

ABP 120 — Color Application Lab
20 hrs./wk. 7 cr

Application of principles covered in ABP 121. Preparation and painting of actual automobiles.

ABP 121 — Color Application
5 hrs./wk. 5 cr.

Techniques of color application and preparation of color paint.

ABP 130 — Color Matching Lab
25 hrs./wk. 8 cr.

Laboratory practice in mixing and matching colors by formula with a color mixing machine, and skill development in preparing surfaces and applying paint.

ABP 131 — Color Matching
5 hrs./wk. 5 cr.

Theory of mixing and matching colors by formula.

AUTO BODY REPAIR

Familiarization with problems encountered in analyzing and repairing collision damage on automobiles. Experience is gained by working on a variety of damaged cars, including complete reconstruction of total wrecks. It is recommended that students return for a second year in Auto Painting.

First Quarter	Hrs./wk. Lec.	Lab.	Cr.
AB 110 (Auto Body Rep.)	....	20	7
AB 111 (Metal & Proc.)	5	....	5
MTH 110 (Gen. Tr. Math.)	5	....	5
	10	20	17

Second Quarter	Hrs./wk. Lec.	Lab.	Cr.
AB 120 (Auto Body Recons.)	....	20	7
AB 121 (Stress Analysis)	5	....	5
COM 110 (Communications)	3	....	3
CIV 115 (Voc. Civics)	2	....	2
	10	20	17

Third Quarter	Hrs./wk. Lec.	Lab.	Cr.
AB 130 (Adv. Auto Body Recons.)	20		7
AB 131 (Estimating)	3	....	3
AB 135 (Alignment)	2	....	2
PHY 110 (Applied Physics)	2	3	4
	7	23	16

COURSE DESCRIPTIONS

(In general, courses must be taken in numbered sequence with lecture and related lab. classes being taken concurrently.)

AB 110 — Auto Body Welding and Repair
20 hrs./wk. 7 cr.

Comprehensive welding course covering welds used in rebuilding automobiles. Includes repair procedures.

AB 111 — Metallurgy and Processing
5 hrs./wk. 5 cr.

Composition and characteristics of ferrous and non-ferrous metals. Includes process and use in sheet metal design and welding.

AB 120 — Auto Body Reconstruction
20 hrs./wk. 7 cr.

Repair of auto body and frame damage, panel replacement, trim and hardware service, glass service, electrical service, dents and body mechanics.

AB 121 — Stress Analysis, Specifications and Repair Principles
5 hrs./wk. 5 cr.

Stress conditions, ductility and dimensional relations present within panels and sub-assemblies. Final construction of a new automobile. Accurate damage analysis and repair sequence planning, specifications, body measurements, and tolerances.

AB 130 — Advanced Auto Body Reconstruction
20 hrs./wk. 7 cr.

Continued laboratory practice on all types of auto body damage. Emphasis on timing repair projects to determine individual production potential. Completion of totally wrecked project car.

AB — 131 Estimating
3 hrs./wk. 3 cr.

Damage repair estimating using flat rate manuals and estimating forms. Includes estimating non-measurable damage.

AB 135 — Alignment
2 hrs./wk. 2 cr.

Suspension systems and steering geometry.

AUTO MECHANICS

Emphasis on basic principles of maintenance and repair of passenger cars and light trucks. Experience is gained by working on actual vehicle components. Opportunity for specialization is provided during last quarter. Leads to Associate in Applied Science Deegree.

FIRST YEAR

	Hrs./wk. Lec.	Lab.	Cr.
First Quarter			
AM 110 (Auto Chassis Repair)	....	20	7
AM 111 (Auto Chassis)	5	....	5
WLD 105 (Welding)	2	4	3
	7	24	15
Second Quarter			
AM 120 (Fuel & Elec. Sys. Ser.)	....	15	5
AM 121 (Fuel & Elec. System)	5	....	5
ELT 105 (Auto Electricity)	2	3	3
PSY 120 (Ind. Psy.)	5	....	5
	12	18	18
Third Quarter			
AM 130 (Auto Eng. Lab.)	....	15	5
AM 131 (Auto Engines)	10	....	10
MTH 110 (Gen. Tr. Math.)	5	....	5
	15	15	20

SECOND YEAR

	Hrs./wk. Lec.	Lab.	Cr.
Fourth Quarter			
AM 210 (Elec. Comp. Lab.)	....	20	7
AM 211 (Electrical Comp.)	5	....	5
PHY 110 (App. Physics)	3	2	4
	8	22	16
Fifth Quarter			
AM 220 (Drive Mech. Lab.)	....	20	7
AM 221 (Drive Mech.)	5	....	5
COM 120 (Communications)	5	....	5
	10	20	17
Sixth Quarter			
AM 230 (Diag. & Applic. Lab.)	....	20	7
AM 231 (Diag. & Applic.)	5	....	5
PSY 120 (Ind. Psy.)	5	....	5
	10	20	17

COURSE DESCRIPTIONS

(In general, courses must be taken in numbered sequence with lecture and related lab. classes being taken concurrently.)

AM 110 — Automotive Chassis Repair
20 hrs./wk. 7 cr.

Service procedures and shop practices in repair and maintenance of automotive chassis components.

AM 111 — Automotive Chassis
5 hrs./wk. 5 cr.

Theory and function of components of the automotive chassis. Covers nomenclature, brakes, steering correction and suspension systems.

AM 120 — Fuel and Basic Electrical Systems Service
15 hrs./wk. 5 cr.

Service and repair of fuel systems and components. Service of basic electrical system and components.

AM 121 — Fuel and Basic Electrical Systems
5 hrs./wk. 5 cr.

Theory of fuel system servicing and introduction to fundamentals of automotive electrical system.

AM 130 — Automotive Engine Lab
15 hrs./wk. 5 cr.

Skill development in use of tools, safety practices, diagnosis, measuring, servicing, repairing and testing of automotive engines.

AM 131 — Automotive Engines
10 hrs./wk. 10 cr.

Theory of operation, parts nomenclature, production processes and major overhaul procedures of the automotive engine.

AM 210 — Electrical Components Lab
20 hrs./wk. 7 cr.

Service and repair of electrical systems, air conditioning and heating systems and major tuneup.

AM 211 — Electrical Components
5 hrs./wk. 5 cr.

Advance techniques of servicing automotive electrical system. Sophisticated test equipment, automotive air conditioning, heating system and major tuneup are covered.

AM — 220 — Driving Mechanisms Lab.
20 hrs./wk. 7 cr.

Service and repair of automotive drive mechanisms, automatic transmissions, standard transmissions, overdrives, drive lines, differentials and rear axles.

AM 221 — Drive Mechanisms
5 hrs./wk. 5 cr.

Theory and operation of drive mechanisms. Includes automatic transmissions, standard transmissions, overdrives, drive shafts, differentials and rear axles.

AM 230 — Diagnosis and Application Lab.
20 hrs./wk. 7 cr.

Diagnosis and repair of the automobile, including all types of service procedures. Use of sophisticated testing equipment is stressed.

AM 231 — Diagnosis and Application
5 hrs./wk. 5 cr.

Application of preceding classes with emphasis on theory of diagnosis techniques, including the chassis dynomometer.

BARBERING

Students are instructed in the Barbering field with emphasis on a work-like atmosphere in the schools' modern 12-chair Barber Shop. The course prepares the student to take the State Licensing Examination which requires 1250 hours of instruction.

First Quarter	Hrs./wk. Lec.	Lab.	Cr.
BR 110 (Barbering Lab.)	....	35	12
BR 111 (Barbering Theory)	5	....	5
	5	35	17

Second Quarter	Hrs./wk. Lec.	Lab.	Cr.
BR 120 (Barbering Lab.)	....	35	12
BR 121 (Barbering Theory)	5	....	5
	5	35	17

Third Quarter	Hrs./wk. Lec.	Lab.	Cr.
BR 130 (Barbering Lab.)	....	35	12
BR 131 (Barbering Theory)	5	....	5
	5	35	17

COURSE DESCRIPTIONS

(In general, courses must be taken in numbered sequence with lecture and related lab. classes being taken concurrently.)

BR 110, 120, 130 — Barbering Lab
35 hrs./wk. 12 cr.

The barbering lab. is organized similar to a regular shop where the student will work after graduation. Skills are developed through instruction and practice in the laboratory on haircuts, shaving, shampooing, massaging and tonics. The student will become thoroughly familiar with the barbering tools and their use in today's modern barber industry.

BR 111 — Barbering Theory
5 hrs./wk. 5 cr.

Instruction in barber history, tools, and accessories, shaving, haircutting, shampooing, hair tonics and massaging.

BR 121 — Barbering Theory
5 hrs./wk. 5 cr.

Instruction in hygiene, bacteriology, sterilization and sanitation, anatomy and physiology, digestion, circulation and skeletal systems.

BR 131 — Barbering Theory
5 hrs./wk. 5 cr.

Instruction in muscular systems, nervous systems, skin, face and scalp blood supply, electricity, chemistry and pharmacology and skin and scalp ailments.

BUILDING CONSTRUCTION

This course in Building Construction provides the student with a knowledge of building structures, materials, systems and procedures related to the field. Emphasis is placed on practical construction projects. Completion of the course provides the student with many and varied employment opportunities. Leads to Associate in Applied Science Degree.

FIRST YEAR

First Quarter	Hrs./wk. Lec.	Lab.	Cr.
BC 110 (Cabinet Constr.)	....	20	7
BC 111 (Tools of Constr.)	5	....	5
MTH 110 (Gen. Tr. Math.)	5	....	5
	10	20	17

Second Quarter			
BC 120 (Mat. of Constr.)	....	20	7
BC 121 (Mat. of Constr.)	5	....	5
MTH 111 (Gen. Tr. Math.)	5	....	5
	10	20	17

Third Quarter			
BC 130 (Constr. Layout)	....	15	5
BC 131 (Constr. Layout)	5	....	5
COM 120 (Communications)	5	....	5
BPA 103 (Blueprint Reading)	2	3	3
	12	18	18

Hrs./wk.

SECOND YEAR

Fourth Quarter	Lec.	Lab.	Cr.
BC 210 (House Constr.)	....	15	5
BC 211 (House Constr.)	5	....	5
WLD 105 (Welding)	2	4	3
PS 110 (Pol. Science)	5	....	5
	12	19	18

Fifth Quarter

BC 220 (App. Int. Trim)	....	15	5
BC 221 (Interior Trim)	5	....	5
BPR 104 (Blueprint Reading)	2	3	3
PSY 120 (Ind. Psy.)	5	....	5
	12	18	18

Sixth Quarter

BC 230 (App. Bldg. Tech.)	....	20	7
BC 231 (Tech. Bldg. Constr.)	5	....	5
PHY 110 (Physics)	5	....	5
	10	20	17

COURSE DESCRIPTIONS

(In general, courses must be taken in numbered sequence with lecture and related lab. classes being taken concurrently.)

BC 110 — Cabinet Construction
20 hrs./wk. 7 cr.

Practical experience is provided in design, layout and actual construction of cabinets. General safety practices in cabinet construction are stressed.

BC 111 — Tools of Construction
5 hrs./wk. 5 cr.

Care and use of hand and power tools in Building Construction. Safety principles relating to the safe use of tools will be stressed.

BC 120 — Materials of Construction
20 hrs./wk. 7 cr.

Practical application of materials covered in BC 121, where actual construction of forms, framing, etc. is accomplished.

BC 121 — Materials of Construction
5 hrs./wk. 5 cr.

Characteristics of natural and manufactured materials of construction and their processing, procurement and use. Includes information related to concrete work, and many other aspects and materials of the building industry.

BC 130 — Construction Layout
15 hrs./wk. 5 cr.

Actual experience utilizing the construction layout principles as taught in BC 131.

BC 131 — Construction Layout
5 hrs./wk. 5 cr.

Basic principles and methods of planning, laying out and erecting structural wood members in all aspects of the building industry.

BC 210 — House Construction
15 hrs./wk. 5 cr.

Advanced application of techniques involving instrument layout, rough framing, roof framing, siding and shingling provided by the construction of a full size home.

BC 211 — House Construction
5 hrs./wk. 5 cr.

Theory involved with location layout, rough framing, roof framing, siding application, shingling, and the use of the steel square.

BC 220 — Application of Interior Trim
15 hrs./wk. 5 cr.

Practical experience in application of interior trim. Supplies the student with the trade knowledge necessary to perform the operations skillfully.

BC 221 — Interior Trim
5 hrs./wk. 5 cr.

Study of varied materials available for application. Includes windows, doors, hardware, wall coverings, floor coverings and processes used in both commercial and home construction.

BC 230 — Applications of Building Technology
20 hrs./wk. 7 cr.

A practical study of combined stresses, reinforced beams, columns, fatigue and analysis of strength and rigidity of structural members in resisting applied forces. Several field trips are included in this course.

BC 231 — Technology of Building Construction
5 hrs./wk. 5 cr.

Technological aspects of the building construction industry.

BUSINESS PRACTICE

GENERAL OFFICE CLERK AND CLERK TYPIST PROGRAM

Students are thoroughly instructed in the use of the typewriter and other office machines; and receive training in business communications, business mathematics, and other related subjects. After completion students will have clerical ability which will enable them to secure employment in business or industry.

First Quarter	Hrs./wk. Lec.	Lab.	Cr.
BUS 115 (Typewriting I)	....	12	4
COM 134 (Bus. English)	5	....	5
BUS 131 (Office Mach. I)	....	5	2
BUS 135 (Cler. Rec. Keeping)	5	....	5
BUS 120 (Sec. Training)	3	....	1
	13	17	17

Second Quarter	Hrs./wk. Lec.	Lab.	Cr.
BUS 116 (Typewriting II)	....	15	5
MTH 125 (Bus. Math.)	5	....	5
BUS 132 (Office Mach. II)	....	5	2
BUS 141 (Word Studies)	5	....	5
	10	20	17

Third Quarter	Hrs./wk. Lec.	Lab.	Cr.
BUS 117 (Typewriting III)	....	15	5
BUS 143 (Data Processing)	5	....	5
BUS 155 (Filing)	2	3	3
BUS 151 (Business Law)	3	....	3
BUS 152 (Personality Dev.)	2	....	2
	12	18	18

ACCOUNTING

This course is designed to train students to use objective measuring methods in the financial dealings of business. Includes instruction in use, analysis, interpretation, and projection of accounting data. Accountants must develop practical methods of measuring and reporting changes accurately with acceptable terminology and procedures.

First Quarter	Hrs./wk. Lec.	Lab.	Cr.
BUS 160 (Accounting)	5	5	7
BUS 131 (Office Machines)	....	5	2
MTH 125 (Bus. Math.)	5	....	5
BUS 101 (Typewriting)	....	10	3
	10	20	17

Second Quarter	Hrs./wk. Lec.	Lab.	Cr.
BUS 161 (Accounting)	5	5	7
BUS 132 (Office Machines)	....	5	2
MTH 126 (Bus. Math.)	3	....	3
BUS 102 (Typewriting)	....	10	3
BUS 152 (Personality)	2	....	2
	10	20	17

Third Quarter	Hrs./wk. Lec.	Lab.	Cr.
BUS 162 (Accounting)	5	5	7
BUS 118 (Typewriting)	....	5	2
COM 134 (Bus. English)	5	....	5
BUS 133 (Data Processing)	3	....	3
BUS 150 (Filing)	2	....	2
	15	10	19

EXECUTIVE SECRETARY PROGRAM

A course designed to prepare executive secretaries for positions in the higher echelons in business, industry, and the professions. Admission is selective and requires completion of the Business Practice course or its equivalent. Emphasis is placed on human relations and personality development, administrative ability, and superior skills and knowledge. Leads to Associate in Applied Science Degree.

Fourth Quarter	Hrs./wk. Lec.	Lab.	Cr.
BUS 201 (Advanced Type)	....	5	2
BUS 245 (Dictation)	3	2	3
BUS 246 (Transcription)	....	5	2
BUS 220 (Sec. Procedures)	3	2	3
PS 110 (Pol. Science)	5	....	5
COM 135 (Bus. Rpt. Writing)	3	....	3
	14	14	18

Fifth Quarter	Hrs./wk. Lec.	Lab.	Cr.
BUS 202 (Exec. Typing)	....	2	1
BUS 255 (Exec. Dictation)	3	2	3
BUS 256 (Transcription)	....	3	1
PSY 120 (Ind. Psychology)	5	....	5
BUS 221 (Sec. Procedures)	5	10	8
Selected From:			
Medical			
Legal			
Government			
Science-Engineering			
	13	17	18

Sixth Quarter	Hrs./wk. Lec.	Lab.	Cr.
BUS 203 (Exec. Typing)	....	2	1
BUS 265 (Exec. Dictation)	3	2	3
BUS 266 (Transcription)	....	3	1
COM 140 (Effective Reading)	....	2	1
BUS 235 (Data Processing)	3	....	3
BUS 230 (Exec. Acct. Prac.)	....	2	1
BUS 222 (Sec. Procedures)	5	10	8
Selected From:			
Medical			
Legal			
Government			
Science-Engineering			
	11	21	18

STENO I PROGRAM

Students are instructed in Gregg Diamond Jubilee Shorthand, the use of the typewriter, office machines, communications, business math, and other related subjects. At the completion of the course, the student should have the necessary skills to secure satisfactory employment as a secretary in business or industry.

First Quarter	Hrs./wk. Lec.	Lab.	Cr.
BUS 101 (Typewriting I)	....	10	3
BUS 105 (Shorthand I)	3	2	3
BUS 120 (Sec. Trng.)	3	....	1
BUS 130 (Record Keeping)	2	....	2
BUS 131 (Office Machines)	....	5	2
COM 134 (Bus. English)	5	....	5
	13	17	16

Second Quarter	Hrs./wk. Lec.	Lab.	Cr.
BUS 102 (Typewriting II)	....	10	3
BUS 106 (Shorthand)	3	2	3
BUS 107 (Transcription)	....	5	2
MTH 125 (Bus. Math.)	5	....	5
BUS 141 (Word Studies)	5	....	5
	13	17	18

Third Quarter	Hrs./wk. Lec.	Lab.	Cr.
BUS 103 (Typewriting III)	....	10	3
BUS 108 (Shorthand)	3	2	3
BUS 109 (Transcription)	....	5	2
BUS 155 (Filing)	2	3	3
BUS 151 (Business Law)	3	....	3
BUS 152 (Personality)	2	....	2
	10	20	16

STENO II PROGRAM

The Steno II program prepares the student to go directly into employment. It is directed toward the student who has previously had at least one year of shorthand and typing, or who has taken or used shorthand and now wishes to develop speed and accuracy. Shortcuts and "Tricks of the trade" are stressed.

First Quarter	Hrs./wk. Lec.	Lab.	Cr.
BUS 101 (Typewriting)	....	10	3
BUS 205 (Shorthand)	....	5	2
BUS 120 (Sec. Training)	3	....	1
BUS 130 (Record Keeping)	2	....	2
BUS 131 (Office Machines)	....	5	2
COM 134 (Business English)	5	....	5
	10	20	15

Second Quarter	Hrs./wk. Lec.	Lab.	Cr.
BUS 102 (Typewriting)	....	10	3
BUS 206 (Shorthand)	....	5	2
BUS 207 (Transcription)	....	5	2
MTH 125 (Bus. Math.)	5	....	5
BUS 141 (Word Studies)	5	....	5
	10	20	17

Third Quarter	Hrs./wk. Lec.	Lab.	Cr.
BUS 103 (Typewriting)	....	10	3
BUS 208 (Shorthand)	....	5	2
BUS 209 (Transcription)	....	5	2
BUS 155 (Filing)	5	....	3
BUS 151 (Business Law)	3	....	3
BUS 152 (Personality)	2	....	2
	10	20	15

COURSE DESCRIPTIONS

(In general, courses must be taken in numbered sequence with lecture and related lab. classes being taken concurrently.)

BUS 101 — Typewriting I
10 hrs./wk. 3 cr.
Introduction to keyboard, correct typing techniques, speed and accuracy building.

BUS 102 — Intermediate Typing II
10 hrs./wk. 3 cr.
Review of keyboard. Speed and accuracy building. Improving techniques. Introduction to production typing.

BUS 103 — Advanced Typing III
10 hrs./wk. 3 cr.
Refining of techniques, building higher speeds and accuracy. Advanced production and transcribing machines.

BUS 105 — Beginning Shorthand
5 hrs./wk. 3 cr.
Introduction of theory. Dictation of practiced material. Previewed easy, new material for dictation and transcription practice.

BUS 106 — Shorthand
5 hrs./wk. 3 cr.
Review of theory—Dictation and speed building. Continuation of BUS 105.

BUS 107 — Transcription
5 hrs./wk. 2 cr.
Introduction to transcription of letters on the typewriter.

BUS 108 — Shorthand
5 hrs./wk. 3 cr.
Speed building to achieve an acceptable speed for employment. Continuation of BUS 106.

BUS 109 — Transcription
5 hrs./wk. 2 cr.
New material dictation and transcription of more advanced materials and specialized vocabulary. Continuation of BUS 107.

BUS 115 — Typewriting I
12 hrs./wk. 4 cr.
Beginning typing. Introduction to keyboard. Techniques, speed, and accuracy building.

BUS 116 — Typewriting II
15 hrs./wk. 5 cr.
Intermediate typing. Review of keyboard speed and accuracy building, improving techniques, introduction to production typing.

BUS 117 — Typewriting III
15 hrs./wk. 5 cr.
Refining of techniques, building higher speeds and accuracy. Advanced production and introduction of transcribing machines.

BUS 118 — Typewriting
5 hrs./wk. 2 cr.
Typewriting applied to accounting processes, balance sheet, income statements, annual reports, flow of funds statements, invoicing and income tax returns.

BUS 120 — Secretarial Training
3 hrs./wk. 1 cr.
Preparing for the office job. Application and interview training, good grooming, office procedures, duties of the receptionist, emphasis on attitudes.

BUS 121 — Basic Computer Concepts
5 hrs./wk. 3 cr.
Orientation and general operational procedures of analog and digital computers with emphasis on digital computers.

BUS 122 — Electronic Accounting Machines
10 hrs./wk. 3 cr.
Complete survey and use of unit record equipment including board wiring, key punch, sorter, and related equipment.

BUS 128 — Office Machines
5 hrs./wk. 2 cr.
Basic training on 10-key adding machine, printing calculator and rotary calculator; application of decimal equivalents, fractions, some measurements, and contracting problems.

BUS 130 — Clerical Record Keeping
2 hrs./wk. 2 cr.
Practice of business forms, cashier's records, checks and bank statements, petty cash records, budget records, sales records, purchase records, payroll.

BUS 131 — Office Machines I
5 hrs./wk. 2 cr.
Introduction to rotary calculator, ten-key adding-listing machine, full keyboard adding machine, key-driven calculator, with emphasis on accuracy.

BUS 132 — Office Machines
5 hrs./wk. 2 cr.
Practice on rotary calculators, ten-key adding-listing machines, key-driven calculator and full keyboard adding machines, working on business forms. Continuation of BUS 131.

BUS 133 — Data Processing
3 hrs./wk. 3 cr.
Introduction to Data Processing. Automation in industry, use of terminology, card punch, sorter, binary number system.

BUS 135 — Clerical Record Keeping
5 hrs./wk. 5 cr.
Practice on business forms, cashier's records, checks and bank statements, petty cash records, budget records, sales records, purchase records, payroll.

BUS 141 — Word Studies
5 hrs./wk. 5 cr.
Vocabulary building spelling rules, meaning of words, synonyms and homonyms, use of dictionary, pronunciation.

BUS 143 — Data Processing
5 hrs./wk. 5 cr.
Introduction to Data Processing. Automation in industry, use of terminology, card punch, sorter, binary number system.

BUS 150 — Filing
2 hrs./wk. 2 cr.
Scope of filing, equipment and supplies. Practice of card and correspondence filing in alphabetical, numerical, geographic, and subject systems. Retention of records.

BUS 151 — Business Law
3 hrs./wk. 3 cr.
Introduction to business law and its enforcement, contracts and sales, negotiable instruments, partnership and corporations, insurance and property.

BUS 152 — Personality Development
2 hrs./wk. 2 cr.
Building personality, including personal appearance, voice and conversation,

proper etiquette, getting along with others, plan for self-development.

BUS 155 — Filing
5 hrs./wk. 3 cr.
Filing equipment and supplies. Practice of card and correspondence filing in alphabetical, numerical, geographic, and subject systems. Retention of records.

BUS 156 — Accounting
5 hrs./wk. 5 cr.
Basic fundamentals of the accounting cycle. The balance sheet income statement accounts are studied. How they increase and decrease and affect the proprietorship. Applicable to students in Data Processing.

BUS 157 — Accounting
5 hrs./wk. 5 cr.
Continuation of Business 156, adjusting and closing the accounts, Purchases, Sales and Inventory Accounting.

BUS 159 — Accounting—Marketing
5 hrs./wk. 3 cr.
A study of elementary accounting with special emphasis on the retail and wholesale merchandising areas of business. The course is designed to teach the student of Marketing how to set up and keep a basic set of books.

BUS 160 — Accounting
10 hrs./wk. 7 cr.
Basic course in Accounting fundamentals—accounting equation, balance sheet, income statement, and accounting cycle as applied to single proprietorships.

BUS 161 — Accounting
10 hrs./wk. 7 cr.
Continuation of BUS 160 with emphasis on partnership and division of profits as well as problems of valuation on specific classes of assets and liabilities.

BUS 162 — Accounting
10 hrs./wk. 7 cr.
Continuation of BUS 161 with emphasis on corporate accounting; formation of corporations, kind of stock, dividends, bonds, branch operations, financial statement analysis and cost accounting.

BUS 181 — Computer Programming I
15 hrs./wk. 5 cr.
History and complete use of PL I programming (Programming Language 1).

BUS 182 — Computer Programming II
15 hrs./wk. 5 cr.
Basic Fortran and Cobol programming.

BUS 201 — Advanced Type
5 hrs./wk. 2 cr.
A review for the Executive Typist of special parts of letters — placement and arrangement, business forms, legal forms, manuscripts and tables.

BUS 202, 203 — Executive Typing
2 hrs./wk. 1 cr.
A special executive program to develop competent typists who are capable of handling any typing task an employer might assign them. Speed and accuracy development.

BUS 205 — Shorthand
5 hrs./wk. 2 cr.
Review, with emphasis on proportions and theory practice. Building of speed, and ability to read shorthand rapidly. Some transcription.

BUS 206 — Shorthand
5 hrs./wk. 2 cr.
Continuation of BUS 205 with emphasis on shortcuts.

BUS 207 — Transcription
5 hrs./wk. 2 cr.
Office style dictation, transcription of letters, manuscripts, and composition of letters. Office standard of secretarial performance.

BUS 208 — Shorthand
5 hrs./wk. 2 cr.
Continuation of BUS 206 with emphasis on speed in transcription. Dictation will cover the full spectrum of business usage.

BUS 209 — Transcription
5 hrs./wk. 2 cr.
Continuation of BUS 207. Emphasis on speed, accuracy and mailable transcripts directly from outlines.

BUS 220 — Secretarial Practice
5 hrs./wk. 3 cr.
Preparation for employment and promotions. Gives practice in communications, services, and memorized office operations. Executive Secretarial course.

BUS 221 — Specialized Secretarial Procedures
15 hrs./wk. 8 cr.
Specialized training using technical dictation and transcripiton practice sets, and simulated office situations in legal, medical, government and science-engineering employment.

BUS 222 — Specialized Secretarial Procedures
15 hrs./wk. 8 cr.
Specialized training using technical dictation and transcription practice sets, and simulated office situations in legal, medical, government and science-engineering employment.

BUS 223 — Systems Design and Development I
10 hrs./wk. 7 cr.
Analysis of business systems through case studies.

BUS 224—Systems Design and Development II
10 hrs./wk. 7 cr.
Systems and teleprocessing systems.

BUS 230 — Executive Accounting Practice
2 hrs./wk. 1 cr.
The secretaries go through medical or legal practice set. They are prepared for general record keeping in the professional office.

BUS 235 — Data Processing
3 hrs./wk. 3 cr.
Introduction to Data Processing terminology and function of modern electronics processing of transactions.

BUS 245 — Dictation
5 hrs./wk. 3 cr.
The course is designed for a theory review, special business, shorthand shortcuts, speed and transcription development.

BUS 246 — Transcription
5 hrs./wk. 2 cr.
Designed to prepare students in use of transcription techniques to enable them to work efficiently and comfortably under office conditions.

BUS 255 — Executive Dictation
5 hrs./wk. 3 cr.
Advanced dictation, effective transcription and procedures. Development of systematic procedures in handling office-style dictation. Helps students gain a realistic comprehension of business world activities.

BUS 256 — Transcription
3 hrs./wk. 1 cr.
Designed to prepare students in use of transcription techniques to enable them to work efficiently and comfortably under office conditions.

BUS 260 — Cost Accounting
5 hrs./wk. 5 cr.
Materials, labor, overhead job cost, process cost, standard cost.

BUS 265 — Executive Dictation
5 hrs./wk. 3 cr.
Advanced dictation, effective transcription and procedures. Development of systematic procedures in handling office-style dictation. Helps students gain a realistic comprehension of business world activities.

BUS 266 — Transcription
3 hrs./wk. 1 cr.
Designed to prepare students in use of transcription techniques to enable them to work efficiently and comfortably under office conditions.

BUS 281 — Computer Programming III
10 hrs./wk. 3 cr.
RPG and assembly language programming.

BUS 282 — Computer Programming IV
10 hrs./wk. 3 cr.
General software programming.

BUS 283 — Computer Programming V
10 hrs./wk. 3 cr.
Application programming to specific problems.

BUS 285—Logical Design of Digital Computers
5 hrs./wk. 5 cr.
Discussion of computer logic including flip flops, "and or" gates, etc.

BUS 295 — Advanced Logics Seminar
5 hrs./wk. 2 cr.
Special advanced topics in computer field with relations and additions to new areas.

COMMERCIAL ART

This program provides instruction in creating finished layouts, designs and compositions. The students are prepared through a thorough study of art fundamentals, both commercial and academic, for an interesting and remunerative career.

FIRST YEAR

First Quarter	Hrs./wk. Lec.	Lab.	Cr.
CA 110 (Basic Lettering)	1	4	2
CA 111 (Construction)	1	4	2
CA 112 (Pr. and Ele. of Art)	2	8	4
CA 113 (Pictorial Comp.)	2	3	3
COM 110 (Communications)	3	....	3
CIV 115 (Voc. Civics)	2	....	2
	11	19	16

Second Quarter			
CA 120 (Lettering App.)	2	3	3
CA 121 (Anatomy)	1	4	2
CA 122 (Aesthetics)	1	4	2
CA 123 (Perspective)	1	4	2
CA 124 (Basic Techniques)	1	4	2
MTH 110 (Gen. Tr. Math.)	5	....	5
	11	19	16

Third Quarter			
CA 130 (Lettering App.)	2	3	3
CA 131 (Figure Drawing)	2	3	3
CA 132 (Graphic Design)	2	3	3
CA 133 (Basic Vis.Pres.)	2	3	3
CA 134 (Illustrations)	2	3	3
DDT 205 (Tech. Illus.)	2	3	3
	12	18	18

SECOND YEAR

Fourth Quarter	Hrs./wk. Lec.	Lab.	Cr.
CA 210 (Comp. Layout)	2	3	3
CA 211 (Charts and Diag.)	2	3	3
CA 212 (Abstract Design)	2	3	3
CA 213 (Fashion Illus.)	2	3	3
CA 214 (Book Illus.)	2	3	3
MTH 111 (Gen. Tr. Math.)	5	....	5
	15	15	20

Fifth Quarter			
CA 220 (Ad Composition)	2	4	3
CA 221 (Ind. Design)	2	4	3
CA 222 (Flat-tone Tech.)	2	4	3
CA 223 (Cartoon. and Anim.)	2	4	3
CA 224 (Landscape)	3	3	4
	11	19	16

Sixth Quarter			
CA 230 (Poster and Display)	2	3	3
CA 231 (Arch. Rendering)	2	3	3
CA 232 (Symmetry and Pat.)	2	3	3
CA 233 (Portraiture)	2	3	3
CA 234 (Magazine Illus.)	2	3	3
PRT 105 (Printing)	2	3	3
	12	18	18

COURSE DESCRIPTIONS

(In general, courses must be taken in numbered sequence with lecture and related lab. classes being taken concurrently.)

CA 110 — Basic Lettering
5 hrs./wk. 2 cr.
Lettering procedures and forms including proper handling and care of lettering instruments.

CA 111 — Construction
5 hrs./wk. 2 cr.
Form and space relationships, drawing objects to develop visual perception of light, organization of proportions, perspective, as a basis for solving drawing problems.

CA 112 — Principles and Elements of Art
10 hrs./wk. 4 cr.
Use o fvisual elements to develop creative expression.

CA 113 — Pictorial Composition
5 hrs./wk. 3 cr.
Designed to give a background to develop imagination and originality in the organization of pictorial elements.

CA 105 — Commercial Art—Printing
5 hrs./wk. 3 cr.
Includes layout, ad composition and copy preparation as applied to the printing trades.

CA 120 — Lettering Applications
5 hrs./wk. 3 cr.
Developing lettering form as a design unit and its application in layout and design of price tickets, show cards, posters, banners, signs, etc.

CA 121 — Anatomy
5 hrs./wk. 2 cr.
A study of the skeletal and muscular structure of the human figure.

CA 122 — Aesthetics
5 hrs./wk. 2 cr.
Continuation of CA 112 with emphasis on good taste through the development of visual awareness.

CA 123 — Perspective
5 hrs./wk. 2 cr.
Mechanical and freehand perspective systems used in product and furniture illustration.

CA 124 — Basic Techniques
5 hrs./wk. 2 cr.
Exploration of the use of media and materials to understand potentials and limitations of the artist.

CA 130 — Lettering Applications
5 hrs./wk. 3 cr.
Continuation of CA 120 with more complex and detailed problems allowing exploration of solutions to the layout and design problem.

CA 131 — Figure Drawing
5 hrs./wk. 3 cr.
Development of accurate observation of the human form, including the draped figure, through drawing exercises.

CA 132 — Graphic Design
5 hrs./wk. 3 cr.
A series of problems created to familiarize the student with the potentials and limitations of design as applied to the graphic arts.

CA 133 — Basic Visual Presentation
5 hrs./wk. 3 cr.
Introductory study of presentation, including rough sketches, layouts, comprehensive, and model building in solving basic problems of visual communication.

CA 134 — Illustrations
5 hrs./wk. 3 cr.
An introductory class to study the methods of research techniques and creative interpretation in fashion and story illustrations.

CA 210 — Comprehensive Layout
5 hrs./wk. 3 cr.
An advanced course in creation and organization of art copy. Special attention is given to lettering styles and combinations.

CA 211 — Charts and Diagrams
5 hrs./wk. 3 cr.
Use of drawing instruments, transfers, overlays and takes in chart development, symbols ,schematics and diagrams used in technical presentations and visual aids.

CA 212 — Abstract Design
5 hrs./wk. 3 cr.
Inter-relation of hues, values, intensities and textures with attention given line techniques, silhouettes, vignettes and patterns.

CA 213 — Fashion Illustration
5 hrs./wk. 3 cr.
Current fashion methods including heads, hands, accessories, textures and characteristic poses.

CA 214 — Book Illustration
5 hrs./wk. 3 cr.
Training in illustrating books. Includes full color renderings, special story-book printing techniques in pen, water color, guache and polymer.

CA 220 — Ad Composition
6 hrs./wk. 3 cr.
Use of type, clipping services, mats, transfers, paste-ups, photos, and illustrations in ordering, preparation and assembly of camera-ready art.

CA 221 — Industrial Design
6 hrs./wk. 3 cr.
Methods used in transferring orthographic details into perspective renderings, assembly drawings, exploded views, phantom views, and cutaways used in pictorial representation of machines and vehicles.

CA 222 — Flat-tone Techniques
6 hrs./wk. 3 cr.
Line drawing with flat-tone rendering using transfer screens, overlay patterns, and flat color poster styles.

CA 223 — Cartooning and Animation
6 hrs./wk. 3 cr.
Study of cartooning, including comic strips, adventure features, magazine cartoons, advertising spots, political cartoon and motion picture animation in various medias.

CA 224 — Landscape
6 hrs./wk. 4 cr.
Landscape compositions in water colors, quaches, polymers, and oils with special studies of trees, shrubs, mountains, skies and buildings.

CA 230 — Poster and Display
5 hrs./wk. 3 cr.
Study of the use of posters, lobby displays, billboards, signs and spectaculars in guache, polymer and oil painting media.

CA 231 — Architectural Rendering
5 hrs./wk. 3 cr.
Architectural renderings in color based on projection from architect's plans.

CA 232 — Symmetry and Pattern
5 hrs./wk. 3 cr.
Evaluation of the professional applications of design.

CA 233 — Portraiture
5 hrs./wk. 3 cr.

Anatomy, age, race, and form with special attention to representation of light, shade, color and texture.

CA 234 — Magazine Illustration
5 hrs./wk. 3 cr.

Compositional painting with stress given to problems of retaking backgrounds to figures in all medias. Works and techniques of popular illustrators are studied.

COSMETOLOGY

Instruction and practice in all phases of Cosmetology using the revolutionary Pivot-Point System. Prepares students to take State Licensing Examinations which require a minimum of 1500 hours of instruction. An additional 500 hours of instruction is available to qualify candidates for a Cosmetology License that includes haircutting.

A separate licensing program is offered in Manicuring and requires 500 hours of instruction.

	Hrs./wk. Lec.	Lab.	Cr.
First Quarter			
COS 110 (Cosmet. Lab.)	....	35	12
COS 111 (Cosmet. Theory)	5	....	5
	5	35	17
Second Quarter			
COS 120 (Cosmet. Lab.)	....	35	12
COS 121 (Cosmet. Theory)	5	....	5
	5	35	17
Third Quarter			
COS 130 (Cosmet. Lab.)	....	35	12
COS 131 (Cosmet. Theory)	5	....	5
	5	35	17
Fourth Quarter			
COS 140 (Cosmet. Lab.)	....	35	12
COS 141 (Cosmet. Theory)	5	....	5
	5	35	17

COURSE DESCRIPTIONS

(In general, courses must be taken in numbered sequence with lecture and related lab. classes being taken concurrently.)

COS 110, 120, 130 — Cosmetology Lab.
35 hrs./wk. 12 cr.

Learning by doing is emphasized in the Cosmetology lab. Laboratory instruction and practice are an integral part and extend over the length of the program. During the first three quarters the laboratory work covers shampooing, scalp treatments, manicuring, haircutting, hair styling, permanent waving, facials, massaging, care and styling of wigs and wiglets, finger waving, and hair dyeing and bleaching.

COS 111 — Cosmetology Theory
5 hrs./wk. 5 cr.

Instruction in sterilization and sanitation, hygiene, anatomy, and physiology, personality, and other related information topics directly connected with the practical units of instruction in the lab.

COS 121 — Cosmetology Theory
5 hrs./wk. 5 cr.

Instruction in diseases of hair, skin and nails, electricity, and other related information topics directly connected with practical units of instruction in the lab.

COS 131 — Cosmetology Theory
5 hrs./wk. 5 cr.

Instruction in courtesy, telephone conversation, ethics, salesmanship and other related information topics directly connected wtih the practical units of instruction in the lab.

COS 140 — Cosmetology Lab.
35 hrs./wk. 12 cr.

Final preparation on all phases of Cosmetology laboratory work for graduation and for taking the State Board Licensing Examination.

COS 141 — Cosmetology Theory
5 hrs./wk. 5 cr.

Student is coached in final preparation on all phases of Cosmetology theory work for graduation and for taking the State Board Licensing Examination.

DATA PROCESSING TECHNOLOGY

Students are instructed in the art and science of data processing as related to the commercial or business atmosphere. They are taken through actual work situations, which include programming computers, running computers as operators, and also many detail operations in peripheral or unit record equipment. Leads to Associate in Applied Science Degree.

FIRST YEAR

First Quarter	Hrs./wk. Lec.	Lab.	Cr.
MTH 130 (Data Proc. Math. I)	3	2	3
BUS 121 (Bas. Com. Concepts)	5	....	3
BUS 122 (Elec. Acctg. Mach.)	....	10	3
BUS 156 (Accounting)	5	....	5
COM 120 (Communications)	5	....	5
	18	12	19

Second Quarter			
MTH 131 (Data Proc. Math. II)	3	2	3
BUS 181 (Computer Prog. I)	....	15	5
BUS 157 (Accounting)	5	....	5
COM 135 (Bus. Rpt. Writing)	3	....	3
COM 140 (EffectiveReading)	....	2	1
	11	19	17

Third Quarter			
MTH 132 (Data Proc. Math. III)	3	2	3
BUS 182 (Computer Prog. II)	....	15	5
BUS 162 (Accounting)	5	5	7
	8	22	15

SECOND YEAR

Fourth Quarter	Hrs./wk. Lec.	Lab.	Cr.
MTH 133 (Data Proc. Math. IV)	3	2	3
BUS 223 (Sys. Design & Dev.)	5	5	7
BUS 281 (Computer Prog. III)	....	10	3
BUS 260 (Cost Accounting)	5	....	5
	13	17	18

Fifth Quarter			
MTH 134 (Data Proc. Math. V)	3	2	3
BUS 224 (Sys. Design & Dev. II)	5	5	7
BUS 282 (Computer Prog. IV)	....	10	3
MTH 140 (Statistics)	5	....	5
	13	17	18

Sixth Quarter			
MTH 135 (Data Proc. Math. VI)	3	2	3
BUS 283 (Computer Prog. V)	....	10	3
BUS 285 (Logical Design of Digital Computers)	5	....	5
BUS 295 (Advanced Log. Sem.)	....	5	2
PSY 120 (Industrial Psy.)	5	....	5
	13	17	18

Students completing the first year only may be awarded a certificate of graduation in Computer Operation.

[Course descriptions are found under the BUSINESS PRACTICE Section, pages 25-30]

DRAFTING AND DESIGN TECHNOLOGY

This course stresses the fundamentals of precision drawing with tools, and basic design. Completion of this course enables the student to work with and assist engineers by performing many important tasks and responsibilities necessary to convert rough sketches to working drawings. Leads to Associate in Applied Science Degree.

FIRST YEAR

First Quarter	Hrs./wk. Lec.	Lab.	Cr.
DDT 110 (Basic Drafting)	....	15	5
DDT 111 (Geom. Constr.)	3	2	3
MTH 120 (Mathematics)	5	....	5
COM 120 (Communications)	5	....	5
	13	17	18
Second Quarter			
DDT 120 (Adv. Graphics)	....	15	5
DDT 121 (Shape Desc.)	3	2	3
PHY 110(App. Physics)	3	2	3
MTH 121 (Mathematics)	5	....	5
	11	19	16
Third Quarter			
DDT 130 (Adv. Mech. Graph.)	....	15	5
DDT 131 (Charts & Graphs)	5	....	5
BUS 130 (Office Machines)	....	5	2
ADT 131 (Str. of Mat.)	5	....	5
	10	20	17

SECOND YEAR

Fourth Quarter	Hrs./wk. Lec.	Lab.	Cr.
DDT 210 (Mach. Tool Des.)	5	15	10
DDT 211 (Value Design)	3	2	3
PSY 120 (Ind. Psy.)	5	....	5
	13	17	18
Fifth Quarter			
DDT 220 (Topo. & Mine. Draft.)	5	15	10
COM 130 (Tech. Writing)	5	....	5
DDT (Elective)	3	2	3
	13	17	18
Sixth Quarter			
PS 110 (Pol. Science)	5	....	5
DDT (Elective)	5	15	10
DDT (Elective)	3	2	3
	13	17	18

Students completing the first year only may be awarded a certificate of graduation in Drafting.

COURSE DESCRIPTIONS

(In general, courses must be taken in numbered sequence with lecture and related lab. classes being taken concurrently.)

DDT 110 — Basic Drafting
15 hrs./wk. 5 cr.

Laboratory practice with drafting tools to execute theory obtained in DDT 101.

DDT 111 — Geometric Construction
5 hrs./wk. 3 cr.

Fundamentals of mechanical drafting include sketching, lettering, orthographic projection, auxiliary views and sectional views.

DDT 120 — Advanced Graphics
15 hrs./wk. 5 cr.

Laboratory practice in industrial methods and short cuts.

DDT 121 — Shape Description
5 hrs./wk. 3 cr.

Advanced techniques of production drawings; assembly production, dimensions, tolerances, position tolerances, classes of fits, surface quality and general specifications.

DDT 130 — Advanced Mechanical Graphics
15 hrs./wk. 5 cr.

Introduction to a system of creating visual impression of correlated tabulated data. Several types of media demonstrated and used.

DDT 131 — Charts, Graphs and Pictorials
5 hrs./wk. 5 cr.

The application of graphs and charts in the field of science, engineering, statistics, accounting, and advertising.

DDT 205 — Technical Illustrating—Commercial Art
5 hrs./wk. 3 cr.

A survey of orthographic projection, sections and auxiliaries as applied in basic drafting, machine lettering, axonometric drawings, and the Anderson Board system.

DDT 210 — Machine & Tool Drafting & Design
20 hrs./wk. 10 cr.

Introduction to design and elementary research; planning small units using references, applied geometrical principles, tool and machine operations and working drawings.

DDT 211 — Value Design
5 hrs./wk. 3 cr.

Application of economy practices in design. Costs of various materials and manufacturing processes and their application to design practices.

DDT 220 — Topographic and Mining Drafting
20 hrs./wk. 10 cr.

Special field of drafting in which features of various portions of the earth's surface are drawn and depicted by conventional symbols. Combines principles of freehand sketching and mechanical drafting.

Electives

DDT 230 —Electrical and Electronic Drafting
20 hrs./wk. 10 cr.

A broad coverage of components, materials, graphic symbols, standards, industrial diagrams, wiring harnesses, and printed circuits. Includes a comprehensive coverage of military specifications.

DDT 232 — Piping Drafting
5 hrs./wk. 3 cr.

Plumbing, heating and electrical drafting. Completion of finished drawings involving their installation.

DDT 233 — Schematic Diagrams
5 hrs./wk. 3 cr.

Drafting practices, military requirements graphic symbols and diagram composition. Circuit diagrams, sketches and graphs made to record the design features of equipment.

DDT 234 — Manufacturing Processes
5 hrs./wk. 3 cr.

Procedures of planning, estimating, pattern making, casting, welding, forging machining, and assembling to produce a plan for economical manufacturing.

DDT 235 — Technical Illustrating
20 hrs./wk. 10 cr.

Drawing of objects in three dimensions according to the translation of an orthographic blueprint into a single picture. Includes shading, inking, and airbrush techniques.

DDT 238 — Structures
5 hrs./wk. 3 cr.

Includes layout and detailing of drawings connected with design and construction of bridges, viaducts and highway structures where structural steel, timber, and concrete are used.

ELECTRICITY

Students receive a broad foundation in the principles encountered in the electrical industry and a working knowledge and ability with the tools of the trade. Emphasis is placed on basic principles, house wiring, industrial circuitry, and the use of instruments.

First Quarter	Hrs./wk. Lec.	Lab.	Cr.
ELC 110 (Elec. Wiring)	....	15	5
ELC 111 (Basic Elec.)	5	....	5
ELC 102 (Elec. Code)	2	3	3
MTH 115 (Elec. Math.)	5	....	5
	12	18	18

Second Quarter	Hrs./wk. Lec.	Lab.	Cr.
ELC 120 (Elec. Motors)	....	15	5
ELC 121 (Elec. Devices)	5	....	5
MTH 116 (Elec. Math.)	5	....	5
PHY 110 (App. Physics)	2	3	3
	12	18	18

Third Quarter	Hrs./wk. Lec.	Lab.	Cr.
ELC 130 (Ind. Cont.)	....	15	5
ELC 131 (Instrumentation)	5	....	5
ELC 150 (Adv. Motor Cont.)	2	3	3
COM 110 (Communications)	3	....	3
CIV 115 (Voc. Civics)	2	....	2
	12	18	18

COURSE DESCRIPTIONS

(In general, courses must be taken in numbered sequence with lecture and related lab. classes being taken concurrently.)

ELC 110 — Electric Wiring
15 hrs./wk. 5 cr.
Laboratory application of principles covered in ELC 101 & 102. Also includes wiring of home constructed by college.

ELC 111 — Basic Electricity
5 hrs./wk. 5 cr.
Electron theory, Ohm's Law, Watt's Law, Thevenin's Theorem, Kirkchoff's Law, Magnets, Magnetism; Electrical and Magnetic Circuits.

ELC 102 — Electric Code
5 hrs./wk. 5 cr.
National electrical code covering residential, commercial, industrial, and hazardous wiring requirements. Also includes work with Electrical Blue Prints.

ELC 104 — AC-DC Fundamentals
5 hrs./wk. 3 cr.
Electron theory, Ohms law, Watts law, Kirchoffs law, circuits, and National Electrical Code.

ELC 105 — AC-DC Circuits
5 hrs./wk. 3 cr.
Study of electrical circuits as related to the appliance field. Includes motors and transformers, operation, maintenance and overhaul. Introduction to controls.

ELC 120 — Electric Motors
15 hrs./wk. 5 cr.
Laboratory application of principles covered in ELC 121. Also includes motor rewinding.

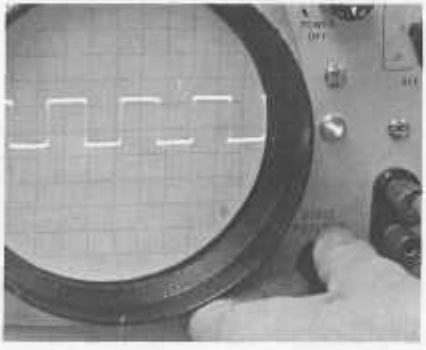
ELC 121 — Electrical Devices
5 hrs./wk. 5 cr.
Study of Electric Motors, their construction, operation, maintenance, selection application, repairs, conversion, overhaul, and maintenance. Also generators and transformers.

ELC 130 — Industrial Controls
15 hrs./wk. 5 cr.
Laboratory application of principles covered in ELC 131. Includes work on industrial voltages.

ELC 131 — Instrumentation
5 hrs./wk. 5 cr.
Theory and operation of automation and instrumentation in modern industry.

ELC 150 — Advanced Motor Control
5 hrs./wk. 3 cr.
Motor control, development analysis, maintenance, installation, modification, trouble shooting. Emphasis on electromagnetic with basic introduction to static control.

ELECTRONICS TECHNOLOGY



Instruction in basic electron theory, electronics communications, TV, microwave, radar and computer theory. Students will receive the necessary support subjects, i.e., math., physics, English, and drafting to prepare them for jobs in the leading industries in the nation. Leads to Associate in Applied Science Degree. Minimum requirements for acceptance: Tenth grade reading level and one year successful high school algebra. For students not meeting these requirements, a pre-technical course will be offered.

FIRST YEAR

First Quarter	Hrs./wk. Lec.	Lab.	Cr.
ELT 110 (DC-AC App.)	....	10	3
ELT 111 (DC-AC Cir. Fund.)	7	3	8
MTH 151 (Algebra)	3	2	3
PHY 151 (Mechanics)	3	....	3
	13	15	17

Second Quarter			
ELT 120 (App. Amp. Dev.)	....	10	3
ELT 121 (Solid St. Fund.)	5	3	6
MTH 152 (Int. Algebra)	3	2	3
PHY 152 (Heat,Lgt., Snd.)	3	2	3
ELT 108 (Elt. Drafting)	2	3	3
	13	20	18

Third Quarter			
ELT 130 (Ele. Com. Dev.)	....	10	3
ELT 131 (Ele. Com. Dev.)	5	3	6
MTH 153 (Adv. Algebra)	3	2	3
PHY 153 (Mod. Phy.)	3	....	3
COM 120 (Communications)	5	....	5
	16	15	20

SECOND YEAR

Fourth Quarter	Hrs./wk. Lec.	Lab.	Cr.
ELT 210 (Integ. Systems)	....	10	3
ELT 211 (Adv. Com. & TV)	5	3	6
MTH 154 (Diff. Calc.)	3	....	3
PHY 154 (Mechanics)	3	2	3
PSY 120 (Ind. Psy.)	5	....	5
	16	15	20

Fifth Quarter			
ELT 220 (Micro. Equip.)	....	10	3
ELT 221 (Micro. Sys. Anal.)	5	....	5
MTH 155 (Int..Calc.)	3	2	3
PHY 155 (Elc. and Mag.)	3	....	3
PS 110 (Pol.Science)	5	....	5
	16	12	19

Sixth Quarter			
ELT 230 (Dig. Anal. Conc.)	....	10	3
ELT 231 (Comp. Tech.)	5	....	5
MTH 156 (Boolean Algebra)	3	2	3
PHY 156 (Optics)	3	2	3
COM 130 (Tech. Writing)	5	....	5
	16	14	19

Students completing the first year only may be awarded a certificate of graduation in Electronics Technology.

COURSE DESCRIPTIONS

(In general, courses must be taken in numbered sequence with lecture and related lab. classes being taken concurrently.)

ELT 110 — Direct Current and Alternating Current Application and Practice
10 hrs./wk. 3 cr.

Application of D.C. and A.C. principles. Familiarization with basic test equipment. Practice with soldering and wiring techniques. Study of meters and associated circuitry.

ELT 111 — Direct Current and Alternating Current Fundamentals
10 hrs./wk. 8 cr.

Basic electronics including electron theory, direct current, alternating current, meters, series and parallel circuits, and batteries.

ELT 105 — Basic Automotive Electricity
5 hrs./wk. 3 cr.

Theory of series and parallel electrical circuits as applied to the automotive field. The oscilloscope and its use in engine tuneup. Basic semiconductor characteristics as applied in alternators, voltage regulators, and transistorized ignition systems. Applicable problems.

ELT 108 — Electronics Drafting
5 hrs./wk. 3 cr.

A broad coverage of electronic components, graphic symbols, standards, industrial diagrams, wiring harnesses, printed circuits, reference designations and electronic equipment design.

ELT 120 — Design and Application of Amplifying Devices
10 hrs./wk. 3 cr.

Application of characteristic curves in design of amplifying circuits in both solid state and vacuum tubes; testing and trouble shooting of amplifier circuits.

ELT 121 — Solid State and Vacuum Tube Fundamentals
8 hrs./wk. 6 cr.

Vacuum tube and transistor theory and characteristic curves and parameters. Design of amplifiers and circuitry.

ELT 130 — Application and Testing of Electronic Communications Devices
10 hrs./wk. 3 cr.

Use of amplifiers built previous quarter to assemble receivers, and transmitter circuits; test and repair receivers.

ELT 131 — Principles of Electronic Communications Devices
8 hrs./wk. 6 cr.

Theory of oscillators, audio amplifiers, radio frequency amplifiers, superheterodyne receivers, transmitters, frequency modulation, amplitude modulation.

ELT 210 — Application of Integrated Systems
10 hrs./wk. 3 cr.

Study of application of all principles studied in previous courses as they are integrated into a working system. Trouble shooting and supervised repair work is emphasied.

ELT 211 — Advanced Communications and Television
8 hrs./wk. 6 cr.

Application of electronics communications theory to circuits involved in transmission and reception of both color and black and white TV systems.

ELT 220 — Operation of Advanced Test and Microwave Equipment
10 hrs./wk. 3 cr.

Instruction in operation of advanced test equipment — calibration and alignment. Study of integrated radar and microwave circuits.

ELT 221 — Radar and Microwave Systems Analysis
5 hrs./wk. 5 cr.

Principles of basic radar circuit analysis including microwave and servo system functions and hardware, and operation of radar equipment.

ELT 230 — Laboratory Analysis of Digital and Analog Concepts
10 hrs./wk. 3 cr.

Construction and analysis of logic circuits used in computers. Practice in programming and familiarization of computer systems.

ELT 231 — Computer Technology
5 hrs./wk. 5 cr.

Concepts of pulse and digital circuitry, logical design of digital computers, data transmission, system analysis. Emphasis on technical aspects of computers. Programming of both digital and analog computers.

HEAVY DUTY MECHANICS

The first three quarters of this course provide theory and practical training in the operation, maintenance and repair of diesel and gasoline engines. During the second three quarters, the student chooses between the construction equipment course and the highway equipment course. Leads to Associate in Applied Science Degree.

FIRST YEAR

First Quarter	Hrs./wk. Lec.	Lab.	Cr.
HDM 110 (Dsl. Eng. Lab-2 Cyc.)	20		7
HDM 111 (Dsl. Eng.-2 Cyc.)	5	....	5
MTH 110 (Gen. Tr. Math.)	5	....	5
	10	20	17

Second Quarter	Hrs./wk. Lec.	Lab.	Cr.
HDM 120 (Dsl. Eng. Lab-4 Cyc.)	20		7
HDM 121(Dsl. Eng.-4 Cyc.)	5	....	5
PS 110 (Polit. Science)	5	....	5
	10	20	17

Third Quarter	Hrs./wk. Lec.	Lab.	Cr.
HDM 130 (El. & Gas Eng. Lab.)	20		7
HDM 131 (El. & Gas Eng.)	5	....	5
WLD 105 (Welding)	2	4	3
	7	24	15

SECOND YEAR

Construction Equipment Option

Fourth Quarter	Hrs./wk. Lec.	Lab.	Cr.
HDM 205 (C.E. Engines)	....	20	7
HDM 206 (Const. Equip.)	5	....	5
PSY 120 (Ind. Psy.)	5	....	5
	10	20	17
Fifth Quarter			
HDM 225 (C.E. Dr. Sys. Lab.)	....	20	7
HDM 226 (C.E. Drive Sys.)	5	....	5
PHY 110 (App. Physics)	3	2	4
	8	22	16
Sixth Quarter			
HDM 235 (C.E. Hyd. & Comp. Lab.)	....	20	7
HDM 236 (C.E. Hyd. & Comp.)	5	....	5
COM 120 (Communications)	5	....	5
	10	20	17

SECOND YEAR

Highway Equipment Option

Fourth Quarter	Hrs./wk. Lec.	Lab.	Cr.
HDM 200 (H.E. Engines)	....	20	7
HDM 201 (Hwy. Equip.)	5	....	5
PSY 120 (Ind. Psy.)	5	....	5
	10	20	17
Fifth Quarter			
HDM 220 (H.E. Dr. Sys. Lab.)	....	20	7
HDM 221 (H.E. Dr. System)	5	....	5
PHY 110 (App. Physics)	3	2	4
	8	22	16
Sixth Quarter			
HDM 230 (H.E. Support Sys. Lab.)	....	20	7
HDM 231 (H.E. Support System)	5	....	5
COM 120 (Communications)	5	....	5
	10	20	17

COURSE DESCRIPTIONS

(In general, courses must be taken in numbered sequence with lecture and related lab. classes being taken concurrently.)

HDM 110 — Diesel Engines Lab 2 Cycle
20 hrs./wk. 7 cr.

Practical experience in maintenance, rebuilding, trouble shooting, and repair of 2 cycle diesel engine.

HDM 111 — Diesel Engines 2 Cycle
5 hrs./wk. 5 cr.

Basic diesel engines with emphasis on 2 Cycle Detroit Diesel Engine. Maintenance, rebuilding procedures, parts nomenclature and theory of operation.

HDM 120 — Diesel Engines Lab 4 Cycle
20 hrs./wk. 7 cr.

Practical experience in operation, maintenance, rebuilding procedures, trouble shooting and repair of the 4 cycle diesel engine.

HDM 121 — Disel Engines 4 Cycle
5 hrs./wk. 5 cr.

Four cycle diesel engine operation and maintenance with emphasis on all engine systems.

HDM 130 — Basic Automotive Electrictiy and the Gasoline Engine
20 hrs./wk. 7 cr.

Practical experience in operation, maintenance, rebuilding, and trouble shooting on the gasoline engine and automotive electrical system.

HDM 131 — Basic Automotive Electricity and the Gasoline Engine
5 hrs./wk. 5 cr.

Basic instruction on all units of the automotive electrical system; includes testing, and adjustments. Also operation and maintenance of the gasoline engine.

HDM 200 — Highway Equipment Engines
20 hrs./wk. 7 cr.

Practical experience in diagnosis and preventative maintenance on Highway Truck Diesel engines and supporting systems.

HDM 201 — Highway Equipment
5 hrs./wk. 5 cr.

Diagnosis and preventive maintenance on Highway Truck Diesel engines and supporting systems.

HDM 205 — Construction Equipment Engines
20 hrs./wk. 7 cr.

Practical experience on injection, electrical, lubricating, cooling, air and filtration systems, and engine tune-up and trouble shooting.

HDM 206 — Construction Equipment
5 hrs./wk. 5 cr.

Instruction on injection, electrical, lubrication, cooling, air and filtration systems, and engine tuneup and trouble shooting.

HDM 220 — Highway Equipment Drive Systems Lab
20 hrs./wk. 7 cr.

Practical experience on highway truck power transmission systems. Diagnosis, maintenance and repair of transmissions, clutches, differentials and drive lines.

HDM 221 — Highway Equipment Drive Systems
5 hrs./wk. 5 cr.

Instruction on injection, electrical, lutransmission systems. Theory, trouble diagnosis and preventive maintenance of transmissions, clutches, differentials, and drive lines.

HDM 225 — Construction Equipment Drive Systems Lab
20 hrs./wk. 7 cr.

Practical experience on maintenance and overhaul procedures on torque convertors, power shift transmissions, planetory drives, torque brakes and retarders, clutches, tracks, rollers, sprockets, and recoil systems.

HDM 226 — Construction Equipment Drive Systems
5 hrs./wk. 5 cr.

Instruction on operation and overhaul procedures of torque convertors power shift transmissions, planetory drives, clutches, tracks, rollers, sprockets and recoil systems.

HDM 230 — Highway Equipment Support Systems
20 hrs./wk. 7 cr.

Practical experience in trouble diagnosis and maintenance on support systems; air brakes, electrical, steering suspension, lubrication, and frame assembly.

HDM 231 — Highway Equipment Support Systems
5 hrs./wk. 5 cr.

Instruction on diagnosis and preventive maintenance of the support systems; air brakes, electrical, steering, suspension, lubrication, and frame assembly.

HDM 235 — Construction Equipment Hydraulics and Components Lab.
20 hrs./wk. 7 cr.

Practical experience on maintenance and overhaul procedures on hydraulic systems, power steering, air and hydraulic brake systems, blades, buckets, bodies, and rippers.

HDM 236 — Construction Equipment Hydraulics and Components
5 hrs./wk. 5 cr.

Instruction on operation and overhaul procedures on hydraulic systems, power steering, air and hydraulic brake systems, blades, buckets, bodies, and rippers.

HOSPITAL WARD CLERK

This program is planned to develop the knowledge, skills, and attitudes needed to function as a clerical assistant to nurses on the patient unit in the hospital. Emphasis is placed on supervised application of classroom acquired knowledge to the laboratory setting plus observation experience in a patient-care clinical facility.

	Hrs./wk. Lec.	Lab.	Cr.
HWC 110 (Clin. Hosp. Obs.)	....	6	2
HWC 111(Pub. Rel. & Ethics)	3	....	3
HWC 112(Hlth. Team & Patient Care	3	....	3
HWC 113 (Basic Medical Science)	4	....	4
HWC 114 (Hosp. Pub. Rel.)	4	....	4
	14	6	16

COURSE DESCRIPTIONS

(In general, courses must be taken in numbered sequence with lecture and related lab. classes being taken concurrently.)

HWC 110 — Clinical Hospital Observation
6 hrs./wk. 2 cr.

Observation experience in the hospital clinical setting with emphasis on application of principles learned in classroom.

HWC 111 — Public Realtions and Ethics
3 hrs./wk. 3 cr.

Basic knowledge necessary to practice good public relations with emphasis on ethical attitudes and behavior.

HWC 112 — Health Team and Patient Care
3 hrs./wk. 3 cr.

Basic knowledge and understanding of hospital patient care and the role of the Ward Clerk as a clerical assistant to the nurse.

HWC 113 — Basic Medical Science
4 hrs./wk. 4 cr.

A vocabulary of common medical terminology with sufficient basic understanding of medical science to permit a Ward Clerk to function efficiently.

HWC 114 — Hospital Public Relations
4 hrs./wk. 4 cr.

Orientation to the Ward Clerk role in a hospital patient unit team with emphasis on the working relationship to other hospital departments.

MACHINE SHOP

Emphasis in the Machine Shop program is placed on operation of machine tools, accuracy of measurements, quality of finish and performance speed. Experience is gained through work on actual projects and problems.

First Quarter	Hrs./wk. Lec.	Lab.	Cr.
MS 110 (M.S. Practice)	....	15	5
MS 111 (Basic Mach. Op.)	5	....	5
MTH 105 (M.S. Math.)	5	....	5
BPR 100 (Blueprint Rdg.)	2	3	3
	12	18	18

Second Quarter	Hrs./wk. Lec.	Lab.	Cr.
MS 120 (M.S. Practice)	....	15	5
MS 121 (Machine Op.)	5	....	5
MTH 106 (M.S. Math.)	5	....	5
BPR 101 (M.S. BPR)	2	3	3
	12	18	18

Third Quarter	Hrs./wk. Lec.	Lab.	Cr.
MS 130 (Adv. Mach. Pr.)	....	15	5
MS 131 (Adv. Mach. Op.)	5	....	5
COM 110 (Communications)	3	....	3
CIV 115 (Voc. Civics)	2	....	2
PHY 110 (App. Physics)	2	3	4
	12	18	19

COURSE DESCRIPTIONS

(In general, courses must be taken in numbered sequence with lecture and related lab. classes being taken concurrently.)

MS 110 — Machine Shop Practice
15 hrs./wk. 5 cr.

Laboratory application of principles covered in MS 101. Includes operation of drill presses, lathes and extensive bench work with hand tools.

MS 111 — Basic Machine Operations
5 hrs./wk. 5 cr.

Basic machine shop theory including operation and performance of drill presses, lathes, and basic hand tools. Includes problems in measurement and accuracy.

MS 120 — Machine Shop Practice
15 hrs./wk. 5 cr.

Continuation of MS 100 and application of principles covered in MS 121. In-

cludes operation of shapers, mills and planers.

MS 121 — Machine Operations
5 hrs./wk. 5 cr.

Theory and operation of more complex machine tools including shapers, mills and planers. Emphasis is placed on operation, maintenance and performance.

MS 130 — Advanced Machine Practice
15 hrs./wk. 5 cr.

Laboratory application of principles covered in MS 131. Includes manufacture of gears, heat treating, use of grinders, quality assurance, and numerical control.

MS 131 — Advanced Machine Operations
5 hrs./wk. 5 cr.

Advanced application of machining principles including instruction in gears, gearing, grinders, round-it-out, heat treating and introduction to quality assurance and numerical control.

MARKETING

Marketing prepares students for careers in retailing, wholesaling and service businesses. The program combines classroom study of the principles of modern merchandising with supervised occupational training in selected business in the Salt Lake area.

First Quarter	Hrs./wk. Lec.	Lab.	Cr.
MKT 110 (Prin. of Mkt.)	5	....	5
MKT 111 (Ret. Lab. Exp.)	....	5	2
MKT 120 (Coop. Trng.)	....	15	5
MTH 110 (Gen. Tr. Math.)	5	....	5
	10	20	17

Second Quarter	Hrs./wk. Lec.	Lab.	Cr.
MKT 101 (Mkt. Mgmt.)	5	....	5
MKT 130 (Salesmanship)	5	....	5
BUS 159 (Accounting)	2	3	3
MKT 121 (Coop. Trng.)	....	15	5
	12	18	18

Third Quarter	Hrs./wk. Lec.	Lab.	Cr.
COM 110 (Communications)	3	....	3
CIV 115 (Voc. Civ.)	2	....	2
MKT 140 (Advertising)	5	2	6
BUS 151 (Bus. Law)	3	....	3
MKT 122 (Coop. Trng.)	....	15	5
	13	17	19

COURSE DESCRIPTIONS

(In general, courses must be taken in numbered sequence with lecture and related lab. classes being taken concurrently.)

MKT 110 — Principles of Marketing
5 hrs./wk. 5 cr.

Introductory course designed to acquaint students with problems and policies of manufacturers, wholesalers and retailers as related to marketing of goods and services.

MKT 111 — Retail Lab. Experience
5 hrs./wk. 2 cr.

Experience on cash registers, scales, checkstand operation — cutting, pricing and displaying of merchandise in store set up in classroom.

MKT 120, 121, 122 — Cooperative Work Training
15 hrs./wk. 5 cr.

Cooperative work training featuring placement of students in real occupational situations and training in responsibilities and attitudes required on the job.

MKT 101 — Marketing Management
5 hrs./wk. 5 cr.

Continuation of Marketing 101 with emphasis on decision making procedures and practices.

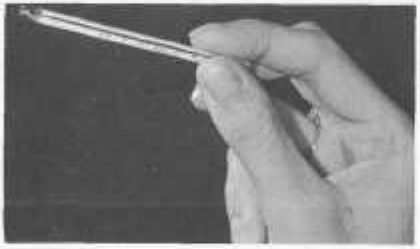
MKT 130 — Salesmanship
5 hrs./wk. 5 cr.

Basic sales class relating class psychology and tested selling techniques to each step of the sale—pre-approach, approach, determining wants and needs, product information and organization.

MKT 140 — Advertising
7 hrs./wk. 6 cr.

Introduction to the field of advertising and its role in marketing today. The creation of advertisements is studied. Includes writing, laying out, and reproduction of advertisements.

NURSE AIDE



This program is designed to develop the knowledge, skills, and attitudes needed to function as a nurse aide. Emphasis is placed on supervised application of classroom-acquired knowledge. Observation of patient care in a clinical facility is provided.

	Hrs./wk. Lec.	Lab.	Cr.
NA 110 (Basic Patient Needs)	....	3	1
NA 111 (Spec. Patient Needs)	....	3	1
NA 112 (Clin. Patient Needs)	....	18	6
NA 113 (Orient. to Nurs.)	1	....	1
NA 114 (Basic Patient Needs)	5	....	5
NA 115 (Spec. Patient Needs)	5	....	5
	11	24	19

COURSE DESCRIPTIONS

(In general, courses must be taken in numbered sequence with lecture and related lab. classes being taken concurrently.)

NA 110 — Basic Patient Needs
3 hrs./wk. 1 cr.

Supervised laboratory practice in application of nursing skills used in meeting basic patient needs.

NA 111 — Special Patient Needs
3 hrs./wk. 1 cr.

Supervised laboratory practice in application of nursing skills used in meeting special patient needs.

NA 112 — Clinical Patient Needs
18 hrs./wk. 6 cr.

Supervised practice in a clinical facility in the role of a nurse aide as an assistant to the nurse giving patient care.

NA 113 — Orientation to Nursing
1 hr./wk. 1 cr.

An over-all fundamental knowledge of basic nursing principles and skills needed to function as an assistant to the nurse giving patient care.

NA 114 — Basic Patient Needs
5 hrs./wk. 5 cr.

Basic human needs and basic nursing skills used in assisting the nurse in meeting these needs.

NA 115 — Special Patient Needs
5 hrs./wk. 5 cr.

Human needs during illness and basic nursing skills used in assisting the nurse in meeting these needs.

PRACTICAL NURSING

This program is designed to develop the knowledge, skills, and attitudes needed to function as a Licensed Practical Nurse. Emphasis is placed on supervised application of knowledge acquired in the classroom and laboratory to the actual clinical setting in a hospital.

First Quarter	Hrs./wk. Lec.	Lab.	Cr.
LPN 110 (Nurs. Fundamentals)	....	7	....
LPN 111 (Nurs. Fundamentals)	....	6	....
LPN 112 (Basic Medications)	....	1	....
LPN 113 (Nurs. Fundamentals)	5	....	....
LPN 114 (Anatomy & Physiol.)	4	....	....
LPN 115 (Basic Medications)	2	....	....
LPN 116 (Microbiology)	2	....	....
LPN 117 (Nutrition)	3	....	....
LPN 118 (Voc. Adjustments)	3	....	....
MTH 103 (Mathematics)	2	....	....
	21	14	19

Second Quarter			
LPN 120 (Nurs. Fundamentals)	....	6	....
LPN 121 (Obstetrical Nursing)	....	10	....
LPN 122 (Med.-Surgical Nurs.)	....	3	....
LPN 123 (Diet Therapy)	1	....	....
LPN 124 (Psy.-Sociology)	3	....	....
LPN 125 (Obstetrical Nursing)	5	....	....
LPN 126 (Med.-Surgical Nurs.)	7	....	....
	16	19	19

Third Quarter	Hrs./wk. Lec.	Lab.	Cr.
LPN 135 (Med.-Surgical Nurs.)	....	23	....
LPN 136 (Med.-Surgical Nurs.)	12	....	....
	12	23	19

Fourth Quarter			
LPN 141 (Med.-Surgical Nurs.)	....	5	....
LPN 142 (Pediatric Nursing)	....	10	....
LPN 143 (Psychiatric Nurs.)	....	10	....
LPN 144 (Med.-Surgical Nurs.)	2	....	....
LPN 145 (Pediatric Nursing)	4	....	....
LPN 146 (Psychiatric Nurs.)	4	....	....
	10	25	19

COURSE DESCRIPTIONS

(In general, courses must be taken in numbered sequence with lecture and related lab. classes being taken concurrently.)

LPN 110 — Nursing Fundamentals
7 hrs./wk.

Supervised practice on patients in the hospital to apply the principles of nursing fundamentals.

LPN 111 — Nursing Fundamentals
6 hrs./wk.

Supervised laboratory practice in effective application of basic nursing principles.

LPN 112 — Basic Medications
1 hr./wk.

Supervised laboratory practice in principles of accuracy in basic administration of medicines.

LPN 113 — Nursing Fundamentals
5 hrs./wk.

Instruction in the basic principles guiding nursing care.

LPN 114 — Anatomy and Physiology
4 hrs./wk.

Basic knowledge of the normal structure and functions of the human body. The body is divided into sections and each section is studied individually as well as in relation to the whole body.

LPN 115 — Basic Medications
2 hrs./wk.

Basic medicines and how they react in the human body with emphasis on the

importance of accuracy in their administration.

LPN 116 — Microbiology
2 hrs./wk.
Knowledge of the general types of organisms and how they affect the human body and its surroundings.

LPN 117 — Nutrition
3 hrs./wk.
Knowledge of the normal nutritive elements necessary to and related to the normal function of the human body.

LPN 118 — Vocational Adjustments
3 hrs./wk.
Designed to orient the student to personal needs in becoming a qualified practitioner on the nursing health team.

LPN 120 — Nursing Fundamentals
6 hrs./wk.
Supervised practice on patients in the hospital to apply the principles of nursing fundamentals.

LPN 121 — Obstetrical Nursing
10 hrs./wk.
Supervised practice on patients in the hospital in application of principles of obstetrical nursing.

LPN 122 — Medical-Surgical Nursing
3 hrs./wk.
Supervised practice on patients in the hospital in application of the principles of medical-surgical nursing as taught in LPN 126.

LPN 123 — Diet Therapy
1 hr./wk.
Dietary methods in the treatment of human illness.

LPN 124 — Psychology-Sociology
3 hr./wk.
Basic knowledge of normal psychological and sociological human behavior.

LPN 125 — Obstetrical Nursing
5 hrs./wk.
Principles of nursing care in both normal and abnormal pregnancy before, during, and after the birth of a baby.

LPN 126 — Medical-Surgical Nursing
7 hrs./wk.
Aspects of human illness affecting the circulatory, digestive, respiratory, and muscular-skelatal systems with emphasis on principles of nursing care necessary in treating each illness.

LPN 135 — Medical-Surgical Nursing
23 hrs./wk.
Supervised practice on patients in the hospital in application of principles of medical-surgical nursing as taught in LPN 136.

LPN 136 — Medical-Surgical Nursing
12 hrs./wk.
Aspects of human illness affecting the genitro-urinary, endocrine, and nervous systems as well as the special sensory organs. Emphasis is on nursing care. Includes Nursing in civil defense and first aid.

LPN 141 — Medical-Surgical Nursing
5 hrs./wk.
Supervised practice on the elderly patient in the hosiptal.

LPN 142 — Pediatric Nursing
10 hrs./wk.
Supervised practice on patients in the hospital in application of principles of pediatric nursing.

LPN 143 — Psychiatric Nursing
10 hrs./wk.
Supervised practice on patients in the hospital in application of principles of psychiatric nursing.

LPN 144 — Medical-Surgical Nursing
2 hrs./wk.
Aspects of human illness affecting the various systems of the body in the elderly patient with emphasis on principles of nursing care necessary in treatment of illness in the elderly patient.

LPN 145 — Pediatric Nursing
4 hrs./wk.
Normal human growth and development from birth through adolescence with emphasis on principles of nursing care during illness.

LPN 146 — Psychiatric Nursing
4 hrs./wk.
Abnormal psychological-sociological human behavior known as mental illness with emphasis on principles of nursing care in mental illness.

PRINTING

This Printing program is designed to prepare the student to enter the fields of offset printing, camera, letterpress printing, composition and bindery work. Emphasis is placed on a printing shop atmosphere with projects similar to those found in the trade.

First Quarter	Hrs./wk. Lec.	Lab.	Cr.
PRT 110 (Copy Prep.)	....	5	2
PRT 114 (Cam. Platemaking)	....	5	2
PRT 115 (Printing Theory)	5	....	5
PRT 118 (Presswork)	....	10	3
COM 120 (Communications)	5	....	5
	10	20	17

Second Quarter	Hrs./wk. Lec.	Lab.	Cr.
PRT 120 (Copy Prep.)	....	5	2
PRT 124 (Cam. Platemaking)	....	5	2
PRT 125 (Printing Theory)	5	....	5
PRT 128 (Presswork)	....	10	3
MTH 110 (Gen. Tr. Math.)	5	....	5
	10	20	17

Third Quarter	Hrs./wk. Lec.	Lab.	Cr.
PRT 130 (Copy Prep.)	....	5	2
PRT 134 (Cam. Platemaking)	....	5	2
PRT 135 (Printing Theory)	5	....	5
PRT 138 (Presswork)	....	10	3
CA 105 (Commercial Art)	2	3	3
	7	23	15

Fourth Quarter	Hrs./wk. Lec.	Lab.	Cr.
PRT 210 (Copy Prep.)	....	5	2
PRT 214 (Cam. Platemaking)	....	5	2
PRT 215 (Printing Theory)	5	....	5
PRT 216 (Pric. and Est.)	5	....	5
PRT 218 (Presswork)	....	10	3
	10	20	17

COURSE DESCRIPTIONS

(In general, courses must be taken in numbered sequence with lecture and related lab. classes being taken concurrently.)

PRT 105 — Printing-Commercial Art
5 hrs./wk. 3 cr.
Utilization of commercial art layouts, drawings and photographs in making plates, film negatives, and color proofs. Students will operate cameras, platemakers, and other equipment necessary to complete projects.

PRT 110 — Copy Preparation
5 hrs./wk. 2 cr.
Elementary methods of copy preparation, for press ready or camera ready composition.

PRT 114 — Camera and Platemaking
5 hrs./wk. 2 cr.
Elementary camera platemaking in preparation of plates for the offset press.

PRT 115 — Printing Theory
5 hrs./wk. 5 cr.
Theory of copy preparation for press and camera. Preparation of plates for the offset press. Operation of the offset press and the letterpress.

PRT 118 — Presswork
10 hrs./wk. 3 cr.
Introduction to offset and letterpress pressmanship. Emphasis on introduction of general presswork.

PRT 120 — Copy Preparation
5 hrs./wk. 2 cr.
Methods of copy preparation by use of linotype and type composition.

PRT 124 — Camera and Platemaking
5 hrs./wk. 2 cr.
Emphasis on camera work and platemaking. Introduction to screen photography.

PRT 128 — Presswork
10 hrs./wk. 3 cr.
Increased training on letterpress and offset presses. Greater depth in craftsmanship.

PRT 125, 135, 215 — Printing Theory
5 hrs./wk. 5 cr.
Theory of copy preparation by use of linotype and type composition, screen photography, and advanced use of letterpress and offset presses.

PRT 130 & 210 — Copy Preparation
5 hrs./wk. 2 cr.
Advanced linotype operation and type composiiton.

PRT 134 & 214 — Camera and Platemaking
5 hrs./wk. 2 cr.

Advanced screen photography and screen platemaking.

PRT 138 & 218 — Presswork
10 hrs./wk. 3 cr.

Advanced offset and letterpress pressmanship, with emphasis on screen presswork.

REFRIGERATION & AIR CONDITIONING TECHNOLOGY

Students receive extensive training in the areas of operation, maintenance installation and design of Refrigeration and Air Conditioning Systems. This will enable those graduates to enter the installation and service areas, as well as the engineering technology field. Leads to Associate in Applied Science Degree.

FIRST YEAR

First Quarter	Hrs./wk. Lec.	Lab.	Cr.
REF 110 (Basic Refrig. Sys.)	....	15	5
REF 111 (Fund. of Refrig.)	5	....	5
MTH 110 (Applied Math.)	5	....	5
ELC 104 (AC-DC Fundamentals)	2	3	3
	12	18	18
Second Quarter			
REF 120 (Refrig. Systems)	....	15	5
REF 121 (Refrig. Applic.)	5	....	5
MTH 111 (Applied Algebra, Geom. and Trig.)	5	....	5
ELC 105 (AC-DC Circuits)	2	3	3
	12	18	18
Third Quarter			
REF 130 (Prob. of Service)	....	15	5
REF 131 (Auto. Control Sys.	5	....	5
MTH 116 (Math. Elec.)	5	....	5
DDT 101 (Basic Drawing)	2	3	3
	12	18	18

SECOND YEAR

Fourth Quarter	Hrs./wk. Lec.	Lab.	Cr.
REF 210 (Prob. of Installation)	....	15	5
REF 211 (Princ. of Air Cond.)	5	....	5
DDT 223 (Schematic Diagrams)	2	3	3
PSY 120 (Ind. Psychology)	5	....	5
	12	18	18
Fifth Quarter			
REF 220 (Prob. of Design)	....	15	5
REF 221 (Princ.ofDesign)	5	....	5
PHY 110 (App. Physics)	3	2	4
PS 110 (Pol. Science)	5	....	5
	13	17	19
Sixth Quarter			
REF 230 (Prob. of Design)	....	15	5
REF 231 (Princ. of Design)	5	....	5
PHY152(Physics)	3	2	3
COM 120 (Communications)	5	....	5
	13	17	18

Students completing the first year only may be awarded a certificate of graduation in Refrigeration and Air Conditioning Servicing.

COURSE DESCRIPTIONS

(In general, courses must be taken in numbered sequence with lecture and related lab. classes being taken concurrently.)

REF 110, 120 — Basic Refrigeration Systems
15 hrs./wk. 5 cr.

Refrigerants, domestic refrigerators and freezer systems, commercial applications, absorption systems, cooling systems and applications.

REF 111 — Fundamentals of Refrigeration
5 hrs./wk. 5 cr.

Development and operation of basic types of refrigeration systems, compression systems and controls, tools and uses.

REF 121 — Refrigeration Applications
5 hrs./wk. 5 cr.

Characteristics and uses of different types of refrigeration systems.

REF 130 — Problems of Service
15 hrs./wk. 5 cr.

Air conditioning systems, heating and humidifying, cooling and dehumidifying, cleaning, controls and instruments.

REF 131 — Automatic Control Systems
5 hrs./wk. 5 cr.

Theory and application of control systems used in all types of refrigeration systems.

REF 210 — Problems of Installation
15 hrs./wk. 5 cr.

Installation problems and considera-

tions involved with air conditioning, load calculations and cost estimation.

REF 211 — Principles of Air Conditioning
5 hrs./wk. 5 cr.

Heat loss of materials, air handling systems, heat sources.

REF 220, 230 — Problems of Design
15 hrs./wk. 5 cr.

Designing of equipment to do different jobs, determining heat loss, and air flow capacity.

REF 221, 231 — Principles of Design
5 hrs./wk. 5 cr.

Application of principles to actual designing and drawing of air conditioning systems.

WELDING

Emphasis in the Welding program is placed on processes used in welding of ferrous and non-ferrous metals. Instruction is given in metallurgy, testing of welds, safety in welding and blueprint reading. Graduates of the 18-month course are familiar with all well-known welding processes. Leads to Associate in Applied Science Degree.

FIRST YEAR

	Hrs./wk. Lec.	Lab.	Cr.
First Quarter			
WLD 110 (Weld. Pr., Arc and Acetylene)	....	15	5
WLD 111 (Fund. of Weld.)	5	....	5
MTH 110 (Gen. Tr. Math.)	5	....	5
BPR 100 (Basic BPR)	2	3	3
	12	18	18
Second Quarter			
WLD 120 (Weld. Pr., Arc and Acetylene)	....	15	5
WLD 121 (Fund. of Weld.)	5	....	5
MTH 111 (Gen. Tr. Math.)	5	....	5
BPR 102 (Weld. BPR)	2	3	3
	12	18	18
Third Quarter			
WLD 130 (Weld. Pr., Arc and Acetylene)	....	20	7
WLD 131 (Fund. of Weld.)	5	....	5
COM 120 (Communications)	5	....	5
	10	20	17

SECOND YEAR

	Hrs./wk. Lec.	Lab.	Cr.
Fourth Quarter			
WLD 210 (Adv. Weld. Pr.)	....	15	5
WLD 211 (Pipe Weld. and Testing)	10	....	8
PS 110 (Pol. Science)	5	....	5
	15	15	18
Fifth Quarter			
WLD 220 (Adv. Weld. Pr.)	....	15	5
WLD 221 (Spec. Welds)	10	....	8
PSY 120 (Ind. Psy.)	5	....	5
	15	15	18
Sixth Quarter			
WLD 230 (Adv. Weld. Pr.)	....	15	5
WLD 231 (Metal Fab.)	10	....	8
PHY 110 (App. Physics)	3	2	4
	13	17	17

Students completing the first year only may be awarded a certificate of graduation in Welding.

COURSE DESCRIPTIONS

(In general, courses must be taken in numbered sequence with lecture and related lab. classes being taken concurrently.)

WLD 105 — Welding—Related
4-6 hrs./wk. as scheduled. 3 cr.
Basic principles of arc and acetylene welding including flat, horizontal, vertical and overhead welds; also brazing and cutting techniques.

WLD 110—Welding Practices—Arc & Acetylene
15 hrs./wk. 5 cr.
Laboratory application of principles in WLD 111. Includes arc welding in all positions of fillet welding on mild steel and acetylene welding in all positions on butt and corner joints.

WLD 111 — Fundamentals of Welding
5 hrs./wk. 5 cr.
Basic welding theory and familiarization with welding equipment, electrodes, and filler metals.

WLD 120—Welding Practices—Arc & Acetylene
15 hrs./wk. 5 cr.
Continuation of WLD 110 and application of principles covered in WLD 121; includes arc and acetylene welding.

WLD 121 — Fundamentals of Welding
5 hrs./wk. 5 cr.
Theory of arc and acetylene welding of lap and corner joints in all positions on mild steel plate; includes acetylene cutting practices.

WLD 130—Welding Practices—Arc & Acetylene
20 hrs./wk. 7 cr.
Practical experience in arc welding of butt joints, acetylene welding of T-joints, cutting by hand and machine, and arc air cutting.

WLD 131 — Fundamentals of Welding
5 hrs./wk. 5 cr.
Theory and operation of oxy-acetylene cutting equipment both hand and machine operated, arc air cutting equipment, testing of welds, and methods of arc welding butt joints in all positions and oxy-acetylene welding of T-joints.

WLD 210 — Advanced Welding Processes
15 hrs./wk. 5 cr.
Laboratory application of principles covered in WLD 131 with emphasis placed on pipe welding and testing.

WLD 211 — Pipe Welding and Testing
10 hrs./wk. 8 cr.
Pipe welding and testing. Includes principles of welding pipe with emphasis placed on methods of executing standard Navy and A.S.M.E. plate tests. Arc and acetylene processes are taught.

WLD 220 — Advanced Welding Processes
15 hrs./wk. 5 cr.
Laboratory application of principles covered in WLD 221, applications in the welding of non-ferrous metals and metals other than mild steel.

WLD 221 — Specialty Welds
10 hrs./wk. 8 cr.
Theory of welding non-ferrous metals and metals common to the trade, other than mild steel, by use of standard welding processes.

WLD 230 — Advanced Welding Processes
15 hrs./wk. 5 cr.
Laboratory application of principles covered in WLD 231, includes practical application of inert gas welding.

WLD 231 — Metal Fabrication
10 hrs./wk. 8 cr.
Theory and application of fabricating practical jobs common to the trade with special instruction in inert gas welding and wire feed processes.

GENERAL EDUCATION AND RELATED INSTRUCTION COURSES

The following classes are designed to give the student the necessary knowledge, understanding, skills and abilities that will help him to find, apply for, secure and progress in employment in the occupation for which he is trained. The courses are oriented to correspond with specific occupational areas of study.

BLUEPRINT READING

BPR 100 — Blueprint Reading — Basic Course
5 hrs./wk. 3 cr.
The study of orthographic third angle projection including section conventions, auxiliary views and interpretation of fractional and decimal measurements. The student is taught to translate from pictorial to orthographic projections.

BPR 101 — Blueprint Reading — Machine Shop
5 hrs./wk. 3 cr.
Continuation of BPR 100 with greater emphasis on symbols, measurements, drafting standards of blueprints, sections, auxiliary views, details and specifications as they relate to the machine trades.

BPR 102 — Blueprint Reading — Welding
5 hrs./wk. 3 cr.

Blueprint reading as it applies to the welding trade including welding symbols, layout, and fabricating procedures.

BPR 103 — Blueprint Reading 1, Building Construction
5 hrs./wk. 3 cr.

Theory of projection, architectural symbols, relationship of views and measurements, plan and elevation views, sections and details and familiarization of terms, specifications, and abbreviations associated with a blueprint.

BPR 104 — Blueprint Reading — Building Construction
5 hrs./wk. 3 cr.

A study of commercial plans and specifications in the construction industry with emphasis on the relationship of the architect, engineer, contractor and owner.

COMMUNICATIONS

COM 110 — Communications
3 hrs./wk. 3 cr.

Review of oral and written communications to include conventional use of spelling, punctuation, and individual speech analysis.

COM 120 — Communications
5 hrs./wk. 5 cr.

Review of oral and written communications to include conventional use of spelling, punctuation, and individual speech analysis.

COM 130 — Technical Writing
5 hrs./wk. 5 cr.

Introduction to technical writing. Includes study of style, language, and mechanics. Practical work is expected from each student in writing technical reports.

COM 134 — Business English
5 hrs./wk. 5 cr.

Review of grammar, punctuation, sentence structure, paragraphing, and the composition of letters.

COM 135 — Business Report Writing
3 hrs./wk. 3 cr.

Effective documentation of programming in business and industry.

COM 140 — Effective Reading
2 hrs./wk. 1 cr.

Designed to increase vocabulary, comprehension, reading speed, and comprehension of general data processing materials.

MATHEMATICS

MTH 103 — Mathematics — Nursing
2 hrs./wk. 2 cr.

A review of basic mathematics including addition, subtraction, multiplication, and division of decimals and fractions. Also a study of percentage, metric system, and apothecary systems as applied to the nursing profession.

MTH 105 — Mathematics 1, Machine Shop
5 hrs./wk. 5 cr.

Fractions, decimals, square roots, manipulation of equations, geometry, and logarithms as applied to the machinist occupations.

MTH 106 — Mathematics 2, Machine Shop
5 hrs./wk. 5 cr.

Includes geometry, solution of triangles by trigonometry, with application to tapers, indexing, and gear trains.

MTH 110 — Mathematics 1, General Trade
5 hrs./wk. 5 cr.

An intensive study of whole numbers, decimals, fractions. Square roo s and percentages. Application will be made to the various trades.

MTH 111 — Mathematics 2, General Trade
5 hrs./wk. 5 cr.

Emphasis on ratio and proportion, areas, volumes, and selected topics pertinent to the particular trade.

MTH 115 — Mathematics 1, Electricity
5 hrs./wk. 5 cr.

Manipulation of common fractions, decimal fractions, percentages, square roots, powers of ten, slide rule and electrical equations.

MTH 116 — Mathematics 2, Electricity
5 hrs./wk. 5 cr.

Continuation of MTH 115 including the study of algebraic equations, simultaneous equations, exponents, quadratic equations, and the solution of right triangles by the use of trigonometry as applied to the electricity trade.

MTH 120 — Mathematics 1, Drafting
5 hrs./wk. 5 cr.

Manipulation of common fractions, decimal fractions, percentages, ratio and proportions, squares and square roots, areas of rectangles, triangles and circles.

MTH 121 — Mathematics 2, Drafting
5 hrs./wk. 5 cr.
Areas and volumes of polygons and circles, areas of solids, investigation of graphing techniques, geometrical constructions, and right angle trigonometry as applied to the drafting trades.

MTH 125 — Business Math
5 hrs./wk. 5 cr.
Review of fundamental mathematical processes. Measurements, decimals, fractions, percentages, discounts and mark up, commissions, depreciation.

MTH 126 — Business Math
3 hrs./wk. 3 cr.
Continuation of 134 with emphasis on inventor and accounting-type problems.

MTH 130 — Data Processing Mathematics I
5 hrs./wk. 3 cr.
Basic arithmetic operations including fractions and decimals plus applied business math.

MTH 131 — Data Processing Math II
5 hrs./wk. 3 cr.
Pre-algebra and introduction to algebra.

MTH 132 — Data Processing Mathematics
5 hrs./wk. 3 cr.
Polynomials, special functions, sequences, series, and limits, vectors, the algebra of matrices.

MTH 133 — Data Processing Mathematics
5 hrs./wk. 3 cr.
Integral calculus, limits and continuity integration formulas.

MTH 134 — Data Processing Mathematics V
5 hrs./wk. 3 cr.
Differential calculus, geometrical applications.

MTH 135 — Data Processing Mathematics VI
5 hrs./wk. 3 cr.
Multiple integration, partial differential equations.

MTH 140 — Statistics
5 hrs./wk. 5 cr.
Numerical analysis and statistics.

MTH 151 — Algebra
5 hrs./wk. 3 cr.
Content includes basic equations, special products, factoring, fractions, fractional equations, and solution of right triangles with trigonometry.

MTH 152 — Intermediate Algebra
5 hrs./wk. 3 cr.
Includes simultaneous equations, exponents, radicals, and quadratic equations.

MTH 153 — Advanced Algebra
5 hrs./wk. 3 cr.
Includes a review of intermediate algebra, functions, graphs, complex numbers, quadratic functions and equations, logarithms, trigonometric functions, and introduction to analytic geometry.

MTH 154 — Differential Calculus
5 hrs./wk. 3 cr.
Content includes average rates, limits, derivatives, differentials, higher derivatives, maxima and minima.

MTH 155 — Integral Calculus
5 hrs./wk. 3 cr.
Content includes integrals, definite integrals, trigonometric functions, logarithmic and exponential functions.

MTH 156 — Boolean Algebra
5 hrs./wk. 3 cr.
Includes decimal and binary number system, binary (add, subtract, multiply and division) fundamentals, application of basic switching circuits, analysis and simplification of switching circuits as applied to electronics.

PHYSICS

PHY 110 — Applied Physics
5 hrs./wk. 4 cr.
A lecture-demonstration course designed to cover the properties of matter, mechanics, heat, light and sound on an elementary level.

PHY 151 — Physics — Mechanics
3 hrs./wk. 3 cr.
A lecture-demonstration course in mechanics (forces and motion) with emphasis on problem solving.

PHY 152 — Physics — Heat, Light and Sound
5 hrs./wk. 3 cr.
A continuation of Physics 151 covering the subjects of heat, light and sound with a two-hour lab. included.

PHY 153 — Physics — Modern
3 hrs./wk. 3 cr.
The final course of the three-part series with emphasis on the properties of matter including atomic and nuclear physics.

PHY 154 — Physics — Mechanics
5 hrs./wk. 3 cr.
Study of mechanics with stress on problem solving. A two-hour lab is included.

PHY 155 — Physics — Electricity and Magnetism
3 hrs./wk. 3 cr.

A theoretical approach to the fundamentals of electricity and magnetism on a college level with emphasis on basic concepts.

PHY 156—Physics—Optics and Modern Physics
5 hrs./wk. 3 cr.

The final course of this series. A mathematical study of optics and atomic and nuclear physics taught on a college level.

GENERAL

PS 110 — Political Science
5 hrs./wk 5 cr.

A study of the Constitution, branches of the Federal government, and State government. A history of the development of government in the United States.

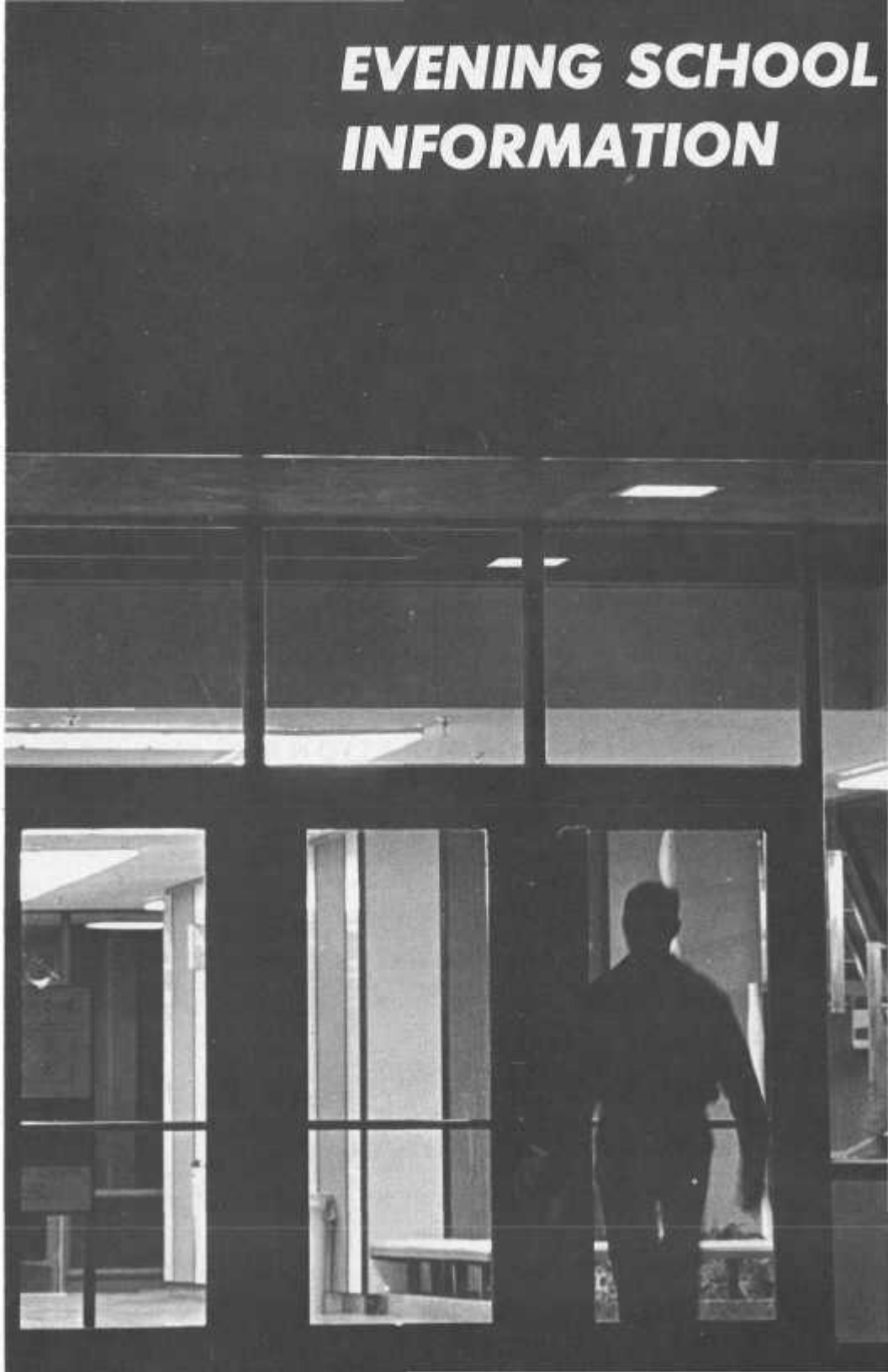
CIV 115 — Vocational Civics
2 hrs./wk. 2 cr.

Basic understanding of human relations, economics, and business principles, which will enable the student to take his place in a social or work surrounding.

PSY 120 — Industrial Psychology
5 hrs./wk. 5 cr.

A survey of the applications of psychology in industry, including a study of the individual in group situations, personnel procedures, and interpersonal relations.

EVENING SCHOOL INFORMATION



EVENING SCHOOL

Four types of classes are offered during evening hours—evening occupational preparatory, apprentice related training, occupational extension, and supervisory training. The evening occupational preparatory courses are similar to those offered in day school, but students average only 16-20 hours in class each week. Apprentice related training is classwork that augments the apprentice's on-the-job training. Evening occupational extension courses offer additional training to employed persons. Courses in supervisory and technical training assist foremen, supervisors and managers in understanding and developing improved management methods.

Minimum Enrollment

It is not feasible to operate a course with fewer than ten registrants. When it is impossible to maintain a sufficient enrollment, classes are discontinued.

Eligibility

Courses are offered without reference to college credit. Evening School is open to individuals over 16 years of age. However, Apprentice Training Courses have been established to provide related training for apprentices only. It is required that the applicant be employed in the occupation for which training is desired.

EVENING OCCUPATIONAL PREPARATORY

Evening Occupational Preparatory courses are offered in Auto Body Repair, Barbering, Electronics Technology, Drafting and Design. Since instruction is offered on a part-time basis, the time required to complete these programs is longer than the regular Day School programs. Course descriptions are found in the Day School Curriculum section of this catalog.

With the exception of Barbering, these programs operate Monday through Thursday from 6 p.m. to 10 p.m. The Barbering program is held Monday through Thursday from 4 p.m. to 10 p.m., and Saturday from 8:30 a.m. to 5 p.m.

AUTO BODY REPAIR AND PAINTING can be completed in 18 months of instruction.

BARBERING requires 12 months of evening instruction.

ELECTRONICS TECHNOLOGY may be completed in 27 months of instruction.

DRAFTING AND DESIGN takes 18 months of instruction.

APPRENTICE RELATED COURSES

Apprentice training courses supply the related instruction necessary to complement daily on-the-job experience of the apprentice or trainee.

CARPENTRY: Related instruction for carpentry apprentices includes industrial and labor relations, mathematics and blueprint reading, foundations and form construction, framing, roof framing, exterior covering and finishing, interior finish, stairbuilding, concrete construction, plans and building procedures, special uses of concrete, heavy timber construction.

ELECTRICITY: This program for apprentices and tradesmen includes technical information and theory related to electricity, blueprint reading, safety, mathematics, principles of motors, generators, transformers, electric wiring, distribution systems, industrial electronics, electrical maintenance and repair, and industrial and labor relations.

IRONWORKING — LAYOUT: Related training for ironworking apprentices and tradesmen includes technical information and theory related to the ironworking industry, such as blueprint reading and interpretation, mathematics, safety, trade theory and science, layout, assembly and fabrication, the steel square, etc.

IRONWORKING — STRUCTURAL: This course is offered for structural ironworker apprentices and journeymen and covers rigging of equipment, safety, structural steel theory, reinforcing steel theory and practice, welding and other trade practices. Blueprint reading is an integral part of the second year course.

LEAD WIPING: Lead wiping is the fifth year course required of apprentice plumbers. It includes instruction in the theory and technical information needed to make lead joints and also encompasses shop practice necessary to develop skills at this technical job.

A special fee of $7.50 per quarter is charged all students in lead wiping for materials and supplies furnished by the school.

MACHINE SHOP: This course for apprentices and tradesmen includes the technical information and theory related to machinists' on-the-job operations, blueprint reading and drawing, mathematics, safety, machine shop tools, machinery toolmaking applications, heat treatment of steels, layout and fabrication, general machine shop theory and science.

PAINTING AND DECORATING: Painting and decorating for apprentices and tradesmen includes technical information and theory related to the painting and decorating trade, blueprint reading, mathematics and estimating, safety, trade theory and science, tools and equipment of the trade, industrial and labor relations, color harmony, chemistry of paints, etc.

PIPE FITTING AND REFRIGERATION: The pipe fitting program is for apprentices in the pipe fitting field. It includes technical information and theory relative to the work of the pipe fitter. It also includes mathematics, estimating, blueprint reading, plan reading, and specifications for the pipe fitting trade. Pipe fitting materials, venting, and organization of the industry are also included.

The refrigeration phase of this program includes technical information related to the physics of refrigeration, controls, field installation and servicing.

PLUMBING: This program for apprentices and tradesmen includes technical information and theory related to the plumbing trade, mathematics and estimating, blueprint reading and drawing, plan reading and specifications for the plumbing trade, plumbing materials, venting, organization of the industry.

SHEET METAL: Related training for sheet metal workers includes mathematics, geometrical drawings, practical projection, pattern development, ventilation layout, parallel line layout, radial lines, triangulation and short methods; tools, machines and materials used in sheet metal work; theory of sheet metal welding.

WELDING: The courses consist of related information and correlated shop practice. Basic programs take up theory and related information necessary to carry out a shop program consisting of practice in welding all types of joints in all positions with coated all-position electrodes on mild steel plates, and oxy-acetylene welding. Advanced work involves review of basic work, theory and related information as well as demonstrations and practice.

A special fee of $7.50 per quarter is charged all students for welding supplies and material furnished by the school. It is also necessary for welding students to provide themselves with specified items of equipment.

OTHER CLASSES: Classes may be initiated at any time during the school year. Whenever the needs of industry assure a continuous enrollment of ten or more students, a class will be organized to fulfill the need.

OCCUPATIONAL EXTENSION COURSES

AUTO MECHANICS: Transportation is one of the largest and most vital industries in the world today. Accordingly, it requires a constant program for the preparation and upgrading of skilled mechanics. Evening classes for persons employed in the trade will include three short-term, intensive sections. They are Automotive Tune-up; Automatic Transmissions; and Automotive Air Conditioning.

BLUEPRINT READING: Blueprint reading is a necessary skill in many of the occupations. It is one of the primary tools of communicating ideas in industry. Courses in blueprint reading are designed to provide a foundation for workers to be able to understand and carry out instructions

which they receive through the medium of blueprints. These classes deal with blueprint reading for the construction, mechanical, manufacturing and electrical trades.

BUSINESS PRACTICE: Instruction in the business program is designed to assist those people who are employed to develop office skills which will enable them to advance on the job. The applicant may select one or more of the four classes conducted in this program—Typewriting; Refresher shorthand; Office machines; Office practice and bookkeeping.

CABINET AND FURNITURE MAKING: The objective of this course is to develop skill on the part of the student in the fundamental operations of cabinet work and furniture construction, using both hand and machine tools. This course is designed to add these skills to persons already in the trade, as well as persons seeking this training to develop an avocation.

CHECKSTAND TRAINING: A course designed to train students in the skill of checkstand operating procedures for employment in food, drug and variety stores. Students operate cash registers and scales in class. They also receive training in bagging, customer relations, basic accounting and basic salesmanship.

COMMERCIAL ART: This course covers the fundamentals of commercial art. It is divided into four sections—lettering and layout; color and design; pictorial composition; and industrial rendering. The student is taught to create subject matter for advertising copy. and how to illustrate for posters, magazines and newspapers, and fashion drawing.

CONSTRUCTION ESTIMATING: Students learn methods of interpreting plans and specifications in the preparation of cost estimates in the building construction field. Students enrolling in this course should have had considerable experience in construction work.

GUN REPAIR: This course offers practical experience and training in the repair of guns, such as repair and fitting of stocks, alterations of mechanisms, re-sighting and other aspects of this trade.

MACHINE SHOP: This course for apprentices and tradesmen includes the technical information and theory related to machinists' on-the-job operations, blueprint reading and drawing, mathematics, safety, machine shop tools, machinery, toolmaking applications, heat treatment of steels, layout and fabrication, general machine shop theory and science.

MATHEMATICS — INDUSTRIAL: All of the trades and industries have need of basic mathematics. This course is designed to approach the problems found in industry. Special attention can be given to individual problems as they arise. The student can proceed as fast as he desires.

METAL LAYOUT FOR FABRICATORS: A course designed to help people in fabrication and maintenance work who need basic information on layout problems. These problems will be presented in terms of the mathematics, drawing, and pattern development needed in the fabrication of various types of materials.

OFFSET PRINTING: A class for those working in printing plants, letter shops, office reproduction centers and in-plant printing centers. The course includes theory of offset printing, plate making (masking, stripping, opaquing), layout and design, paper, inks, operation of various offset presses and related equipment.

OFFSET CAMERA (Black and White): A course designed for persons who have taken the offset printing class described above or who have had the equivalent in trade experience. Students use the horizontal process camera. Class material includes evaluation of copy, line shots, halftones and screen techniques, camera characteristics, lighting, filters, reductions, enlargements, film processing and duo-tones.

OFFSET CAMERA (Color): Students enrolling in this class must have taken the camera class described above or have the equivalent in trade experience. The class uses a process color camera. Training covers the areas of copy evaluation, filters and filter techniques, color separation of reflected and transmitted copy, techniques of screen rotation, continuous tone negatives and positives, film processing, color correction, pin register systems, densitometer and quality control methods.

OPERATING ROOM TECHNICIAN: This program is designed to prepare qualified men and women to handle sterile instruments and supplies while assisting the surgeon during surgery in the hospital operating room. It is approximately 310 hours in length, including classroom theory and hospital clinical experience. The two-quarter program is offered once a year.

UPHOLSTERING: Instruction for the upholstering trade includes design of furniture, construction of frames, remodeling furniture, fabrics —their identification and uses, wood finishing, power sewing, slip cover fabrication, mathematics and safety practices.

WELDING: This course consists of related information and correlated shop practice. Basic programs take up theory and related information necessary to carry out a shop program consisting of practice in welding all types of joints in all positions with coated all-position electrodes on mild steel plates, and oxy-acetylene welding. Advanced work involves review of basic work, theory and related information as well as demonstrations and limited practice.

A special fee of $7.50 per quarter is charged all students for welding supplies and material furnished by the school. It is also necessary for welding students to provide themselves with specific items of equipment.

WELDING — INERT GAS ARC: The Inert Gas Arc Welding class provides students first with instruction in the techniques used in this type of welding and second with practice in the inert gas arc process. Applicants are carefully selected before admission on the basis of welding experience and performance tests. The high cost of operating this class necessitates a special shop fee of $15.00 per quarter.

WIRE PREPARATION: The Wire Preparation class teaches the student to recognize color codes used in electrical wiring, gives practice in soldering and wiring in accordance with electrical diagrams and drawings. This class has particular application in the electronic manufacturing industry and is scheduled as requested by individual industries.

SUPERVISORY AND TECHNICAL TRAINING

Supervisory training courses designed to improve the skills of managers, supervisors and foremen are offered. Each class is designed to give information on new techniques, developments and improved methods in dealing with the problems of supervision, management, and automation. The time and length of each course is arranged on an individual class basis.

Executive Training for Supervisors

This course consists of training for effective diagnosis, how to be a leader, transplanting thoughts to others, results of indecisions, ways to welcome creative ideas, how to make the time you need, effective organizations, and responsibilities of executives. This series is comprised of eight sessions of two and one-half hours each.

Strategy of Working With People

Training for leadership in industry and business is provided through an objective study of the most outstanding problems in human relations. Such problems as building confidence, handling grievances, getting cooperation and developing desirable attitudes are discussed in these conferences. This course consists of eight sessions of two and one half hours each.

Supervisors as Teacher-Trainers

This series of eight, two and one-half hour sessions covers such instructional problems as the principles of learning, methods and techniques of instruction, use of instructional aids, occupational and job analysis, the preparation of training plans and the scheduling of training time.

English Essentials and Report Writing

This course is a review of Business English requirements, grammar and vocabulary usage, informal reports (letters, memoranda, etc.), report writing style, formal reports, mechanics of effective communications and use of tables, charts, illustrations, etc. This series is comprised of eight sessions of two and one-half hours each.

Organization Analysis and Production

These basic principles of sound management are studied with particular regard to the following functions of business management: planning, motivating, organizing, direction and controlling. The effective use of time and the development of an efficient production team are also stressed. This series is comprised of eight sessions of two and one-half hours each.

Work Simplification and Production

This eight-session course teaches the application of scientific procedures to job simplification, how to analyze a job for improvement through the use of process charts, application of time-motion studies, how to apply the five-step procedure for improving job methods, and how to prepare and present a new method to management.

Computer Concepts and Applications

This course consists of an introduction to computers and data processing, computer demonstration, data representation, computer storage and input-output devices, stored program concepts, programming languages, practical computer applications, and cost justification and evaluation. This series is comprised of eight sessions of two and one-half hours each.

Plant Safety

This series of eight two and one-half hour sessions is concerned with developing the supervisor's interest and knowledge of good safety practices within the industrial plant or business. Various techniques of increasing the workers' participation and interest in safety programs are emphasized.

Physical Plant Maintenance

This eight week course is designed to assist those who operate and

maintain office buildings, industrial plants, hospitals, churches, schools and similar institutions to obtain maximum results from the facilities provided.

Job Related Technology Courses

These courses of eight to ten weeks duration are organized to provide education and training in the latest developments of technological processes. Included are such programs as individual hydraulics, plastics technology, electronic control systems, numerical control of industrial machines, advanced computer programming, etc.

Recertification Programs

Requests are often made for specific recertification courses co-sponsored with private, state and federal departments to certify individuals in these organizations. Included are programs for Public Works Inspectors, Cosmetologists, Professional Legal Secretaries, law enforcement personnel, etc.

Fire Science

This program is intended as an in-service upgrading course to enable firemen to increase their efficiency and effectiveness on the job. New students to fire science are also welcome to undertake this program. Successful completion of the program will make students eligible for the Associate Degree in Applied Science.

FACULTY

T & I means the instructor holds the state Trade and Industrial Certificate.

ASHDOWN, Robert C. (1965) **Machine Shop**
Experience: Tool & Die Maker. B.S.

BAILEY, William N. (1967) **Electronics**
Experience: Asst. Supvsr. Comm. Dept., D. & R.G.W. Railroad; Instructor, Radio Institute.

BAKER, Joseph J. (1964) **Electronics**
Experience: Electronics Technician, Sperry Utah; Instructor, B.Y.U., etc. Radio Institute Certificate; T & I.

BARNETT, O. Lee (1967) **Accounting**
Experience: Research Analyst, Goodbody & Co.; Teacher, Murray Schools, etc. B.S.; T & I.

BARRUS, James C. (1967) **Data Processing**
Experience: Systems Analyst, Utah State Highway Dept., etc. T & I.

BARTHOLOMEW, Earl R. (1961) **Business**
Experience: Tax consultant; various office positions. B.S.; T & I.

BELL, James R. (1957) **Apprentice Electricity**
Experience: Journeyman electrician.

BINGHAM, Keith (1964) **Basic Electricity**
Experience: Litton Data Systems; Instructor, U.S.A.F.

BLACK, Dall L. (1965) **Related Instruction**
Experience: Supervisor-Instructor, U.S. Army. B.S.; M.S.; T & I.

BLACK, June A. (1951) **Automotive**
Experience: General Manager, Deluxe Motors; Instructor, Carbon College, etc. T & I.

BLACK, Sally N. (1968) **Related Instruction**
Experience: Secretarial, U.C.L.A. Medical Center; Instructor, Jordan Schools, etc. B.S.; T & I.

BOULTON, Franklin F. (1958) **Machine Shop**
Experience: Machinist, McGee & Hogan Machine Works, H.A.F.B.; Instructor, Calif. Poly. State College. Assoc. Degree, Weber State College; B.S.; M.S.; T & I.

BOWEN, Elmer D. (1968) **Math & Physics**
Experience: Instructor, General Dynamics Corporation. B.S.

BOWN, J. Ralph (1959) **Automotive**
Experience: Machinist, McGee & Hogan Machine Works, H.A.F.B., etc. B.S.; M.S.; T & I.

BRACKENBURY, George (1967) **Plumbing**
Experience: Journeyman Plumber, Jelco Inc.

BRINGHURST, George S. (1950) **Welding**
Experience: Welding, Comb., Bechtel Corp., S.L.C. Board of Education, etc. T & I.

BRINKERHOFF, Joseph D. (1964) **Electronics**
Experience: Instructor, Granite Schools, Weltech College; electronic technician, Thiokol Chemical Corp., etc. B.S.; U.S.A.F. Certificate; T & I.

BRONSON, Hugh E. (1960) **Machine Shop**
Experience: Machinist, The Galigher Co.

BRUNSON, Ronald M. (1960) **Machine Shop**
Experience: Machinist, D. & R.G.W., Chesapeake & Ohio Railroad, etc. Chesapeake & Ohio Railroad Certificate; T & I.

BURCH, H. Kent (1966) **Heavy Duty Mechanics**
Experience: Heavy Duty Mechanic, Gibbons & Reed, Morrison-Knudsen, etc. T & I.

BURT, Wallace G. (1951) **Electricity**
Experience: U.S. Army, Pearl Harbor, etc. B.S.; Pearl Harbor Trade School Certificate; T & I.

BUTLER, Alexandra K. (1967) **Health Occupations**
Experience: Nursing Supervisor, Cottonwood Hospital, Salt Lake General Hospital, etc. B.S.; R.N. (Utah); T & I.

CAMERON, John E. (1963) **Automotive**
Experience: Auto mechanic, Gledhill Dodge, etc. McSweeney's Auto School Certificate; T & I.

CAMERON, Robert W. (1967) **Business**
Experience: Management Consultant. B.S.

CAMPBELL, Kathleen M. (1964) **Business**
Experience: Instructional. B.S.

CARR, Mary B. (1968) **Health Occupations**
Experience: Head Nurse, Holy Cross Hospital; Staff Nurse, Shriner's Hospital, etc. R.N. (Utah); T & I.

CHILD, Ralph S. (1965) **Marketing**
Experience: Insurance Underwriter; Manager, Safeway Stores. B.S.; T & I.

CHRISTENSEN, Dallis J. (1967) **Electronics**
Experience: Instructor, Weltech College, etc. B.S.; T & I.

CHRISTENSEN, LaVoy S. (1957) **Welding**
Experience: Journeyman Welder; salesman, C & C Welding Supply Co.

COTTAM, Lester G. (1966) **Machine Shop**
Experience: Machinist, U.S. Mining & Smelting Co., Rice Machine Works, etc. Assoc. Degree, Dixie College; T & I.

CROW, Thomas W. (1967) **Welding**
Experience: Journeyman Welder, McGee & Hogan Machine Works; Instructor, U.S. Navy. Certificated Air Force & A.S.M.E. all-position welder.

CULLIGAN, James J. (1956) **Electronics**
Experience: Senior Electronics Technician, Sperry Utah, Hill Air Force Base, etc. Delehanty Institute of Radio & TV Certificate; T & I.

DAHLE, Cline N. (1965) **Machine Shop**
Experience: Machinist, Supervisor, etc., Eimco Corporation.

DARLINGTON, Courtney (1953) **Sheet Metal**
Experience: Journeyman Sheet Metal Worker, Midco Metal Products Co.

DAY, Clinton E. **Related Instruction**
Experience: Manager, Factory Engineering, Litton Industries. B.S.; C.S.U. Certificate; T & I; Electrician's License.

DeGATTIS, Kathryn C. (1967) **Business**
Experience: Secretarial, Senior & Senior, University of California, etc. B.S.; T & I.

DEAN, Ross E. (1959) **Building Construction**
Experience: Carpenter, W. J. Dean Sons, etc. B.A.; M.S.; T & I.

DENSLEY, Mary Lou (1961) **Business**
Experience: Secretarial; instructor, Jordan Schools. B.S.; T & I.

DIAMOND, Cornell F. (1966) **Cabinet & Furniture Making**
Experience: Instructor, S.L. Board of Education; Journeyman Carpenter.

DILLE, B. W. (1956) **Electricity**
Experience: Journeyman Electrician. Certificate from Chicago Engineering Works.

EDMONDS, Horace B. (1963) **Electronics**
Experience: Supervisor, Hercules Inc.; Technician, Hill Air Force Base, etc. Radio Institute Certificate; T & I.

EKLUND, Margaret E. (1965) **Health Occupations**
Experience: Instructor, St. Marks School of Nursing; Head Nurse, St. Alphonsus Hospital, etc. B.S.; R.N. (Utah); T & I.

ELLISON, Thomas R. (1965) **Drafting & Design**
Experience: Designer, Hercules Powder Co., Dallons Labs. etc. T & I.

FOULKS, Ruth (1964) **Health Occupations**
Experience: Head Nurse, St. Mark's Hosiptal, etc. St. Mark's Hospital Certificate; R.N. (Utah); T & I.

GIBSON, B. Dale (1960) **Printing**
Experience: Journeyman Printer, Newspaper Agency Corporation, etc. I.T.U. Certificate; T & I.

GONZALES, Marcellino (1966) **Electricity**
Experience: Journeyman Electrician, Wasatch Electric Co.

GRAHAM, Raymond C. (1957) **Heavy Duty Mechanics**
Experience: Mechanic, Lang Equipment Co., etc. National Schools Certificate; T & I.

GROVER, Neal D. (1964) **Autobody Repair**
Experience: Owner Operator, Grover's Body & Fender Shop, etc. UTC Certificate; T & I.

HALE, D. R. (1968) **Electronics**
Experience: Industrial Electronics, Brigham Young University.

HALE, Norman M. (1966) **Electronics**
Experience: Instructor, U.S. Air Force; Electronics Technician, Hercules Inc.

HANSEN, Dorthy H. (1954) **Health Occupations**
Experience: Supervisor, Dee Memorial Hospital, Hill Air Force Base Hospital, etc. L.D.S. Hospital Certificate; R.N. (Utah); T & I.

HANSEN, Levern (1949) **Autobody Repair**
Experience: Autobody Repairman, Fisher Pontiac, etc. Weber State College Certificate; T & I.

HANSEN, Patricia B. (1967) **Health Occupations**
Experience: Staff Nurse, Holy Cross Hospital, etc. R.N. (Utah); Holy Cross Hospital Certificate; T & I.

HEATH, Robert D. (1955) **Welding**
Experience: Journeyman Welder, Eimco Corporation.

HITE, Thamer S. (1962) **Barbering**
Experience: Barber & Beautician, Salt Lake City. SLAVS Certificate; Carel's Institute of Beauty Culture Certificate; T & I.; Utah State Barber's License.

HOOPES, Victor (1960) **Plumbing**
Experience: Journeyman Plumber.

HORNE, Douglas A. (1959) **Sheet Metal**
Experience: Journeyman Sheet Metal Mechanic; Owner-Manager, Gudgell Sheet Metal Works.

JACOBSEN, Richard L. (1966) **Electronics**
Experience: Journeyman Electronics Technician, Utah Power & Light Co.

JENSEN, Evan E. (1948) **Commercial Art**
Experience: Freelance Artist and Illustrator, Phoenix Art Institute Certificate; Art Center Certificate; Illustrator's Club Certificate; T & I.

JOHNSON, Harold E. (1955) **Plumbing**
Experience: Journeyman Plumber, P. L. Larsen Co.

JOHNSON, Wallace H. (1956) **Sheet Metal**
Experience: Journeyman Sheet Metal Mechanic, Carver Sheet Metal Inc.

JOHNSON, Wallace K. (1966) **Heavy Duty Mechanics**
Experience: Heavy Duty Mechanic, Sumsion Construction, Ford Construction, etc. B.S.; U.S.N. Training School Certificate; T & I.

JULANDER, Hal D. (1966) **Automotive**
Experience: Line Mechanic, Hinckley Dodge, etc. T & I.

KNUTESON, Martin H. (1948) **Barbering**
Experience: Barber and Beautician, Salt Lake City. Molers Barber College Certificate; Auerbach's School of Beauty Certificate; T & I; Utah State Barber's License.

KRANENDONK, Daniel (1967) **Heavy Duty Mechanics**
Experience: Shop Foreman, Archer Tractor Co.; Service Manager, Heiner Equipment & Supply Co. T & I.

LARSEN, Jean K. (1963) **Health Occupations**
Experience: Director, Nursing Services, Holy Cross Hospital, etc. B.S.; R.N. (Utah); T & I.

MACK, Genevieve (1966) **Cosmetology**
Experience: Instructor, Ex-Cel-Cis Beauty College; Robert Steur Beauty College. Hollywood College of Beauty Certificate; T & I; Beauty Operator's License; Cosmetology Instructor's License.

MADRON, George F. (1950) **Plumbing**
Experience: Journeyman Plumber; Utah State Plumbing Examining Board Member; Advisory Committee Member, State Board of Health (Plumbing Code).

MAJOR, Duane (1967) **Architectural Rendering**
Experience: Designer, Mid-West Office Supply.

MANNING, Max C. (1957) **Painting & Decorating**
Experience: Journeyman Painter & Decorator. Member, Utah Apprentice Council.

MATERN, Mary Todd (1965) **Health Occupations**
Staff Nurse, Holy Cross Hospital; Head Nurse, Veteran's Hospital, etc. B.S.; L.D.S. Hospital Certificate; R.N. (Utah); T & I.

MATTHES, Howard K. (1965) **Data Processing**
Experience: Owner, Professional Accounting Service; Accountant, Robinson-Hill-Wood, etc. B.S.; LaSalle Extension University Certificate; Licensed Public Accountant; T & I.

McCREA, James F. (1965) **Blueprint Reading**
Experience: Carpenter, Licensed Architect, L.D.S. Church Building Department.

MECHAM, Harold A. (1958) **Layout for Fabricators**
Experience: Journeyman Welder and Layout Man, American Oil Refining Co.

MORRIS, Lee J. (1966) **Machine Shop**
Experience: Instructor, Granite Schools. M.S.

MORRIS, William Wendell (1958) **Welding**
Experience: Journeyman Welder, Vulcan Steel Co.

NIELSEN, Donna C. (1965) **Health Occupations**
Experience: Staff Nurse, Veteran's Hospital, L.D.S. Hospital, etc. B.S.; R.N. (Utah); T & I.

NIELSON, Robert S. (1966) **Automotive**
Experience: Mechanic, Gail Bywater, U.S. Navy, etc. General Motors Training Center Certificate; T & I.

NINOW, Richard (1966) **Architectural Drafting**
Experience: Structural Designer, Draftsman, Alberta, Canada. Cape Technical College Certificate; T & I.

OLSEN, Anna Lee (1966) **Business**
Experience: Secretarial, Allen & Garcia Co., etc. A.S., B.S.; T & I.

OLSEN, Arley (1964) **Sheet Metal**
Experience: Journeyman Sheet Metal Mechanic, Pons and Davis Sheet Metal Workers.

PARR, A. Reed (1967) **Related Instruction**
Experience: Instructor, Granite Schools, etc. B.S.; T & I.

PARRISH, Martha (1955) **Health Occupations**
Experience: Staff Nurse, L.D.S. Hospital, U.S. Navy, etc. B.S.; R.N. (Utah); T & I.

PEHRSON, Robert B. (1967) **Real Estate**
Experience: Real Estate Broker, Insurance Salesman; Instructor, S.L. Board of Education. B.A.; M.A.

POULSEN, Violet N. (1957) **Health Occupations**
Experience: House Supervisor, Cottonwood Hospital; General Staff Duty, S.L. General County Hospital, etc. B.S.; S.L. General County Hospital Certificate R.N. (Utah); T & I.

PRATT, Parker M. (1949) **Automotive**
Experience: Mechanic, various firms. General Motors Training Center Certificate; Delco Remy Certificate; T & I.

PROVOST, Ray D. (1968) **Men's Hair Styling**
Journeyman Barber, Salt Lake City. S.L. Barber College Certificate; Joe Carlow Advanced Men's Styling Course Certificate.

RODI, Johnna R. (1966) **Business**
Experience: Secretary, Cornwall General Hospital; Office Manager, Morton-Parker Ltd. Secondary Teaching Certificate, Ontario; T & I.

SALMOND, J. Lowell (1963) **Related Instruction**
Experience: Electronics Technician, Thiokol Chemical Corporation; Instructor, Weber State College. B.S.; Ogden Business College Certificate; T & I.

SCHNIREL, James R. (1962) **Architectural Drafting**
Experience: Draftsman, various architectural firms. B.S.; Delhi Agr. and Technical Institute Certificate; T & I.

SECRIST, Gerald A. (1968) **Electronics**
Journeyman Electrician, Sisam Electric Co.

SHEPHERD, Heber A. (1968) **Upholstering**
Experience: Journeyman Upholsterer, self-employed. B.S.

SHULTS, C. Smithey (1957) **Drafting & Design**
Experience: Instructor, Kansas, Wyoming, Utah. B.S.; M.S.; T & I.

SOCHOR, Edna Q. (1968) **Health Occupations**
Experience: Nurse, St. Mark's Hospital, Utah Valley Hospital, etc. R.N. (Utah); T & I.

SORENSON, Dale W. (1955) **Building Construction**
Experience: Contractor; Carpenter, Young Construction Co. New York Trade School Certificate; T & I.

SOUTHWICK, Ray M. (1965) **Automotive**
Experience: Mechanic, Fred A. Carleson, Bountiful Motors, etc. B.S.; General Motors Institute Certificate; T & I.

SPAINHOWER, Orrin W. (1951) **Autobody Paint**
Experience: Foreman, Lyman Motor; Painter, Freed Motor, etc. General Motors Training Center Certificate; Ditzler Factory Certificate; T & I.

STENSRUD, Grant S. (1955) **Upholstering**
Experience: Journeyman Upholsterer; Instructor, S.L. Board of Education.

STEWART, Calvin B. (1961) **Related Instruction**
Carpenter, Lester Brough; Project Director, Modern Home Builders, etc. B.S.; M.S.; U.S. Army Certificate; Carpenter's License; T & I.

TANNER, Bernard T. (1966) **Commercial Art**
Experience: Freelance Artist. UTC Certificate; T & I.

THATCHER, George A. (1962) **Electronics**
Experience: Owner, Radio & TV Repair; Technician, Bocking Aircraft, etc. B.S.; M.S.; U.S. Navy Certificate; T & I.

THOMAS, James W. (1967) **Men's Hair Styling**
Experience: Journeyman Barber, Salt Lake City; Instructor, Joe Carlow Advanced Men's Styling Course Certificate.

VAN OS, Huibert (1965) **Machine Shop**
Experience: Machinist, Eimco Corporation. Eimco Corporation Certificate; T & I.

VIGEN, Harriet B. (1948) **Business**
Experience: Secretary, Agriculture Administration; Instructor, Utah Trade Technical Institute, etc. Calhourn Secretarial School Certificate; T & I.

WALKER, Dwayne (1962) **Mechanical Drafting**
Experience: Design Engineer, Sperry Univac, etc.

WEIGHT, Gordon L. (1965) **Printing**
Experience: Printing Supervisor, Paragon Press, Hercules Powder Co., etc. U.S. Air Force Certificate; T & I.

WELLARD, Richard D. (1948) **Welding**
Experience: Welding Maintenance, U.T.C.; Shop Foreman, Lang Company, etc. John Huntington Institute Certificate; T & I.

WHITE, Walter L. (1967) **Printing**
Experience: Lithographer, Mercury Publishing Co., Paragon Press, etc. Colorado Certificate of Apprenticeship; T & I.

WILLIAMS, Boyd L. (1967) **Pipefitter's Refrigeration**
Journeyman Refrigeration Mechanic, Mount-Aire Service Inc.

WILLIAMS, Leland A. (1965) **Related Instruction**
Experience: Draftsman, Standard Oil, San Francisco Chemical Co., etc. B.S.; Journeyman Carpenter Certificate; T & I.

WILLIAMS, Mary Jane (1968) **Health Occupations**
Experience: Charge Nurse, Veteran's Hospital; Head Nurse, S.L. General Hospital. B.S.; R.N. (Utah); T & I.

ZEISLER, Ulrich E. (1967) **Electronics**
Experience: Instructor, Radio Institute. First Class F.C.C. Radar Endorsement.

Staff Assistants

BOREN, Ralph C. ..... Training Coordinator

GANT, Ralph W. ..... Assistant Dean of Students

HANSEN, Charles W. ..... Placement Director

McDONALD, Russell T. ..... Special Instruction Coordinator

MEANS, William W. ..... Bookstore Manager

PIACITELLI, Florence ..... Registrar

REQUEST FOR ENTRANCE APPLICATION

PROSPECTIVE STUDENTS: Please complete the following and mail to Utah Technical College at Salt Lake, 4600 South Redwood Road, Salt Lake City, Utah 84107.

1. Course: .....

☐ Day ☐ Evening

2. Date to begin: .....

Name: .....

Address: .....

Date of birth: .....

Please indicate any further information you would like about Utah Technical College.