1976

General College Catalog 1975-1976

Utah Technical College at Salt Lake

UTAH TECHNICAL COLLEGE AT SALT LAKE

CATALOG · 1975-1976

A Step in the Right Direction

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GENERAL CATALOG

UTAH TECHNICAL COLLEGE AT SALT LAKE

1975 - 76

A state-assisted trade and technical college operated under the direction of the Utah State Board for Vocational Education and the Utah State Board of Regents. The college is accredited by The Northwest Association of Schools and Colleges.

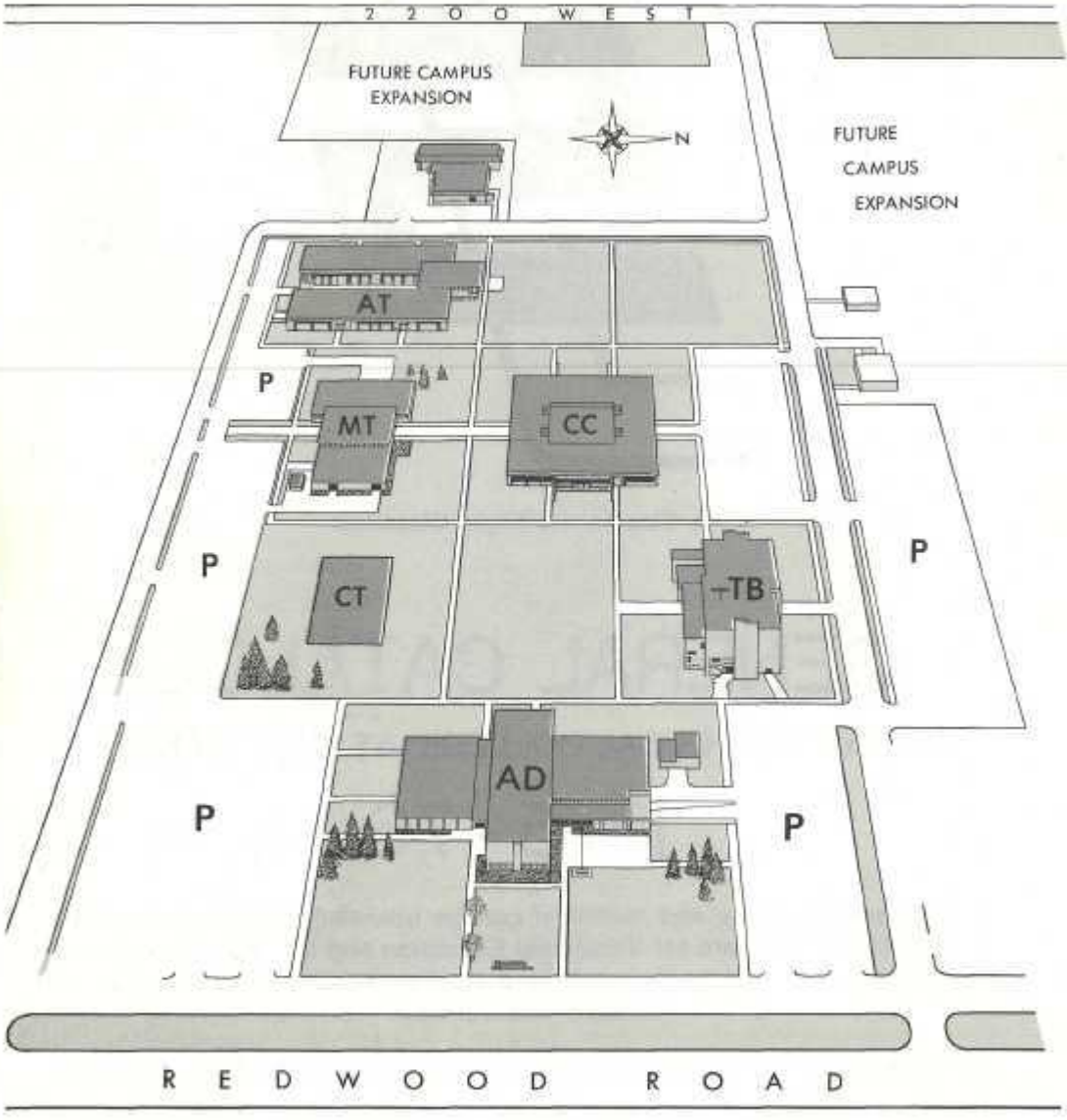
Main Campus: 4600 So. Redwood Rd., Salt Lake City, Utah 84107—299-3411

Downtown Campus: 431 So. 6th East, Salt Lake City, Utah 84102—328-8521

Annex: 427 West Second South St., Salt Lake City, Utah 84115—359-5443

MAIN CAMPUS OF
UTAH TECHNICAL COLLEGE
AT SALT LAKE

4600 SOUTH REDWOOD ROAD
SALT LAKE CITY, UTAH 84107
PHONE 299-3411



AD Administration Building
TB Technology Building
CC College Center Building
P Parking
MT Metals Building
AT Automotive Building
CT Construction Trades Building (Planned)

PRESIDENT'S MESSAGE

Utah Tech is the fourth largest public post high school institution in the State. But, even with an enrollment of approximately 6,000 day and evening students, the classes are still small enough to be personalized.

Our main campus currently has five major buildings in use, with a Construction Trades building scheduled to begin this year. However, even with all these new, modern buildings the demand for training is so great that the college still uses its original Downtown Campus (at Fourth South and Sixth East in Salt Lake City), and also rents an Annex on Fourth West and Second South.

The college faculty comprises a large group of professionals: men and women who have had years of experience in business and industry prior to teaching the skills they now pass on to students. The friendly atmosphere and desire to help are distinctive features of these competent teachers.

The studentbody organization is gaining maturity and usefulness year by year. We are proud of the young men and women who lead the students, organize activities and generally assist in making college life a memorable and profitable experience.

I sincerely hope your educational experience here will be a positive one. Former graduates are ambassadors for Utah Tech throughout the State and nation, and we hope you will become part of that group. You can be proud you're going to school here!

JAY L. NELSON

EXAMINATION SCHEDULE

As part of the overall school schedule, two days each quarter have been designated for conducting final examinations in each of the classes and/or labs held during the day. The testing schedule is based on the beginning time of each class or laboratory in which the student normally meets. For example, students having theory at 8:30 a.m. in room 217, will have their final examination in room 217 at 8:30 a.m. as shown. If their lab was in room 126 at 11:30 a.m., they will have their examination in room 126 at 11:30 a.m. as shown.

Regular Class Schedule

		December 10	December 11
Fall Quarter:	7:30 a.m.		7:30 a.m.
	8:30 a.m.	8:30 a.m.	
	9:30 a.m.		9:30 a.m.
	10:30 a.m.	10:30 a.m.	
	11:30 a.m.		11:30 a.m.
	12:30 p.m.	12:30 p.m.	
	1:30 p.m.		1:30 p.m.
	2:30 p.m.	2:30 p.m.	
	3:30 p.m.		3:30 p.m.
		March 16	**March 17**
Winter Quarter:	7:30 a.m.		7:30 a.m.
	8:30 a.m.	8:30 a.m.	
	9:30 a.m.		9:30 a.m.
	10:30 a.m.	10:30 a.m.	
	11:30 a.m.		11:30 a.m.
	12:30 p.m.	12:30 p.m.	
	1:30 p.m.		1:30 p.m.
	2:30 p.m.	2:30 p.m.	
	3:30 p.m.		3:30 p.m.
		June 2	**June 3**
Spring Quarter:	7:30 a.m.		7:30 a.m.
	8:30 a.m.	8:30 a.m.	
	9:30 a.m.		9:30 a.m.
	10:30 a.m.	10:30 a.m.	
	11:30 a.m.		11:30 a.m.
	12:30 p.m.	12:30 p.m.	
	1:30 p.m.		1:30 p.m.
	2:30 p.m.	2:30 p.m.	
	3:30 p.m.		3:30 p.m.

All day school classes taught on Tuesday and Thursday or on one day such as Monday or Tuesday will be tested on December 10, March 16 or June 2, at 3:30 p.m. Classes taught Monday through Friday, or Monday, Wednesday and Friday will follow the above schedule.

COLLEGE CALENDAR FOR 1975-76

(Late registration fee is in effect on the day instruction begins each quarter as shown below.)

Summer Quarter

May 27-29	Registration for Continuing Students
May 30	New and Returning Student Registration
June 16	Instruction Begins
June 27	Last Day for Class Changes
July 4	Independence Day Holiday
July 24	Pioneer Day Holiday
August 28	Examination Period
August 29	Summer Quarter Ends
August 29	Summer Graduation

Fall Quarter

July 30-31	Pre-Registration for Continuing Students
August 4-8	Pre-Registration for New and Returning Students
Aug. 11, 18, 25 - Sept. 8, 15-19	Open Registration
September 17	New Student Orientation
September 23	Instruction Begins
October 3	Last Day for Class Changes
October 10	UEA-UVA Conference — Classes Dismissed
October 17-20	Harvest Holidays
November 27-30	Thanksgiving Holiday
December 10-11	Examination Period
December 12 - January 4	Christmas Holidays

Winter Quarter

December 1-5	Registration for Continuing Students
December 17	New and Returning Student Registration
January 5	Instruction Begins
January 16	Last Day for Class Changes
March 16-17	Examination Period
March 18-21	Spring Vacation

Spring Quarter

March 8-11	Registration for Continuing Students
March 12	New and Returning Student Registration
March 22	Instruction Begins
April 2	Last Day for Class Changes
May 31	Memorial Day Holiday
June 2-3	Examination Period
June 4	Graduation

Summer Quarter

May 24-26	Registration for Continuing Students
May 27	New and Returning Student Registration
June 14	Instruction Begins
June 25	Last Day for Class Changes
July 5	Independence Day Holiday
July 23	Pioneer Day Holiday
August 26	Examination Period
August 27	Summer Quarter Ends
August 27	Summer Graduation

Barbering, Cosmetology and Apprenticeship programs do not follow the above Calendar. Please check with the Dean of Students Office or Department.

GENERAL INFORMATION

Non-Discrimination

Utah Technical College at Salt Lake is a tax-assisted institution operated under the direction of the Utah State Board for Vocational Education and the Utah State Board of Regents. Qualified students are admitted to the school and may enjoy all rights and privileges appropriate to students without regard to sex, color, creed or national origin.

Areas of Instruction

Objectives: The prime objective of Utah Technical College is to provide a satisfying educational experience for those individuals desiring training to prepare for, enter into, and progress in the world of work.

A secondary objective is to provide a supply of competent workers for business and industry.

Occupational Preparatory: Programs designed to train students for occupational entry.

Apprentice Related Instruction: A related training program for the worker who is learning a trade through apprenticeship or on-the-job training. Primarily operated during the evening.

Occupational Extension: Evening programs designed to aid the fully trained worker or journeyman to keep abreast of new developments in the trade and to help prepare the individual for job advancement.

Supervisory Training: Special evening courses to assist foremen supervisors and executives and those preparing for such positions to become familiar with new techniques, developments and improved methods in business and industrial supervision and management.

Pre-Technical Programs: Courses in mathematics, communications, personal development, and reading designed to upgrade students desiring to enter technical programs but who lack the necessary entry skills.

College Hours

Classes operate from 7:30 a.m. to 11 p.m. Monday-Friday, and Saturday from 8:30 a.m. to 3:30 p.m.

Visitors

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

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

Smoking

Smoking is prohibited in shops and classrooms of the school. Smoking areas are designated and containers are provided to help keep the campus clean.

Telephones

Public telephones are provided in all classrooms and laboratory buildings for the convenience of students. Administrative, secretarial and other telephones are not intended for student use. Except in the event of real emergency students will not be called to the telephone. A message to the appropriate department may subsequently be transferred to the student when available.

Institute of Religion

An L.D.S. Institute of Religion has been established adjacent to the College Campus. A maximum of six quarter credit hours of non-denominational Institute credit may be applied toward the Associate in Applied Science Degree. This credit must be approved by the student's Division Head. Credit obtained from such classes is not transferable to other colleges.

A full-time staff teaches a variety of courses, including Courtship and Marriage, American Religions, World Religions and at least 25 other classes. Because of the unique nature of the College there is no homework nor examinations for Institute classes. The Student LDSSA is organized to run L.D.S. student affairs at the Institute. There is also an active fraternity and an active sorority connected with this program.

Institutional Liability

Utah Technical College at Salt Lake disclaims liability of any kind for injury or illness of any student as a result of participation in any activities connected with the school. Every reasonable effort is made to provide safe conditions for the conducting of all activities.

College Center

The Utah Technical College Center is the social-cultural and recreational center of the campus for students, faculty, staff, alumni, and guests. Attractive Lounge Areas, a Games Room, College Store, Snack Bar and Cafeteria are all available for use. Offices for the Director, Student Government, College Store Manager, and Food Services are located in the College Center.

Students, faculty, staff, alumni, and guests are encouraged to use the facilities and services. A list of services are available at the College Center. Reservations for meeting spaces and other facilities should be made well in advance with the College Center Director or staff. All groups using the facilities are required to observe College Center Policy. Those groups or individuals who do not observe the Policy will be excluded from using the facilities.

All students are invited to apply to the student body officers, to the committee heads, or the College Center staff for assignments to various activities committees.

HOURS:
7:00 a.m. - 9:30 p.m., Monday through Thursday
7:00 a.m. - 5:00 p.m., Friday
8:00 a.m. - 1:00 p.m., Saturday

College Store

The College Store carries required books, tools and supplies as well as sundry other items. School sweat shirts, jackets, rings, tie-tacs and mugs are also provided for sale throughout the day and evening.

HOURS: Monday - Friday, 8 a.m. - 8:15 p.m.; Monday - Thursday, Friday, 8 a.m. - 3:45 p.m.; Saturday, 8 a.m. - 9 a.m.

Cafeterias

The school's cafeterias provide limited snack bar service throughout the day and evening. 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.

Instructional Media Center

The Instructional Media Center is open from 7:00 a.m. to 10:00 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 facilities are in the audio-visual aids section, which provides classes and individuals with film, film strips, recording devices and other materials.

Advisory Committees

Advisory Committees, composed of leaders in industry and business, regularly review each course. This assures 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 apprentices, to keep them abreast of modern developments and techniques.

Counseling and Guidance Services

The College provides guidance services which are intended to supplement instruction and out-of-class activities at the college. Faculty and administration, together with professional guidance personnel, assist applicants and students with admission procedures, and selection of vocation, course selection and planning, solution of social and emotional problems, job placement, scholarship, and financial problems.

It is the desire of college personnel that all students enter college with the optimum opportunity for success and be assisted through the college programs to achieve obectives which will enrich both individual and community.

Employment

A variety of part-time employment opportunities are available to students; however, it is recommended that employment be limited so as not to interfere with the students' concentration on their studies.

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

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.

Financial Aid

Many citizens and companies contribute funds to provide scholarships and other forms of financial aid to students. The State of Utah, the U. S. Government, many banks, credit unions and other financial institutions cooperate to provide scholarships, grants, loans and part-time employment.

A financial aids counselor is available to assist students in applying for aid and in selecting the type of aid program best suited to their needs.

TUITION AND FEES

CREDIT CLASSES

Per Quarter Costs:

One Credit Hour	$32.00
Two Credit Hours	32.00
Three Credit Hours	43.00
Four Credit Hours	54.00
Five Credit Hours	65.00
Six Credit Hours	76.00
Seven Credit Hours	87.00
Eight Credit Hours	98.00
Nine Credit Hours	109.00
Ten Credit Hours	120.00

Nonresidents—$200 tuition in addition to above for ten or more credit hours. Amount prorated for less hours. Nonresident tuition applies only to academic year.
Late Fee: $5.00.
Bad Check Charge: $5.00.
A non-refundable $5.00 fee is charged for testing and/or admission.

It is necessary for students to present the $5.00 receipt at the time of taking the test or submitting the application for enrollment.

Maximum registration without special permission is 20 credit hours. Extra hours above maximum registration must be approved by a Dean or Division Head.

Minimum Class Size: Classes will normally not be taught for less than ten students. When classes are cancelled for insufficient enrollment, all tuition and fees will be refunded.

Refunds: Tuition and fees are refundable. Full refund before commencement of the quarter. Refunds for 10 hours or less pro-rated 90% for the first 7 calendar days of the quarter, 70% through the 14th day, and 50% through the 21st day. No refund after the 21st calendar day.

Refunds for classes of less than one quarter in length are pro-rated 90% first two days of class, 70% through the fourth day and 50% through the sixth day. No refund after the class has met six days.

Cap and Gown Fee: Cap and gown are required for all graduating students. The rental fee charge of approximately $5.00 is the responsibility of the student.

Auditing Classes: The charge for auditing courses is the same as taking the course for credit or for a grade. Students must declare their intention to audit a class at the time of registration. The student's transcript of credit will show "Au" instead of a grade for the course.

NON CREDIT CLASSES

Apparel Manufacturing Training	$30.00 per course
Color Camera — PRT 61	31.00 per quarter
Machine Shop 50, 51, 52 and 53	23.00 per quarter
Nurse Aide	$44.00 per course
Plumbing 91	30.50 per quarter
Upholstering	26.00 per quarter
Ward Clerk	$41.00 per course
Welding 50, 51, 52 and 53	30.50 per quarter
Welding 54	36.00 per quarter
Apprentice Related Training	$23.00 per quarter
Occupational Extension Courses	
6 hours per week	21.00 per quarter
4 to 5 hours per week	18.00 per quarter
2 to 3 hours per week	15.00 per quarter (Min. Fee)
Supervisory, Management, Technical Courses (No refund after first session of class)	$18.00 each

Special Fees and Exceptions

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 establishing a permanent domicile within the State of Utah prior to registration with the intention to maintain a permanent residence within the state and abandonment of domicile elsewhere.

Scholarship Fees: Students attending on a tuition-paid scholarship are required to pay $28.00 per quarter for student fees.

Late Registration Fee: Students who do not make fee payments by the due dates will be charged a late registration fee of $5. Anyone whose check is dishonored by a bank will be charged the late fee plus $5 for handling.

Student Insurance

The student's insurance fee provides coverage for accidental bodily injury to students while attending class or participating in school-sponsored activities. Travel by insured persons is covered while traveling directly between their home premises and the place of such activity.

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.

Veteran Educational Benefits

Utah Technical College at Salt Lake is approved by the Veterans Administration as an educational training center. Veterans and dependents of veterans are entitled to educational benefits. The campus Veterans Office (Administration Building, Room 144) provides answers to many questions dealing with government opportunities, gives educational counseling, and is the certifying office. Audits, challenged classes, or repeated classes are not considered for subsistence. Allowances are paid at the beginning of each month on the following schedule:

Attendance	No dependents	One dependent	Two dependents	Each add. dependent
Full time 12+ credit hour	$270.00	$321.00	$366.00	$22.00
Three-quarter 9-11 credit hour	203.00	240.00	275.00	17.00
Half-time 6-8 credit hour	135.00	160.00	182.00	11.00

Less than half time = tuition and fees only.

Veterans must enroll for 12 credit or 25 or 30 clock hours, whichever is appropriate for their major, to receive the maximum monthly educational allowance.

Books — Tools — Supplies

Cost of books, tools and supplies varies according to the class. Fluctuation in cost 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 in the department offices.

Admission Procedure

Applicants for enrollment in the day school or extended day classes should follow one of the following procedures:

1. High School graduates with a C- (1.75) average or higher may enroll as follows:
   a. Complete the application for enrollment form.
   b. Attach a transcript of high school credits.
   c. Pay a $5.00 application fee.

   (i) If the above is done by mail, do not send cash. Send $5.00 check or money order.

   (ii) Applicants are notified of acceptance by the school.
2. Applicants who are *not* high school graduates or whose average is below C– (1.75).
   a. Complete the application for enrollment form.
   b. Pay the $5.00 application fee.
   c. Take the admissions and placement test given at the college. (Contact college for appointment.)

Note: When an applicant cannot visit the college the general aptitude test battery may be taken at a local employment office and then send those scores together with the application for enrollment and $5.00 application fee to the college admissions office.

3. Evening students.
   a. Applications for admission to apprentice classes must be approved by the Apprenticeship Coordinator before registration.
   b. Applicants for other evening classes will present their application to the evening registrar for approval prior to payment of fees.

Credit

The following numbering system for classes is employed by the College and is accepted by the Utah System of Higher Education.

001-049 Remedial or preparatory courses will not satisfy degree requirements.

050-099 Terminal courses — would not ordinarily satisfy baccalaureate requirements (non-transferable)

100-299 Lower division courses acceptable for transfer credit by all schools in the Utah System of Higher Education. However, not all courses may be acceptable toward graduation requirements.

Unit of Credit: A quarter hour of credit represents a minimum of one class hour a week of lecture, demonstration or discussion, combined with two hours of preparation outside of class for each credit earned or three hours a week of laboratory, field, or shop work. Normally there are eleven weeks in each quarter and the class hour is 50 minutes. Quarter hours may be reduced to semester hours by multiplying by two-thirds.

Minimum Registration for a Full-Time Student: The minimum registration for a full-time student load is considered to be twelve credits. To be eligible for student body offices, students are required to be registered for twelve credits or more.

Waiver and Transfer of Credit

1. When students present a college transcript with their application for admission, the general education credits will be evaluated by the admissions office and credits accepted for transfer will be recorded. Grades of "D" or "E" will not be accepted for transfer.

2. Trade and/or technical school transfers may receive hour-for-hour credit providing the objective is the same. If training is toward a different objective, only time for like units may be allowed.

3. Students who desire advanced placement, waiver of credit for previous experience, or credit by examination must apply and make necessary arrangements through their major division head at the time of registration or earlier. Documentary proof will be required before any such credit may be considered.

Challenging of Classes for Credit

If the entering student does not have the necessary documents to verify previous training and experience most classes may be challenged for credit. The following rules apply.

1. The student must be registered for the class to be challenged.

2. The student will make arrangements with the instructor to take an examination.

3. Upon successful completion of the examination, the student will be given a grade of P for the course.

4. If the examination is failed the student may continue in the class for regular credit.

Academic Probation

The following general probation policies will be maintained. Students will be placed on probation if they fail to earn a total grade point average of 1.9 during any quarter. Students will be removed from probation upon earning a grade point average of 2 or better during the probation quarter. Students may be dismissed if they fail to make a grade point average of 1.9 during the probation quarter.

Withdrawal from the College

If it becomes necessary for students to completely withdraw from the college, they are required to make an appointment with their advisor for an exit interview. Students desiring to withdraw from the College will obtain an Application to Withdraw from the Registrar's Office. Applications must be filled out completely and properly signed by the Advisor and Division Head or Dean.

The Application to Withdraw must be returned to the Registrar's Office. No entry will be made on the student's record for withdrawals during the first two weeks of the quarter. Withdrawals after the second week of school will be shown on the Official Transcript of the student as a "WP" or a "WF". Students withdrawing during the last two weeks of the quarter should be given a grade of "E".

NOTE: *Students who merely stop attending class and do not follow the official withdrawal procedure will be given the grade of "UW" at the end of the quarter. "UW" is equivalent to an "E". Students may also withdraw from individual classes after the second week of the quarter by following the above procedure.*

Readmission

Students returning after official withdrawal must apply and receive approval for readmission to the college.

Program Changes

Class changes, additions and withdrawals are permitted during the first two weeks of the quarter. Students desiring to change class schedules will obtain a Change in Registration Card from the Registrar's Office. The card must be filled out completely and properly signed by the Instructor and Advisor or Division Head. A $1.00 fee will be charged for processing each change in registration.

Program changes after the deadline for adding or dropping classes will be honored only in extreme circumstances. Such changes must have the written approval of the Instructor, Advisor, the appropriate Division Head or Dean and the Registrar.

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:

A+	=	4.0	
A	=	4.0	SUPERIOR GRADE
A—	=	3.7	
B+	=	3.4	
B	=	3.0	ABOVE AVERAGE GRADE
B—	=	2.7	
C+	=	2.4	
C	=	2.0	AVERAGE GRADE
C—	=	1.7	
D+	=	1.4	
D	=	1.0	LOWEST PASSING GRADE
D—	=	0.7	
E	=	0.0	FAILING GRADE
UW	=	0.0	UNOFFICIAL WITHDRAWAL
P	=		PASSING GRADE
I	=		INCOMPLETE GRADE*
W	=		WITHDRAWAL
WF	=		WITHDRAWAL FAILING
WP	=		WITHDRAWAL PASSING
AU	=		AUDIT
EX	=		EXTENDED GRADE*

*All work must be satisfactorily completed within 3 months of the grade, or it will be changed to "E".

Repeat Courses: A student may repeat a course in which a low grade has been received. The original grade will remain on the record. When a class has been repeated, the grade earned the last time the course is taken is the grade used in calculation of the student's grade point average. A student repeating a course must notify the Registration Office.

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 will be issued free. Each transcript thereafter will cost the applicant $1.00. Transcripts will not be released for any student who has any financial obligation to the college.

Graduation

Candidates for graduation must obtain and complete an Application for Graduation from the Registrar or Division Head and file it with the Registrar during the fourth week of the next to last quarter of training.

Applicants will receive a written report on their standing for graduation upon which to plan their program for the remainder of their training.

To be eligible for graduation from Utah Technical College, a student must have at least a 1.9 G.P.A., must have taken at least 50% of required credits in residency at the College, and 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.

Diploma: The Diploma is awarded to those students who have satisfactorily completed a minimum of 96 quarter credit hours in a prescribed course of study. The chosen course of study includes the required general education, theory and laboratory classes.

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 numbered 100 or above which are designed to enhance the vocational and technical classes offered at the college.

General Education requirements for the Associate in Applied Science degree must include English 101, and 21 additional credit hours in at least three of the following areas:

(HU) Humanities
(LS) Life Sciences
(PS) Physical Sciences
(SS) Social Sciences

The Associate in Applied Science degree is offered in the following areas: Architectural Drafting Technology, Auto Body Repair & Painting, Auto Mechanics, Building Construction, Business Management, Commercial Art, Data Processing, Drafting and Design Technology, Electronic Technology, Executive Secretary, Food Service, Heavy Duty Mechanics, Hotel-Motel Management, Transportation Management, and Welding.

Non-high school graduates are expected to pass G.E.D. Equivalency Tests prior to receiving the Associate Degree. The tests are administered by the College. A $5.00 fee is imposed on applicants taking the test.

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, and certain non-credit programs.

A student cannot graduate until all financial obligations to the college have been cleared.

Student Government

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

Clubs

The quality of a student's educational experience may be greatly enhanced through participation with other students in club activities. Students may share their interests in sports, travel, vocations, social activities, study and many other things through club activities. There are many active clubs on campus and any time a group of students desires to organize and promote a new program they are encouraged to do so.

Sports

The college fosters a variety of intramural sports including flag football, basketball, volleyball, badminton, horseshoes, and ping pong. Several bowling teams are sponsored by the student body.

Student Dress and Appearance

Utah Technical College at Salt Lake recognizes the right of individuals to select their own fashion. At the same time, the College recognizes the relationship between employability and appearance.

The student body officers have recommended guidelines regarding dress and grooming on the basis that it is useless to train a student for employment if he or she then dresses in such a manner as to alienate prospective employers. Accordingly, the following dress and grooming guidelines have been adopted and approved for all students attending Utah Technical College at Salt Lake:

- Students shall appear neat and clean. Appropriate dress is characterized by cleanliness and neatness. The majority of students recognize the satisfaction of being properly dressed for each occasion.
- Dress for the classroom and school activities should be consistent at all times with good taste.
- In the shop or laboratory, dress should conform with industry standards for safety and appearance. Clothing or hair styles that can be hazardous to students in training should not be worn.

Following is a list of uniforms adopted by the respective departments. Other departments may adopt similar uniform requirements.

Auto Mechanics — white coveralls
Auto Body & Painting — gray pants and shirts
Building Construction — white coveralls
Diesel Mechanics — blue and white striped twill coveralls
Electricity — blue shirts
Machine Shop — blue aprons
Welding — brown aprons with leg ties

Social Standards

Students attending Utah Technical College at Salt Lake are expected to maintain a high standard of moral conduct and to uphold the laws of the College, the State and Federal governments. They enter college through choice and are not required to attend by law. Forfeiture of the privilege to attend may result from unsatisfactory conduct. Attempts have been made to keep rules and regulations at a minimum. Students are expected to demonstrate maturity in their judgments and assume responsibility for their actions.

The College does not condone alcoholic beverages, either on the campus or at college-sponsored functions off the campus. Additionally, the College does not permit the illegal use or possession of drugs by its students, whether on or off campus. Violators are subject to disciplinary action. First time offenders *may* remain in school after counseling. Smoking by persons under 19 years of age will not be permitted.

Individuals convicted of using illegal drugs or who have been taken into custody for possession of illegal drugs, will not be permitted to return to school. (They may, if conditions warrant, be allowed to register at a later time.)

Women's Resource Center

The Women's Resource Center at Utah Technical College is designed to provide information and counseling to women students, staff and faculty women, and women in the community; to make women more aware of traditional and non-traditional training opportunities and employment possibilities; to initiate programs of interest to women students; and to stimulate awareness of women's place in society. The Center is located in AD 201.

ACCOUNTING

The accounting graduate may enter the career field as a clerk, bookkeeper or junior accountant. Opportunities thereafter may develop as an accountant, treasurer, Certified Public Accountant (with further training), controller or in other advanced management situations.

Skills acquired in the course of training include basic typing, office machines, data processing and all phases of basic accounting.

Accounting is one of the growing fields nationally. On the local front there are currently good openings in accounting, since most levels of business activity require well-trained personnel in this field. Graduates should expect to enter employment locally from $400.00 a month. Many accountants earn salaries in excess of $1,000.00 a month.

Certificate

On completion of the one-year Accounting program students may enter either Business Management program for a Diploma or AAS Degree. However, classes marked with an asterisk must meet General Education requirements as shown in the Business Management Programs.

First Quarter (F, W)			Hrs./wk. Lec.	Lab.	Cr.
BUS	160	Elem. Accounting I	5	5	4
BUS	180	Intro. to Business	4	0	4
ENG	80	Business English*	3	2	3
MTH	138	Consumer Math	5	0	5
			17	7	16

Approx. cost of Books, Tools, Supplies = $50.00

Second Quarter (W, S)			Hrs./wk. Lec.	Lab.	Cr.
BUS	131	Office Machines	0	5	3
BUS	161	Elem. Accounting II	5	5	4
MTH	51	Elem. Algebra*	5	0	5
ENG	95	Bus. Report Writing	3	0	3
DP	101	Basic Comp. Conc.	2	3	3
			15	13	18

Approx. cost of Books, Tools, Supplies = $45.00

Third Quarter (S, Su)			Hrs./wk. Lec.	Lab.	Cr.
BUS	156	Business Law	5	0	5
BUS	162	Elem. Accounting III	5	5	4
ECN	55	Applied Economics*	3	0	3
DP	201	Automated Comm.	3	2	4
BUS	70	Type	0	5	2
			16	12	18

Approx. cost of Books, Tools, Supplies = $36.00

CLASS DESCRIPTIONS

Classes marked with an asterisk are taught in the evening school.

BUS 70—Typewriting*
5 hrs./wk. 2 cr.
Introduction to keyboard and correct typing techniques, letters and memos.

BUS 131—Office Machines
5 hrs./wk. 3 cr.
Introduction to ten-key adding machine, electronic printing calculator, electronic display calculator, rotary calculator, ten-key adding listing machine, and full keyboard machine. Emphasis on proficiency achievement and working with business forms.

BUS 156—Business Law I
5 hrs./wk. 5 cr.
Introduction to business law, contracts, agency and employment, commercial paper, bailments, sales, security devices, and truth-in-lending.

BUS 160—Elementary Accounting I
10 hrs./wk. 4 cr.
Basic structure of accounting. Understanding asset, liability, capital and expense accounts. The accounting cycle, special journals, receivables, payables, inventory. Includes worksheet, adjusting and closing entries.

BUS 161—Elementary Accounting II
10 hrs./wk. 4 cr.
Study of deferrals, accruals, tangible and intangible assets, cash control, payroll and partnerships.

BUS 162—Elementary Accounting III
10 hrs./wk. 4 cr.
Study of corporations, branch accounting, manufacturing and cost accounting. Includes study of funds and cash flow.

BUS 180—Introduction to Business
4 hrs./wk. 4 cr.
Designed to give students an overview of the business world and to assist the student in making an occupational choice.

DP 101—Basic Computer Concepts
5 hrs./wk. 3 cr.
Terminology, syntax, and basic concepts pertaining to computers. Introduction to programming languages. BUS 70 taken concurrently or type skill for satisfactory key punch performance.

DP 201—Automated Communications
5 hrs./wk. 4 cr.
Theory and applications in Data layout, Data input to computer terminals in applications such as accounts receivable and payable, payroll, general ledger, inventory, reservations, etc., survey and study of mini-computers use, cost, trends.
Prerequisite DP 101.

APPAREL MANUFACTURING TRAINING

This program provides familiarization with commercial sewing machines. Students work through a series of skill-building exercises. They also receive specialized training suited to the needs of the particular factory where they will be employed.

An industrial sewing machine operator may sew blouses, shirts, dresses, slacks, lingerie, coats, sleeping bags, tents, draperies, upholstery, work clothes and dozens of other items.

Utah's needlecraft industry employs about 6,000 people, with approximately two-thirds of that number working in the Salt Lake Valley. The power sewing industry is the State's largest employer of women.

This is a special four-week program (20 days at 6 hours per day in class). A Certificate is presented upon satisfactory completion of the course. Potential students may start any day of the regular week. Training is conducted on the Downtown Campus of the College at 431 South 600 East in Salt Lake City.

Application and registration is handled at the Downtown Campus.
Operation of power sewing machines and related information associated with the needle trades. Students develop skill, speed and confidence that will enable them the enter into, progress and earn a living as an Industrial Power Sewing Machine Operator.
6 hrs./wk. 0 cr.

ARCHITECTURAL DRAFTING TECHNOLOGY

An architectural drafting technician prepares working drawings from rough sketches and verbal instructions. The technician will be able to do structural, plumbing, mechanical, electrical, presentation drawings, and architectural detailing in a neat, accurate and legible manner. The technician will also be able to do fundamental field surveying, specification writing, building and zoning investigation, and structural calculations which require a knowledge of plane geometry, algebra, trigonometry, mechanics and strength of materials, methods of construction, and technical writing skills.

Since the technician works closely with professionals such as architects, engineers, contractors, and also performs job inspections and occasionally client contact, neat appearance and good verbal skills are required.

Graduates can expect to receive from $2.75-$3.50 starting hourly salary in architects' or engineers' offices, contractors, material suppliers and other construction related fields.

Diploma, A.A.S. Degree

First Quarter (F, W)		Hrs./wk. Lec.	Lab.	Cr.
ADT 110	Arch. Drafting I	1	14	5
ADT 111	Arch. Const. I	4	1	4
COM 55	Communications*	5	—	5
MTH 51	Elem. Algebra*	5	—	5
		15	15	19

Approx. cost of Books, Tools, Supplies = $140.00

Second Quarter (W, S)		Hrs./wk. Lec.	Lab.	Cr.
ADT 120	Arch. Drafting II	1	14	5
ADT 112	Arch. Const. II	4	1	4
MTH 52	Elem. Trig.*	2	—	2
MTH 56	Scientific Calculator	2	—	2
DDT 101	Smoley's Tables	1	—	1
PSY 55	Human Relations*	3	—	3
		13	15	17

Approx. cost of Books, Tools, Supplies = $50.00

Third Quarter (S, Su)		Hrs./wk. Lec.	Lab.	Cr.
ADT 130	Arch. Drafting III	1	14	5
ADT 113	Arch. Const. III	4	1	4
ADT 134	Arch. History	3	—	3
PHY 55	Applied Physics*	5	—	5
		13	15	17

Approx. cost of Books, Tools, Supplies = $40.00

Fourth Quarter (F)		Hrs./wk. Lec.	Lab.	Cr.
ADT 210	Arch. Detailing	1	14	5
ADT 211	Arch. Const. IV	4	1	4
ADT 132	Str. of Materials	3	2	4
ADT 202	Mechanical Systems	2	3	3
		10	20	16

Approx. cost of Books, Tools, Supplies = $30.00

Fifth Quarter (W)		Hrs./wk. Lec.	Lab.	Cr.
ADT 220	Arch. Work. Drws. I	1	14	5
ADT 212	Arch. Const. V	4	1	4
ADT 215	Structures Wd.-Stl.	3	2	4
ADT 229	Codes & Zoning	3	—	3
		11	17	16

Approx. cost of Books, Tools, Supplies = $30.00

Sixth Quarter (S)		Hrs./wk. Lec.	Lab.	Cr.
ADT 230	Arch. Work. Drws. II	1	17	6
ADT 213	Arch. Const. VI	4	1	4
ADT 216	Specifications	3	2	4
ADT 226	Strtuctures-Concrete	3	2	4
		11	22	18

Approx. cost of Books, Tools, Supplies = $30.00

*This General Education class is required for the Diploma. For the A.A.S. Degree a minimum of 24 credit hours in General Education subjects is required. These classes must include English 101 and 21 additional credit hours in at least three of the following areas:

(HU) Humanities
(LS) Life Sciences
(PS) Physical Sciences
(SS) Social Sciences

Often more than one such class will need to be scheduled each quarter in place of the asterisked classes above, or in addition where no such General Education classes are listed in a quarter.

The following classes are available for the A.A.S. Degree:

English:

ENG	101	3 0 3	(F,W,S,Su)
ENG	102	3 0 3	(F,W,S,Su)
ENG	103	3 0 3	(F,W,S,Su)

Humanities:

ADT	134	3 0 3	(S,Su)
CA	141	3 0 3	(S,Su)
ENG	130	3 0 3	(F,W,S,Su)
ENG	160	3 0 3	(F,W,S)
ENG	251	3 0 3	(S)

Life Sciences:

LS	111	4 2 5	(F,S,Su)
LS	201	5 0 5	(F,S,Su)

Physical Science:

CEM	101	5 2 5	(F,W,S,Su)
MTH	101	5 0 5	(F,W,S,Su)
MTH	105	5 0 5	(F,W,S,Su)
MTH	106	5 0 5	(F,W,S,Su)
MTH	138	5 0 5	(F,W,S,Su)
PHY	101	5 0 5	(F,W,S,Su)
PHY	105	5 0 5	(F,W,S,Su)
PHY	117	5 1 5	(F,W,S)
PHY	118	5 1 5	(W,S)
PHY	119	5 1 5	(S,Su)

Social Science:

ECN	101	3 0 3	(F,W,S,Su)
PS	110	3 0 3	(F,W,S,Su)
PSY	101	3 0 3	(F,W,S,Su)
SOC	101	3 0 3	(F,W,S,Su)

CLASS DESCRIPTIONS

Classes marked with an asterisk are taught in the evening school.

ADT 50—Architectural Drafting I*
6 hrs./wk.
A basic course in drafting techniques including lettering, lines, tools, sections, elevations and plans. The student will develop a simple set of working drawings on a small frame structure.

ADT 51—Architectural Presentation I*
6 hrs./wk.
The techniques of representing an architectural project in transparent and opaque watercolor in perspective.

ADT 60—Architectural Drafting II*
6 hrs./wk.
A continuation of ADT 50 with emphasis on detailing stairs, windows, doors and other structural and architectural elements. Plans are developed on a small residence. Prerequisite: ADT 50.

ADT 80—Architectural Drafting III*
6 hrs./wk.
Continuation of ADT 60 with emphasis on light commercial detailing. Plans are developed on a small commercial building. Prerequisite: ADT 60.

ADT 110—Architectural Drafting I
15 hrs./wk. 5 cr.
The basic techniques of drafting including tools, sketching, lettering, plans, elevations, and sections.

ADT 111—Architectural Construction I
5 hrs./wk. 4 cr.
Study of wood framing systems including stick framing, trussed rafters, truss joists, trusses, glu-lams, various types of floor and roof systems (membranes or diaphragms), nailing standards, wood door and window systems, connectors and hangers, brick veneer and foundations. Comprehensive analysis of wood, concrete, steel and other construction materials.

ADT 112—Materials
5 hrs./wk. 4 cr.
A comprehensive analysis of wood, concrete, steel and other construction materials.

ADT 113—Architectural Construction III
5 hrs./wk. 4 cr.
Study of steel framing and details including joists, beams, columns, steel decking; concrete framing and details including foundations, footings, and retaining walls; reinforced masonry, and miscellaneous metals.
Study of site and room planning and completion of a set of working drawings on a residence. Prerequisite: ADT 120. architecture from ancient through modern systems for buildings.

ADT 120—Architectural Drafting II
15 hrs./wk. 5 cr.
Experience in working drawings on fireplaces, stairs, masonry and frame walls, cabinet details and perspective. Prerequisite: ADT 110.

ADT 130—Architectural Drafting III
15 hrs./wk. 5 cr.
The study of site and room planning and the completion of a set of working drawings on a residence. Prerequisite: ADT 120.

ADT 132—Strength of Materials
5 hrs./wk. 4 cr.
Basic theory of forces, section modulus, shear, tension, compression, deflection and other forces in static structures.

ADT 134—Architectural History
3 hrs./wk. 3 cr.
General Survey of the history of Architecture from ancient through modern and the effects of history on modern design.

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

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

ADT 211—Architectural Construction IV
5 hrs./wk. 4 cr.
Planning and design data, landscape materials, site planning, site layout, services, construction layout.

ADT 212—Architectural Construction V
5 hrs./wk. 4 cr.
Study of curtain walls, window walls, metal entrances and windows, wood windows, sliding glass doors (wood and metal).

ADT 213—Architectural Construction VI
5 hrs./wk. 4 cr.
Study of cabinet and finish wood work; sheet metal and roofing; terazzo, quarry and ceramic tile; furnishings, specialties, sound control; fireplaces; earthquake and wind resistance.

ADT 215—Structures—Wood & Steel
5 hrs./wk. 4 cr.
Introduction to structural systems and sizing members within these systems in wood and steel. Prerequisite: ADT 132.

ADT 216—Specifications
5 hrs./wk. 4 cr.
Introduction to basic CSI format and specification writing.

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

ADT 226—Structures—Concrete
5 hrs./wk. 4 cr.
Introduction to concrete structural systems and sizing members within these systems. Prerequisite: ADT 132.

ADT 228—Architectural Model Making
5 hrs./wk. 3 cr.
Application of three dimensional theory to building block and presentation models for study and display in the architectural field.

ADT 229—Codes and Zoning
3 hrs./wk. 3 cr.
Study of the Uniform Building code, city and county codes, zoning and the legal practice of an architect.

ADT 230—Advanced Architectural Working Drawings
15 hrs./wk. 5 cr.
Completion of 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 236—Rendering and Presentation
5 hrs./wk. 3 cr.
Techniques of representing an architectural project in transparent and opaque watercolor in perspective.

ADT 237—Landscape Design
5 hrs./wk. 3 cr.
Study of the integration of landscape and building, with emphasis on environmental concerns to provide a total balance of structure and setting.

ADT 238—Interior Design
5 hrs./wk. 3 cr.
The process of combining building form and developing an attractive, functional environment consistent with intended uses of interior spaces.

ADT 239—Architectural Estimating
5 hrs./wk. 3 cr.
Study of the development of cost and material estimates of a building project working from blueprints, drawings and reference materials.

DDT 101—Smoley's Tables
1 hr./wk. 1 cr.
Solution of triangles and circular segments by using tables of slopes and rises, parallel tables of logs and squares, and table of segmental functions.

ASSOCIATE DEGREE NURSING PROGRAM

Associate Degree
Weber State College in cooperation with Utah Technical College at Salt Lake has extended the Associate Degree Nursing Program to the Salt Lake area. Students will graduate from Weber State College with an Associate of Science degree in Nursing.

Students who are Utah residents may apply for admission by contacting the Coordinator, WSC/UTC Co-op Nursing Program, 4500 South Redwood Road, Salt Lake City, Utah 84107.

Applicants must meet requirements for graduation from Weber State College. Courses providing all educational requirements and clinical experience will be offered in the Salt Lake area. No out-of-state students will be admitted to the Cooperative Associate Degree Nursing Program.

Registration takes place at Utah Technical College, S.L. unless there are unusual circumstances. Deadline for completed application procedure is approximately Feb. 28 and the selection of students is made by April 1st.

First Quarter classes are prerequisites to Nursing Classes.

First Quarter (Su)			Hrs./wk. Lec.	Lab.	Cr.
LS	201	Human Anat. & Phys.	5	—	5
LS	111	Microbiology	5	—	5
FL	101	Nutrition	3	—	3
HO	120	Intro. to Nursing	3	—	3
			16	—	16

Second Quarter (F)			Hrs./wk. Lec.	Lab.	Cr.
NSG	101	Nursing	5	—	5
NSG	102	Nursing Lab	—	15	5
CEM	101	Intro. to Chemistry	5	2	5
			10	17	15

Third Quarter (W)			Hrs./wk. Lec.	Lab.	Cr.
NSG	111	Nursing	6	—	6
NSG	112	Nursing Lab	—	18	6
PSY	101	Psychology	3	—	3
			9	18	15

Fourth Quarter (S)			Hrs./wk. Lec.	Lab.	Cr.
NSG	121	Nursing	6	—	6
NSG	122	Nursing Lab	—	18	6
FL	150	Child Growth & Devel.	5	—	5
			11	18	17

Fifth Quarter (F)			Hrs./wk. Lec.	Lab.	Cr.
NSG	201	Nursing	4	—	4
NSG	202	Nursing Lab	—	15	5
ENG	101	English Comp.	3	—	3
HO	130	Pathophysiology	3	—	3
			10	15	15

Sixth Quarter (W)			Hrs./wk. Lec.	Lab.	Cr.
NSG	211	Nursing	4	—	4
NSG	212	Nursing Lab	—	15	5
ENG	102	English Comp.	3	—	3
ENG	251	American Literature	3	—	3
			10	15	15

Seventh Quarter (S)			Hrs./wk. Lec.	Lab.	Cr.
NSG	221	Nursing	4	—	4
NSG	222	Nursing Lab.	—	15	5
ENG	160	Effective Speaking	3	—	3
ENG	103	English Comp.	3	—	3
			10	15	15

Approx. total cost other than tuition and fees = $425.00

HO 120—Introduction to Nursing
3 hrs./wk. 3 cr.
Medical terminology, roles and interrelationships ni the health care team, medical ethics and psychology of the patient.

HO 130—Pathophysiology
3 hrs./wk. 3 cr.
Introduction to the understanding of the nature of disease and its effect on total body systems.

NSG 101, 102—Foundations of Nursing
20 hrs./wk. 10 cr.
Initial course for associate degree nursing students. Planned to assist students to develop fundamental skills and identify simple nursing problems related to basic needs of people.

NSG. 111, 112—Needs of Adults
24 hrs./wk. 12 cr.
Emphasis on meeting basic human needs of patients through an increased development of nursing skills. Understanding of principles and facts relative to common pathological processes, diagnostic procedures, and specialized equipment. Nursing assessment is incorporated into theory and practicum.

NSG 121, 122—Needs of the Family
24 hrs./wk. 12 cr.
Emphasis on meeting basic human needs of the family throughout the childbearing cycle. Care of children. Increased development of nursing skills based on understanding of principles and facts relative to these aspects of the life cycle.

NSG 201, 202—Needs of Adults (Emphasis on Medical Intervention)
19 hrs./wk. 9 cr.

NSG 211, 212—Needs of Adults (Emphasis on Surgical Intervention)
19 hrs./wk. 9 cr.

NSG 221—Family Centered: Needs of Maternal-child and Adolescents and

NSG 222—Emotional Needs of People
(Each section taught one-half quarter)
19 hrs./wk. 9 cr.
These courses are three interrelated rotations designed to develop a knowledge of principles which can be applied when planning and giving care to various age groups with more complex health problems. Opportunities are provided for the student to assess, plan, implement and evaluate nursing care of patients with an alteration of their basic needs. Concurrent theory and guided clinical experiences are planned in medical, surgical, pediatric, and psychiatric nursing in various settings.

AUTO BODY REPAIR

Auto body repair persons are skilled individuals who repair damaged motor vehicles by straightening bent frames, removing dents from fenders and body panels, welding torn metal, and replacing badly damaged parts. Body repair people usually are qualified to repair all types of vehicles, although most work mainly on automobiles and small trucks. The body repair person's work is characterized by variety because each damaged vehicle presents a different problem.

The body repair person's work requires fast job analysis and ability to visualize what is needed to restore the damaged automobile. Welding light gauge metal is one of the skills to be acquired along with skill in parts repair and replacement.

Young people interested in entering auto body repair should be in good physical condition and have good eye-hand coordination.

Certificate, Diploma, A.A.S. Degree
On completion of the Auto Body Repair program, students may enter the Auto Painting program for a Diploma or A.A.S. Degree.
(PHY 101 is required for the AAS Degree in this program.)

First Quarter (F, W)		Hrs./wk. Lec.	Lab.	Cr.
AB 110	Auto Body Repair	—	20	7
AB 111	Metal and Proc.	5	—	5
MTH 50	Vocational Math*	5	—	5
		10	20	17

Approx. cost of Books, Tools, Supplies = $160.00

Second Quarter (W, S)		Hrs./wk. Lec.	Lab.	Cr.
AB 120	Auto Body Recon.	—	20	7
AB 121	Stress Analysis	5	—	5
PHY 55	Applied Physics*	5	—	5
		10	20	17

Approx. cost of Books, Tools, Supplies = $15.00

Third Quarter (S)		Hrs./wk. Lec.	Lab.	Cr.
AB 130	Adv. Auto Body Rec.	—	20	7
AB 131	Estimating & Align.	5	—	5
PSY 55	Human Relations*	3	—	3
		8	20	15

Approx. cost of Books, Tools, Supplies = $15.00

*This General Education class is required for the Diploma. For the A.A.S. Degree a minimum of 24 credit hours in General Education subjects is required. These classes must include English 101 and 21 additional credit hours in at least three of the following areas:

(HU) Humanities
(LS) Life Sciences
(PS) Physical Sciences
(SS) Social Sciences

Often more than one such class will need to be scheduled each quarter in place of the asterisked classes above, or in addition where no such General Education classes are listed in a quarter.

The following classes are available for the A.A.S. Degree:

English:

ENG	101	3	0	3 (F,W,S,Su)
ENG	102	3	0	3 (F,W,S,Su)
ENG	103	3	0	3 (F,W,S,Su)

Humanities:

ADT	134	3	0	3 (S,Su)
CA	141	3	0	3 (S,Su)
ENG	130	3	0	3 (F,W,S,Su)
ENG	160	3	0	3 (F,W,S)
ENG	251	3	0	3 (S)

Life Sciences:

LS	111	4	2	5 (F,S,Su)
LS	201	5	0	5 (F,S,Su)

Physical Science:

CEM	101	5	2	5 (F,W,S,Su)
MTH	101	5	0	5 (F,W,S,Su)
MTH	105	5	0	5 (F,W,S,Su)
MTH	106	5	0	5 (F,W,S,Su)
MTH	138	5	0	5 (F,W,S,Su)
PHY	101	5	0	5 (F,W,S,Su)
PHY	105	5	0	5 (F,W,S,Su)
PHY	117	5	1	5 (F,W,S)
PHY	118	5	1	5 (W,S)
PHY	119	5	1	5 (S,Su)

Social Science:

ECN	101	3	0	3 (F,W,S,Su)
PS	110	3	0	3 (F,W,S,Su)
PSY	101	3	0	3 (F,W,S,Su)
SOC	101	3	0	3 (F,W,S,Su)

CLASS DESCRIPTIONS

Classes marked with an asterisk are taught in the Evening School.

AB 50—Auto Body Repair*
6 hrs./wk. 0 cr.

A basic course designed for the auto owner. Covers repair of minor dents and scratches, metal finishing and parts replacement.

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 subassemblies. Final construction of a new automobile. Accurate damage analysis and repair sequence planning, specifications, body measurements, and tolerance.

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-Alignment
5 hrs./wk. 5 cr.
Damage repair estimating using flat rate manuals and estimating forms. Includes estimating non-measureable damage. Suspension systems and steering geometry.

AUTO MECHANICS

Automobile mechanics keep the nation's automobiles in good operating condition. They perform preventative maintenance, diagnose breakdowns, and make repairs.

Most automobile mechanics perform a variety of repairs. Some mechanics, such as automatic transmission specialists, tune up experts, automobile air-conditioning specialists, front end mechanics and brake mechanics, specialize in one or two types of repair. However, specialists with all-around skills also may perform general automobile repair work.

Most mechanics are required to purchase their own hand tools. Employers furnish engine analyzers and other test equipment and special tools for servicing such units as automatic transmissions.

Young people interested in becoming auto mechanics should be in good physical condition, and have above average ability and good mechanical aptitude, along with good eye-hand coordination.

Diploma, A.A.S. Degree

(PHY 101 is required for the AAS Degree in this program.)

First Quarter (F, W, S, Su)			Hrs./wk. Lec.	Lab.	Cr.
AM	110	Auto Chassis Rep.	—	20	7
AM	111	Auto Chassis	5	—	5
WLD	105	Welding	2	3	3
			7	23	15

Approx. cost of Books, Tools, Supplies = $290.00

Second Quarter (F, W, S, Su)			Hrs./wk. Lec.	Lab.	Cr.
AM	120	Fuel & Elec. Sys. Ser.	—	20	7
AM	121	Fuel & Elec. Sys.	5	—	5
MTH	50	Vocational Math*	5	—	5
			10	20	17

Approx. cost of Books, Tools, Supplies = $10.00

Third Quarter (F, W, S, Su)		Hrs./wk. Lec.	Lab.	Cr.
AM 130	Auto Engines Lab.	—	20	7
AM 131	Auto Engines	5	—	5
PSY 55	Human Relations*	3	—	3
		8	20	15

Approx. cost of Books, Tools, Supplies = $10.00

Fourth Quarter (F, W, S, Su)		Hrs./wk. Lec.	Lab.	Cr.
AM 210	Auto Elec. Comp.Lab.	—	20	7
AM 211	Auto. Elec. Comp.	5	—	5
PHY 55	Applied Physics*	5	—	5
		10	20	17

Approx. cost of Books, Tools, Supplies = $20.00

Fifth Quarter (F, W, S, Su)		Hrs./wk. Lec.	Lab.	Cr.
AM 220	Drive Mech. Lab	—	20	7
AM 221	Drive Mechanisms	5	—	5
COM 55	Communications*	5	—	5
		10	20	17

Approx. cost of Books, Tools, Supplies = $10.00

Sixth Quarter (F, W, S, Su)		Hrs./wk. Lec.	Lab.	Cr.
AM 230	Diag. & Applic. Lab.	—	20	7
AM 231	Diag. & Application	5	—	5
CIV 55	Vocational Civics*	3	—	3
		8	20	15

Approx. cost of Books, Tools, Supplies = $10.00

*This General Education class is required for the Diploma. For the A.A.S. Degree a minimum of 24 credit hours in General Education subjects is required. These classes must include English 101 and 21 additional credit hours in at least three of the following areas:

(HU) Humanities
(LS) Life Sciences
(PS) Physical Sciences
(SS) Social Sciences

Often more than one such class will need to be scheduled each quarter in place of the asterisked classes above, or in addition where no such General Education classes are listed in a quarter.

The following classes are available for the A.A.S. Degree:

English:

ENG	101	3	0	3 (F,W,S,Su)
ENG	102	3	0	3 (F,W,S,Su)
ENG	103	3	0	3 (F,W,S,Su)

Humanities:

ADT	134	3	0	3 (S,Su)
CA	141	3	0	3 (S,Su)
ENG	130	3	0	3 (F,W,S,Su)
ENG	160	3	0	3 (F,W,S)
ENG	251	3	0	3 (S)

Life Sciences:

LS	111	4	2	5 (F,S,Su)
LS	201	5	0	5 (F,S,Su)

Physical Science:

CEM	101	5	2	5 (F,W,S,Su)
MTH	101	5	0	5 (F,W,S,Su)
MTH	105	5	0	5 (F,W,S,Su)
MTH	106	5	0	5 (F,W,S,Su)
MTH	138	5	0	5 (F,W,S,Su)
PHY	101	5	0	5 (F,W,S,Su)
PHY	105	5	0	5 (F,W,S,Su)
PHY	117	5	1	5 (F,W,S)
PHY	118	5	1	5 (W,S)
PHY	119	5	1	5 (S,Su)

Social Science:

ECN	101	3	0	3 (F,W,S,Su)
PS	110	3	0	3 (F,W,S,Su)
PSY	101	3	0	3 (F,W,S,Su)
SOC	101	3	0	3 (F,W,S,Su)

CLASS DESCRIPTIONS

Classes marked with an asterisk are taught in the Evening School.

AM 51—Automotive Tune-up*
24 clock hours 0 cr.
Diagnosis, service and repair of carburetion and ignition system components and use of electronic tune-up equipment. Previous training or experience necessary.

AM 52—Automotive Air Conditioning*
24 clock hours 0 cr.
Theory and operation of units in auto air conditioning systems. Service, trouble shooting and installation.

AM 53—Auto Owners Course*
30 clock hours 0 cr.
Designed for the average automobile owner who wants to be familiar with the operation, maintenance, and servicing of an automobile. Basic principles of operation to be covered.

AM 54—Basic Fuel & Elec. System*
30 clock hours 0 cr.
Covers basic electrical and fuel systems of the automobile to give background to the person who likes to do minor servicing and tuneups. Some automotive background is helpful.

AM 63—Auto Owners Course*
6 hrs./wk. 1 cr.
Designed for the automobile owner who wants to be familiar with the basics of the operation, maintenance, and servicing of the family automobile. A special report or paper is required for completion of credit for this class.

AM 64—Basic Fuel-Electrical Systems*
6 hrs./wk. 1 cr.
Covers basic electrical and fuel system of the automobile for the person who likes to do minor servicing and tuneups. Some automotive background is helpful. A special report or paper is required for completion of credit.

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 & Basic Electrical Systems Service
20 hrs./wk. 7 cr.
Service and repair of fuel systems and components. Service of basic electrical system and components.

AM 121—Fuel & Basic Electrical Systems
5 hrs./wk. 5 cr.
Theory of fuel system servicing and introduction of fundamentals of automotive electrical systems.

AM 130—Automotive Engine Lab
20 hrs./wk. 7 cr.
Skill development in use of tools, safety practices, diagnosis, measuring, servicing, repairing and testing of automotive engines.

AM 131—Automotive Engines
5 hrs./wk. 5 cr.
Theory of operation, parts nomenclature, production processes and major overhaul procedures of the automotive engine.

AM 210—Auto Electrical Components Lab.
20 hrs./wk. 7 cr.
Diagnosis, service, and repair on Auto Electrical Components and systems. Auto emissions control systems service. Engine tune-up procedures. Use of testing equipment and devices.

AM 211—Auto Electrical Components
5 hrs./wk. 5 cr.
Theory and function of Auto Electrical Systems and Components and of emissions control devices. Theory, in the use of testing equipment and devices. Application of advanced servicing techniques.

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. Include automotive 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.

AUTO PAINT

Automobile painters restore old and damaged motor vehicles to "look like new." These skilled workers repaint vehicles that have lost the luster of their original paint, and the repaired portions of vehicles damaged in accidents.

To prepare an automobile for painting, the painter prepares the vehicle to receive the new finish. A spray gun is then used to apply primer coats to the automobile's surface. After the primer coat dries, the surface is sanded until it is smooth enough to be painted. Before painting repaired portions of an automobile, the painter may mix paints or colors to match the existing color of the car. The spray gun must be handled skillfully so the paint is applied evenly. A knowledge of the various materials and supplies used in the refinishing process is vital.

This program requires manual dexterity, average scholastic ability and an appreciation and understanding of color.

Certificate, Diploma, A.A.S. Degree
On completion of the Auto Painting program, students may enter the Auto Body Repair program for a Diploma or A.A.S. Degree.

(PHY 101 is required for the AAS Degree in this program.)

First Quarter (F, W)		Hrs./wk. Lec.	Lab.	Cr.
ABP 110	Auto Paint Lab	—	20	7
ABP 111	Auto Painting	5	—	5
PSY 55	Human Relations*	3	—	3
		8	20	15

Approx. cost of Books, Tools, Supplies = $85.00

Second Quarter (W, S)		Hrs./wk. Lec.	Lab.	Cr.
ABP 120	Color Applic. Lab	—	20	7
ABP 121	Color Application	5	—	5
MTH 50	Vocational Math*	5	—	5
		10	20	17

Approx. cost of Books, Tools, Supplies = $15.00

Third Quarter (S)		Hrs./wk. Lec.	Lab.	Cr.
ABP 130	Color Matching Lab.	—	20	7
ABP 131	Color Matching	5	—	5
COM 55	Communications*	5	—	5
		10	20	17

Approx. cost of Books, Tools, Supplies = $10.00

*This General Education class is required for the Diploma. For the A.A.S. Degree a minimum of 24 credit hours in General Education subjects is required. These classes must include English 101 and 21 additional credit hours in at least three of the following areas:

(HU) Humanities
(LS) Life Sciences
(PS) Physical Sciences
(SS) Social Sciences

Often more than one such class will need to be scheduled each quarter in place of the asterisked classes above, or in addition where no such General Education classes are listed in a quarter.

The following classes are available for the A.A.S. Degree:

English:

ENG 101	3 0 3	(F,W,S,Su)
ENG 102	3 0 3	(F,W,S,Su)
ENG 103	3 0 3	(F,W,S,Su)

Humanities:

ADT 134	3 0 3	(S,Su)
CA 141	3 0 3	(S,Su)
ENG 130	3 0 3	(F,W,S,Su)
ENG 160	3 0 3	(F,W,S)
ENG 251	3 0 3	(S)

Life Sciences:

LS 111	4 2 5	(F,S,Su)
LS 201	5 0 5	(F,S,Su)

Physical Science:

CEM 101	5 2 5	(F,W,S,Su)

MTH 101	5 0 5	(F,W,S,Su)
MTH 105	5 0 5	(F,W,S,Su)
MTH 106	5 0 5	(F,W,S,Su)
MTH 138	5 0 5	(F,W,S,Su)
PHY 101	5 0 5	(F,W,S,Su)
PHY 105	5 0 5	(F,W,S,Su)
PHY 117	5 1 5	(F,W,S)
PHY 118	5 1 5	(W,S)
PHY 119	5 1 5	(S,Su)

Social Science:

ECN 101	3 0 3	(F,W,S,Su)
PS 110	3 0 3	(F,W,S,Su)
PSY 101	3 0 3	(F,W,S,Su)
SOC 101	3 0 3	(F,W,S,Su)

CLASS DESCRIPTIONS

ABP 110—Automotive Painting Lab
20 hrs./wk. 7 cr.
Procedures and practices in handling equipment, use of materials, and basic surface preparations 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
20 hrs./wk. 7 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.

BARBERING

Today there are unlimited opportunities for skilled hair stylists, but only minimal demand for barbers with modest hair cutting ability. It takes a high degree of diversified skills to be successful in this field — skills which Utah Tech teaches its students.

Style cutting, clipper tapers, neck and face shaping, chemical restructuring of hair, scientific scalp treatments, and color, curl, air and heat expansion of the form of the hair, are some of the skills acquired through the program. And during the sequence of the course students become adept with the use of razors and shears, a variety of combs including hot combs, hot styling irons, various style brushes, and style dryers.

Earnings depend largely upon the hair stylist's personal abilities, creativity and human relations aptitudes, plus a willingness to work hard. Thus, a top-flight hair stylist with the above attributes might earn $1,000.00 a month; yet an unusually successful individual could double or triple that figure.

Approx. cost of Books, Supplies = $150.00

Certificate
Requires 1250 clock hours of instruction and prepares the student to meet requirements for

taking the State Licensing Examination. The examination for Barber Apprentices in the State of Utah is given at three month intervals throughout the year.

New students will be admitted any Monday morning during the school year whenever there is space available.

First Quarter (F, W, S, Su)	Hrs./wk. Lec.	Lab.	Cr.
BR 110 Barbering Lab	—	25	9
BR 111 Barbering Theory	5	—	5
	5	25	14

Approx. cost of Books, Supplies = $125.00

Second Quarter (F, W, S, Su)	Hrs./wk. Lec.	Lab.	Cr.
BR 120 Barbering Lab	—	25	9
BR 121 Barbering Theory	5	—	5
	5	25	14

Third Quarter (F, W, S, Su)	Hrs./wk. Lec.	Lab.	Cr.
BR 130 Barbering Lab	—	25	9
BR 131 Barbering Theory	5	—	5
	5	25	14

Fourth Quarter (F, W, S, Su)	Hrs./wk. Lec.	Lab.	Cr.
BR 140 Barbering Lab	—	25	9
BR 141 Barbering Theory	5	—	5
	5	25	14

CLASS DESCRIPTIONS

BR 110, 120, 130, 140—Barbering Lab
25 hrs./wk. 9 cr./class
The barbering lab. is organized similar to a regular shop where the student will work after graduation. Instruction and practice in the laboratory on haircuts, tapering, shaving, shampooing, scalp and face massaging, tonics, hair coloring, hair analysis, razor cutting, hair straightening, hair piece fitting, hair and skin cosmetics, trichology, and men's hair styling. Student will use barbering tools as they apply in today's modern barber industry.

BR 121—Barbering Theory
5 hrs./wk. 5 cr.
Hygiene, bacteriology, sterilization and sanitation, anatomy and physiology, digestion, circulatory and skeletal systems.

BR 131—Barbering Theory
5 hrs./wk. 5 cr.
Muscular system, nervous system, skin, face and scalp blood supply, electricity, cosmetic chemistry, skin and scalp conditions.

BR 141—Barbering Theory
5 hrs./wk. 5 cr.
Hair analysis, trichology, comprehensive review.

MEN'S HAIRSTYLING — BASIC*

Certificate of Completion

An evening school program open to all licensed barbers for registration in any of the three classes. Total 9 hours credit required to obtain a certificate.

	Hrs./wk. Lec.	Lab.	Cr.
BR 80 Men's Hairstyling Theory & Lab (F)	1	5	3
BR 81 Men's Hairstyling Theory & Lab (W)	1	5	3
BR 82 Men's Hairstyling Theory & Lab (S)	1	5	3

MEN'S HAIRSTYLING — HIGH FASHION*

Certificate of Completion

An evening school program. The first two classes are open to licensed barbers who pass a qualifying examination. Total 6 hours credit required to obtain a certificate.

	Hrs./wk. Lec.	Lab.	Cr.
BR 84 High Fashion Theory & Lab (F)	1	2	2
BR 85 High Fashion Theory & Lab (W)	1	2	2
BR 86 High Fashion Theory & Lab (S)	1	2	2

CLASS DESCRIPTIONS

Classes marked with an asterisk are taught in the evening school.

BR 80—Men's Hairstyling-Basic*
6 hrs./wk. 3 cr.
Special hair cuts for hair styling, razor cutting, style drying, hot-combing, hair and skin cosmetics, style-iron techniques.

BR 81—Men's Hairstyling-Basic*
6 hrs./wk. 3 cr.
Hair straightening, hair coloring, hairpiece fitting.

BR 82—Men's Hairstyling-Basic*
6 hrs./wk. 3 cr.
Trichology, hair analysis.

BR 84—Men's Hairstyling-High Fashion*
3 hrs./wk. 2 cr.
Advanced in-depth study and practice in proficiency development. Trichology, special hair-style cutting techniques, style-iron techniques, special style-drying techniques.

BR 85—Men's Hairstyling-High Fashion*
3 hrs./wk. 2 cr.
Advanced in-depth study and practice in proficiency development. Trichology, hair coloring, scalp and face cosmetics, the creative process high-fashion salon management concepts and techniques.

BR 86—Men's Hairstyling-High Fashion*
3 hrs./wk. 2 cr.
Trichology, performance demonstration in the creative process, planning and development of a seminar presentation. Prerequisites: BR 84, BR 85.

BRICK MASONRY TRAINING

This is a pre-apprenticeship program designed to provide the necessary skills and safety habits needed to enter the field as an apprentice. It is possible to be granted 6 months apprenticeship experience as a result of taking this course.

The student will learn the skills of laying brick and block to a line, building leads efficiently, and of generally being an asset to the employer. By graduation the student will be trained to use the tools of the trade including a brick trowel, hammer, levels, jointers, a line, line block, trigs, pins and mason scale rule.

Equipment students use include mortar mixer, mason saw, and scaffolding.

This three-quarter program begins in the Fall of the year. Successful completion leads to a Certificate of Graduation.

Certificate

First Quarter (F)	Hrs./wk. Lec.	Lab.	Cr.
BMT 110 Lab. Appl. Masonry	—	20	7
BMT 111 Fund. of Bricklaying	5	—	5
MTH 50 Vocational Math	5	—	5
	10	20	17

Approx. cost of Books, Tools, Supplies = $80.00

Second Quarter (W)	Hrs./wk. Lec.	Lab.	Cr.
BMT 120 Field & Lab. Appl.	—	15	5
BMT 121 Fund. of Bricklaying	5	—	5
BMT 127 BPR for Br. Masons	2	3	3
WLD 105 Welding	2	3	3
	9	21	16

Approx. cost of Books, Tools, Supplies = $40.00

Third Quarter (S)	Hrs./wk. Lec.	Lab.	Cr.
BMT 130 Field Appl. in Mas.	—	20	7
BMT 131 Fund. of Bricklaying	5	—	5
COM 55 Communications	5	—	5
	10	20	17

Approx. cost of Books, Tools, Supplies = $20.00

CLASS DESCRIPTIONS

BMT 110—Laboratory Applications in Masonry
20 hrs./wk. 7 cr.
Laboratory applications in mixing and spreading of mortar, erecting and building scaffolds, and laying of brick and block to the line.

BMT 111—Fundamentals of Bricklaying I
5 hrs./wk. 5 cr.
Instructions in safety and use of masonry hand tools and clothing. In depth study of industrial safety standards. Introduction to names, sizes and types of brick, block, and tile products, their strength and application.

BMT 120—Field & Laboratory Applications in Masonry
15 hrs./wk. 5 cr.
Field and laboratory applications of laying masonry products on and off campus on school and civic projects as related to the theory class BM 121.

BMT 121—Fundamentals of Bricklaying II
5 hrs./wk. 5 cr.
Theory of laying corners, fireplaces, sills, arches, pavings, types of joints, masonry reinforcement, and masonry bonds.

BMT 127—Blueprint Reading - Brick Masonry
5 hrs./wk. 3 cr.
Theory of projection, architectural symbols, relationship of views and measurements, plan and elevation views, sections and details and familarization of terms, specifications, and abbreviations associated with the masonry trade.

BMT 130—Field Application in Masonry
20 hrs./wk. 7 cr.
Field applications in laying of all types of masonry materials on school and civic projects on and off campus.

BMT 131—Fundamentals of Bricklaying III
5 hrs./wk. 5 cr.
Discussion of problems and their solutions as related to the field and skill projec outlined in BM 130.

BUILDING CONSTRUCTION

A Building Construction graduate may enter the construction trade with a variety of different possibilities for employment. Most who enter the trade through this program, do so as carpenters. Some of the other job possibilities are: cabinetmaker, concrete worker, sheetrock installers, finish carpenter, rough carpenter or one of many other possibilities. Some who enter the program will become supervisors or contractors.

A Building Construction student will receive training in concrete formwork, concrete flatwork, framing layout, window installation, roof construction, insulation, sheetrock application taping and finishing, cabinetmaking, interior trim, stair construction, hanging of doors, exterior siding, exterior trim, paint preparation and finich painting.

A carpenter will be working with many new materials and concepts in the Building Construction trade. The student will be expected to master blueprint reading along with new names and terms commonly used in Building Construction.

A prospective student must plan to enroll during Fall quarter.

Diploma, A.A.S. Degree

(PHY 101 is required for the AAS Degree in this program.)

First Quarter (F)		Hrs./wk. Lec.	Lab.	Cr.
BC 112	Tools of Constr.	—	15	5
BC 113	Tools of Constr.	5	—	5
BC 103	Blueprint Reading	2	3	3
MTH 50	Vocational Math*	5	—	5
		12	18	18

Approx. cost of Books, Tools, Supplies = $250.00

Second Quarter (W)		Hrs./wk. Lec.	Lab.	Cr.
BC 124	Millwk. & Cabinet	—	15	5
BC 123	Millwk. & Cabinet	5	—	5
BC 53	Construction Math	5	—	5
BC 104	Blueprint Reading	2	3	3
		12	18	18

Approx. cost of Books, Tools, Supplies = $21.00

Third Quarter (S)		Hrs./wk. Lec.	Lab.	Cr.
BC 134	Forming & Framing	—	20	7
BC 133	Forming & Framing	5	—	5
COM 55	Communications*	5	—	5
		10	20	17

Approx. cost of Books, Tools, Supplies = $12.00

Fourth Quarter (F)		Hrs./wk. Lec.	Lab.	Cr.
BC 210	House Constr.	—	20	7
BC 211	House Constr.	5	—	5
PHY 55	Applied Physics*	5	—	5
		10	20	17

Approx. cost of Books, Tools, Supplies = $10.00

Fifth Quarter (W)		Hrs./wk. Lec.	Lab.	Cr.
BC 220	App. of Int. Trim	—	15	5
BC 221	Interior Trim	5	—	5
PSY 55	Human Relations*	3	—	3
CIV 55	Voc. Civics*	3	—	3
		11	15	16

Approx. cost of Books, Tools, Supplies = $10.00

Sixth Quarter (S)		Hrs./wk. Lec.	Lab.	Cr.
BC 232	Constr. Specialties	—	20	7
BC 233	Constr. Specialties	5	—	5
WLD 105	Welding	2	3	3
		7	23	15

Approx. cost of Books, Tools, Supplies = $10.00

*This General Education class is required for the Diploma. For the A.A.S. Degree a minimum of 24 credit hours in General Education subjects is required. These classes must include English 101 and 21 additional credit hours in at least three of the following areas:

(HU) Humanities
(LS) Life Sciences
(PS) Physical Sciences
(SS) Social Sciences

Often more than one such class will need to be scheduled each quarter in place of the asterisked classes above, or in addition where no such General Education classes are listed in a quarter.

The following classes are available for the A.A.S. Degree:

English:

ENG 101	3 0 3	(F,W,S,Su)
ENG 102	3 0 3	(F,W,S,Su)
ENG 103	3 0 3	(F,W,S,Su)

Humanities:

ADT 134	3 0 3	(S,Su)
CA 141	3 0 3	(S,Su)
ENG 130	3 0 3	(F,W,S,Su)
ENG 160	3 0 3	(F,W,S)
ENG 251	3 0 3	(S)

Life Sciences:

LS 111	4 2 5	(F,S,Su)
LS 201	5 0 5	(F,S,Su)

Physical Science:

CEM 101	5 2 5	(F,W,S,Su)
MTH 101	5 0 5	(F,W,S,Su)
MTH 105	5 0 5	(F,W,S,Su)
MTH 106	5 0 5	(F,W,S,Su)
MTH 138	5 0 5	(F,W,S,Su)
PHY 101	5 0 5	(F,W,S,Su)
PHY 105	5 0 5	(F,W,S,Su)
PHY 117	5 1 5	(F,W,S)
PHY 118	5 1 5	(W,S)
PHY 119	5 1 5	(S,Su)

Social Science:

ECN 101	3 0 3	(F,W,S,Su)
PS 110	3 0 3	(F,W,S,Su)
PSY 101	3 0 3	(F,W,S,Su)
SOC 101	3 0 3	(F,W,S,Su)

CLASS DESCRIPTIONS

Classes marked with an asterisk are taught in the Evening School.

BC 50—Cabinet and Furniture Making*
6 hrs./wk. 0 cr.
Care and use of hand and power tools used in cabinet and furniture making. Practical experience is provided in layout and assembly of cabinets and furniture.

BC 53—Bldg. Construction Math
5 hrs./wk. 5 cr.
Includes review of rules and formulas, determining areas and volumes, ratios and proportions; and use of math in building industry.

BC 55—Construction Estimating*
6 hrs./wk. 0 cr.
Instruction in methods of interpreting blueprints and specifications, quantity surveys, feedback, and estimating procedures.

BC 60—Blueprint Reading-Building Construction*
6 hrs./wk. 0 cr.
Symbols, views, measurements, terms, specifications, and abbreviations associated with a blueprint.

BC 61—Blueprint Reading Commercial*
6 hrs./wk. 0 cr.
Commercial plans and specifications with emphasis on the relationship of the architect, engineer, contractor and owner. Prerequisite: BC 60 or equivalent skills.

BC 71—Industrial Safety*
6 hrs./wk. 0 cr.
History of the Occupational Safety and Health Act (OSHA) in occupations including reason for the act, major points, use of manuals, education for participation and record keeping, inspections, problems and practical applications.

BC 73—Basic Building Inspection*
2 hrs./wk. 0 cr.
Designed to broaden the knowledge and skill of building inspectors to help meet their added responsibilities and to train new and prospective inspectors. Includes instruction and use of the "Uniform Building Codes." The course is also open to architects, draftsmen, engineers, builders, and others of similar interest.

BC 74—Advanced Code Enforcement
2 hrs./wk. 0 cr.
Designed to help building inspectors become more knowledgeable in the area of current building code requirements, in-depth study of where to find criteria for making code decisons, and techniques of diplomacy used in enforcing building codes. Prerequisite: BC 73 or equivalent training.

BC 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.

BC 104—Blueprint Reading 2, 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. Prerequisite: BC 103.

BC 112—Tools of Construction
15 hrs./wk. 5 cr.
Practical experience in care and use of hand and power tools used by the carpenter and cabinet maker in the building construction industry. General safety practices are stressed.

BC 113—Tools of Construction
5 hrs./wk. 5 cr.
Study of the kinds, care, and use of hand and power tools used in the Building Construction Industry.

BC 123—Millwork & Cabinet
5 hrs./wk. 5 cr.
Theory involved with the principles and methods used in design and layout of cabinet and millwork.

BC 124—Millwork & Cabinet
15 hrs./wk. 5 cr.
Practical experience in layout and construction of cabinet and millwork. Includes work with plastic laminates, moldings, trim and wood finishing. General safety practices are stressed.

BC 133—Forming & Framing
5 hrs./wk. 5 cr.
Basic principles and methods of forming, placing, finishing and curing of concrete in walls, slabs, footings, etc. Introduction to framing principles as they apply to residential and commercial buildings.

BC 134—Forming & Framing
20 hrs./wk. 7 cr.
Actual experience utilizing the principles and methods of forming and framing as taught in BC 133.

BC 210—House Construction
20 hrs./wk. 7 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 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 232—Construction Specialties
20 hrs./wk. 7 cr.
Practical application of the materials covered in BC 233. Practice in the use of methods or techniques of the building industry.

BC 233—Construction Specialties
5 hrs./wk. 5 cr.
Specialty areas covering the many methods and techniques of the building industry where the carpentry student may find employment.

BUSINESS (General)

The following classes are offered as electives, or during the evening school, for Business, Data Processing, Food Service, Hotel-Motel and Marketing.

Classes marked with an asterisk are taught in the evening school.

BUS 50—Money Management Seminar*
3 hrs./wk. 0 cr.
Combining knowledge and information about everyday money matters with behavior skills to achieve maximum reality in the use of personal finances. A workshop experience, with a minimum of lecture. Assignments deal with an individual's own finances.

BUS 51—Beginning Type*
4 hrs./wk. 0 cr.
Introduction to keyboard, correct typing techniques, speed and accuracy building.

BUS 52—Intermediate Type*
5 hrs./wk. 0 cr.
Keyboard drills. Speed and accuracy building. Improving techniques. Introduction to production typing. Prerequisite: BUS 51 or equivalent to 30 WPM.

BUS 53—Advanced Typing*
4 hrs./wk. 0 cr.
Refining of techniques, building higher speeds and accuracy. Production typing. Prerequisite: completion of BUS 52 or equivalent—45 WPM.

BUS 54—Accounting*
5 hrs./wk. 0 cr.
Basic fundamentals of the accounting cycle. The balance sheet and income statement.

BUS 56—Elementary Accounting II*
5 hrs./wk. 0 cr.
Study of accounts, purchases, sales, and inventory accounting; partnership and division of profits.

BUS 58—Federal Income Tax*
5 hrs./wk. 0 cr.
Basic Federal Tax Legislation and regulation for the individual or for the company.

BUS 60—Accounting*
5 hrs./wk. 0 cr.
Corporate accounting, formation of corporation, stock, dividends, bonds, branch operations, financial statements and cost accounting.

BUS 63—Middle Management Development*
3 hrs./wk. 0 cr.
Leadership and decision making, training and motivating.

BUS 65—Supervision and Management Skills*
3 hrs./wk. 0 cr.
Principles of effective supervision, training of employees, communicating with management.

BUS 67—Motivation and Communication Skills*
3 hrs./wk. 0 cr.
Communication and motivation techniques: value systems, leadership, teamwork and group dynamics.

BUS 69—Personnel Administration in Small Business*
3 hrs./wk. 0 cr.
Analysis of personnel responsibility, recruitment, selection, wage and salary, evaluation and incentive systems.

BUS 70—Typewriting*
5 hrs./wk. 2 cr.
Introduction to keyboard and correct typing techniques, letters and memos.

BUS 71—Beginning Shorthand*
5 hrs./wk. 0 cr.
Century 21 theory and vocabulary building; introduction to dictation.

BUS 72—Beginning Shorthand*
5 hrs./wk. 0 cr.
Completion of theory. Dictation and speed building. Continuation of BUS 71.

BUS 74—Beginning Shorthand*
5 hrs./wk. 0 cr.
Speed building toward an acceptable speed for employment. Continuation of BUS 72.

BUS 76—Brush-up Shorthand*
5 hrs./wk. 0 cr.
Review of theory. Building speed and ability to read shorthand rapidly. Some transcription. Prerequisite: BUS 74 or equivalent to 60 WPM.

BUS 77—Brush-up Shorthand*
5 hrs./wk. 0 cr.
Continuation of BUS 76 with emphasis on shortcuts. Goal—100 WPM. Prerequisite: BUS 76 or equivalent to 80 WPM.

BUS 81—Machine Transcriptions*
4 hrs./wk. 0 cr.
Operating transcribing equipment. Setting up letters and other documents from material on magnetic belts and cassettes.

BUS 82—Office Machines*
5 hrs./wk. 0 cr.
Introduction to rotary calculator, ten key adding machine, full keyboard adding-listing machine, electronic calculator, with emphasis on business application.

BUS 85—Bank Teller Training*
6 hrs./wk. 0 cr.
Techniques of the teller operation and technical training for accuracy and balancing.

BUS 86—C.P.S. Review I*
3 hrs./wk. 0 cr.
Certified Professional Secretary examination preparation concerning units in Financial Analysis, Business and public policy.

BUS 87—C.P.S. Review II*
3 hrs./wk. 0 cr.
Certified Professional Secretary examination preparation. Continuation of BUS 86. Prerequisite: BUS 86.

BUS 89—Personnel Administration in Small Business*
3 hrs./wk. 3 cr.
Analysis of personnel responsibility, setting objectives and measuring results; recruitment, selection, training; wage and salary, benefits; evaluation and incentive systems.

BUS 93—Middle Management Development*
3 hrs./wk. 3 cr.
Value of records, leadership, and goal setting, decision making, delegating authority, human relations, motivating, training, and appraisals.

BUS 95—Supervision and Management Skills*
3 hrs./wk. 3 cr.
Role of effective supervision, employment needs and organizational objectives, training employees, discipline, measuring performance, communicating with management.

BUS 97—Motivation and Communication Skills*
3 hrs./wk. 3 cr.
Communication and motivation techniques; overcoming communication barriers, value systems, and motivation theory, leadership, teamwork and group dynamics.

BUS 176—Court Reporting*
5 hrs./wk. 5 cr.
Stenotype Theory: Keyboard; fundamentals of writing by sound. Beginning speed practice. Dictation 40 to 60 WPM.

BUS 211—Motor Carrier Safety*
3 hrs./wk. 3 cr.
Motor carrier safety regulations for state and national motor carrier companies as outlined by the Utah Motor Transportation Association.

BUS 226—C.P.S. Review I*
3 hrs./wk. 3 cr.
Certified Professional Secretary examination preparation concerning units in Economics and Management, Financial Analysis, Mathematics of Business, Business and Public Policy.

BUS 227—C.P.S. Review II*
3 hrs./wk. 3 cr.
Certified Professional Secretary examination preparation. Office procedures, environmental relationships, communications, and decision making application. Continuation of BUS 226. Prerequisite: BUS 226.

BUS 268—Advanced Accounting*
5 hrs./wk. 4 cr.
Formation and operation of partnerships. Dissolution and liquidation of partnerships. Joint ventures, installment sales and confirmations. Home office and branch relationships.

BUS 291—Credit and Collections*
3 hrs./wk. 3 cr.
Introduction to credit in business, relationship to money; use of credit by manufacturer, wholesalers, retailers, and consumer; credit documents.

BUS 292—Credit Management*
Evaluation of credit granting tools; financial report and its analysis; ratios; operating costs; comparative analysis; collection tools; insolvancy. Prerequisite: BUS 291 or equivalent.

BUS 293—Credit Analysis*
3 hrs./wk. 3 cr.
Case studies in bankruptcies, credit adjustments, and legal aids. Involvement of cases representing consumers, retailers and wholesalers. Prerequisites: BUS 292 and 291 or equivalent.

DP 50—Keypunch*
4 hrs./wk. 0 cr.
Keypunch machines and punch card systems.

DP 70—Basic Computer Concepts*
3 hrs./wk. 0 cr.
Introduction to computer languages and concepts.

FS 236—Gourmet Cooking*
5 hrs./wk. 3 cr.
Introduction to world cuisine. Specialized techniques and recipes.

HM 266—Management Techniques*
5 hrs./wk. 3 cr.
Advanced practical management principles through class instruction; seminars, case problems, and discussions with managers and other experts in the industry.

MKT 51—Introduction to Real Estate*
6 hrs./wk. 0 cr.
Basic principles and practices of real estate, preparation for licensing examination and work in real estate sales.

MKT 54—Checkstand Training*
4 hrs./wk. 0 cr.
Fundamentals of cash register operation, scales and automatic checkstands. Procedures in making change, cashing checks, issuing trading stamps, bagging merchandise. Grooming and public relations.

MKT 55—Real Esate Appraisal*
3 hrs./wk. 0 cr.
Principles and practices of real estate appraisal.

MKT 60—Interior Design*
3 hrs./wk. 0 cr.
Office and home interior design and decoration.

MKT 67—Real Estate Law*
3 hrs./wk. 0 cr.
Sources of real estate law, land and its elements, fixtures land titles and interests in land, deeds, recording and construction notice. Contracts for sale of land and escrows.

MKT 107—Textiles
3 hrs./wk. 3 cr.
Basic textile terminology, fibers, yarns, identification, fabric construction and finishes.

MKT 112—Interior Design*
3 hrs./wk. 3 cr.
Study of home and office interiors, harmony in furnishings; study of floor and wall coverings, study of window treatments.

MKT 113—Home Furnishing*
3 hrs./wk. 3 cr.
Specialization in interior decorating for the home, designed to provide the student with the tools of a consultant in interior home furnishing.

MKT 137—Supermarket Management*
3 hrs./wk. 3 cr.
Management skills specifically for management of the modern supermarket; accounting, personnel, advertising, pricing, merchandising and business law; supermarket strategy.

MKT 144—Introduction to Fashion
5 hrs./wk. 5 cr.
Nature and dynamics of fashion, new styles, career explanation, terminology, historical development, fashion leaders, materials, manufacturing and retailing, fashion writing and executive leadership.

MKT 145—Fashion Design
3 hrs./wk. 3 cr.
Basic figure sketching, fashion drawing, original design, designers use of color, design motifs, clothing details and accessories, basic garment construction, sizing and fashion photography.

MKT 146—Fashion Sales
5 hrs./wk. 4 cr.
Techniques of selling fashion merchandise at a retail level relating psychology and tested salesmanship procedure.

MKT 148—Fashion Coordination and Promotion
3 hrs./wk. 3 cr.
Fashion show production, merchandising seminars, preparing for new seasons, display, and publicity.

MKT 149—Creative Development for Women
3 hrs./wk. 3 cr.
Specialized training in grooming, skin care, make up, hair, figure control, posture and movement, fashion and personal wardrobe, business and social etiquette, speech, personality, and personal finance for women.

MKT 154—Introduction to Real Estate*
6 hrs./wk. 5 cr.
Utah real estate law, instruments of conveyance, security instruments and legal descriptions. Building construction nomenclature, plat maps and plans. Blueprints and construction symbols and introduction to appraising.

MKT 155—Advanced Real Estate*
6 hrs./wk. 5 cr.
Concepts of ownership—titles and title conveyance; review of Utah real estate law, principles of value, appraising, legal descriptions, and surveys. Security instruments, public records, closing statements, preparation for Utah State Examination for Real Estate Brokers.

MKT 157—Real Estate Principles and Methods for Salesmen
6 hrs./wk. 5 cr.
Nature, importance and character of land. Utah Real Estate License Law and procedures. Nature and classification of property rights. Contracts. Listing agreements. Earnest money receipts. Broker-salesperson relationship. Legal instruments. Legal description. Single-family dwelling appraising.

MKT 158—Real Estate Law*
3 hrs./wk. 3 cr.
Utah real estate law, land and legal descriptions; basic principles of title ownership and transfer, documents of conveyance, security instruments, notes and contracts, escrows and closings for property transactions, joint tenants and tenants in common, leins, foreclosures and redemptions, public records, taxes, assessments and appeals.

MKT 159—Real Estate Finance*
3 hrs./wk. 3 cr.
Ownerships and interests in real property, contracts, deeds of trust and mortgages used as security instruments. Title transfers and instruments, conventional, FHA, and VA guaranteed loans, financial institutions, secondary mortgage markets, independent mortgage insurance, amortization, debt, computation of interest, discount point structure and working examples of income and expenditures for income properties.

MKT 164—Real Estate Appraisal*
6 hrs./wk. 6 cr.
Basic concepts of value. Appraisal and process. Basic principles and controls affecting value. Cost approach, market approach and income approach to value. Correlation and final estimation. Writing the appraisal report.

MKT 172—Real Estate Property Management*
3 hrs./wk. 3 cr.
Property management. Property insurance. Property taxes. Real estate advertising. Real estate marketing. Housing legislation. Income vs. value. Investing in the real estate market.

MKT 175—Applied Marketing I
2 hrs./wk. 2 cr.
Introduction to Utah post high school Distributive Education Club. Organization and planning for various marketing and management activities. Prerequisite: Membership in "Mid-Management Marketing Association."

MKT 176—Applied Marketing II
2 hrs./wk. 2 cr.
Preparation for statewide competition in various marketing and management specialties such as: Display, Salesmanship, Sales Management, etc. Develops specialized marketing skills. Prerequisite: MKT 175 or instructor approval.

MKT 177—Applied Marketing III
2 hrs./wk. 2 cr.
Competitive events in marketing and management specialties on college and state levels. Development of leadership

and social skills needed in business associations. Prerequisite: MKT 176.

MKT 201—Professional Sales Development*
3 hrs./wk. 3 cr.
Emphasis on personal qualities and attitudes necessary for the sales image. Effective training in business behavior and psychology, salesmanship, public speaking, leadership, creativity, business wardrobe, and self-confidence. Prerequisite: MKT 120.

BUSINESS MANAGEMENT

The Business Management graduate often starts as a management trainee, and may then progress to department manager, office manager and store manager.

In addition to typing, office machines and accounting skills acquired through the program, the student also becomes knowledgeable in the field of human relations. Investment, banking and finance, and budgeting are other areas of interest.

Employment opportunities are very good, since business management is one of the faster growing fields in industry today, locally and nationally. Graduates may expect to start at about $500.00 per month. However, many management positions pay in excess of $1,000.00 per month, and successful managers may earn considerably more than that.

Diploma, A.A.S. Degree

Available to graduates with Accounting Certificate or Marketing Certificate. Business Management students must have completed BUS 161 or 162 before graduation.

Fourth Quarter (F, Su)	Hrs./wk. Lec.	Lab.	Cr.
MTH 101 Intro. to Col. Algebra	5	—	5
BUS 284 Small Bus. Mgmt.	5	—	5
PSY 55 Human Relations*	3	—	3
†Elective	3	—	3
	16	0	16

Approx. cost of Books, Tools, Supplies = $50.00

Fifth Quarter (W)	Hrs./wk. Lec.	Lab.	Cr.
BUS 286 Persnl. & Labor Rel.	5	—	5
BUS 204 Banking & Finance	5	—	5
SOC 55 Applied Sociology*	3	—	3
†Elective	3	—	3
	16	0	16

Approx. cost of Books, Tools, Supplies = $45.00

Sixth Quarter (S)	Hrs./wk. Lec.	Lab.	Cr.
BUS 210 Investments	3	—	3
BUS 288 Managerial Acctg.	5	—	5
CIV 55 Vocational Civics*	3	—	3
BUS 280 Business Statistics	3	—	3
†Elective	3	—	3
	17	—	17

Approx. cost of Books, Tools, Supplies = $35.00

†Electives subject to Division Head approval.

*This General Education class is required for the Diploma. For the A.A.S. Degree a minimum of 24 credit hours in General Education subjects is required. These classes must include English 101 and 21 additional credit hours in at least three of the following areas:

(HU) Humanities
(LS) Life Sciences
(PS) Physical Sciences
(SS) Social Sciences

Often more than one such class will need to be scheduled each quarter in place of the asterisked classes above, or in addition where no such General Education classes are listed in a quarter.

The following classes are available for the A.A.S. Degree:

English:

ENG	101	3	0 3	(F,W,S,Su)
ENG	102	3	0 3	(F,W,S,Su)
ENG	103	3	0 3	(F,W,S,Su)

Humanities:

ADT	134	3	0 3	(S,Su)
CA	141	3	0 3	(S,Su)
ENG	130	3	0 3	(F,W,S,Su)
ENG	160	3	0 3	(F,W,S)
ENG	251	3	0 3	(S)

Life Sciences:

LS	111	4	2 5	(F,S,Su)
LS	201	5	0 5	(F,S,Su)

Physical Science:

CEM	101	5	2 5	(F,W,S,Su)
MTH	101	5	0 5	(F,W,S,Su)
MTH	105	5	0 5	(F,W,S,Su)
MTH	106	5	0 5	(F,W,S,Su)
MTH	138	5	0 5	(F,W,S,Su)
PHY	101	5	0 5	(F,W,S,Su)
PHY	105	5	0 5	(F,W,S,Su)
PHY	117	5	1 5	(F,W,S)
PHY	118	5	1 5	(W,S)
PHY	119	5	1 5	(S,Su)

Social Science:

ECN	101	3	0 3	(F,W,S,Su)
PS	110	3	0 3	(F,W,S,Su)
PSY	101	3	0 3	(F,W,S,Su)
SOC	101	3	0 3	(F,W,S,Su)

CLASS DESCRIPTIONS

Classes marked with an asterisk are taught in the evening school.

BUS 204—Banking and Finance*
5 hrs./wk. 5 cr.
Introduction to elements of financial management from viewpoint of leading institutions and business managers.

BUS 210—Investments*
3 hrs./wk. 3 cr.
Operation of security market. Developing ability to analyze corporate securities. Investment objectives and design of portfolios.

BUS 280—Business Statistics*
3 hrs./wk. 3 cr.
Introduction to basic business statistics, use of population parameters, probability sampling and forecasting, particularly for decision making in business management.

BUS 284—Small Business Management*
5 hrs./wk. 5 cr.
Introduction to problems of the small businessman — borrowing, taxes, purchasing and personnel.

BUS 286—Personnel and Labor Relations*
5 hrs./wk. 5 cr.
Introduction to problems associated with employees individually and complex problems associated with organized labor.

BUS 288—Managerial Accounting*
5 hrs./wk. 5 cr.
Emphasizes management uses of accounting, but also considers financial accounting. Underlines the accountant's role in an organization: scorekeeping, attention directing, and problem solving.

BUSINESS MANAGEMENT (Accounting Oriented)

The Business Management graduate often starts as a management trainee.

In addition to typing, office machines and accounting skills acquired through the program, the student also becomes knowledgeable in the field of human relations. Investment, banking and finance, and budgeting are other areas of interest for those graduating with accounting skills.

Employment opportunities are very good, since business management is one of the faster growing fields in industry today, locally and nationally. Graduates may expect to start at about $500.00 per month. However, many management positions pay in excess of $1,000.00 per month, and successful managers may earn considerably more than that.

Diploma, A.A.S. Degree

Available to graduates with Accounting Certificate.

Fourth Quarter (F, Su)	Hrs./wk. Lec.	Lab.	Cr.
BUS 250 Intermed. Acctg. I	5	5	4
BUS 263 Cost Accounting	3	2	4
MTH 101 Intro. Col. Algebra	5	—	5
BUS 158 Business Law II	3	—	3
	16	7	16

Approx. cost of Books, Tools, Supplies = $45.00

Fifth Quarter (W)	Hrs./wk. Lec.	Lab.	Cr.
BUS 251 Intermed. Acctg. II	5	5	4
BUS 204 Banking & Finance	5	—	5
CIV 55 Human Relations*	3	—	3
BUS 270 Fed. Income Tax	3	2	4
	16	7	16

Approx. cost of Books, Tools, Supplies = $40.00

Sixth Quarter (S)	Hrs./wk. Lec.	Lab.	Cr.
DP 200 Computer Audit	3	2	4
BUS 252 Intermed. Acctg. III	5	5	4
BUS 210 Investments	3	—	3
CIV 55 Voc. Civics*	3	—	3
BUS 280 Business Statistics or †Elective	3	—	3
	17	7	17

Approx. cost of Books, Tools, Supplies = $40.00

†Electives are chosen from the Business Division and must have Division Head approval.

*This General Education class is required for the Diploma. For the A.A.S. Degree a minimum of 24 credit hours in General Education subjects is required. These classes must include English 101 and 21 additional credit hours in at least three of the following areas:

(HU) Humanities
(LS) Life Sciences
(PS) Physical Sciences
(SS) Social Sciences

Often more than one such class will need to be scheduled each quarter in place of the asterisked classes above, or in addition where no such General Education classes are listed in a quarter.

The following classes are available for the A.A.S. Degree:

English:		
ENG 101	3 0 3	(F,W,S,Su)
ENG 102	3 0 3	(F,W,S,Su)
ENG 103	3 0 3	(F,W,S,Su)

Humanities:		
ADT 134	3 0 3	(S,Su)
CA 141	3 0 3	(S,Su)
ENG 130	3 0 3	(F,W,S,Su)
ENG 160	3 0 3	(F,W,S)
ENG 251	3 0 3	(S)

Life Sciences:		
LS 111	4 2 5	(F,S,Su)
LS 201	5 0 5	(F,S,Su)

Physical Science:		
CEM 101	5 2 5	(F,W,S,Su)

MTH	101	5	0 5	(F,W,S,Su)
MTH	105	5	0 5	(F,W,S,Su)
MTH	106	5	0 5	(F,W,S,Su)
MTH	138	5	0 5	(F,W,S,Su)
PHY	101	5	0 5	(F,W,S,Su)
PHY	105	5	0 5	(F,W,S,Su)
PHY	117	5	1 5	(F,W,S)
PHY	118	5	1 5	(W,S)
PHY	119	5	1 5	(S,Su)

Social Science:

ECN	101	3	0 3	(F,W,S,Su)
PS	110	3	0 3	(F,W,S,Su)
PSY	101	3	0 3	(F,W,S,Su)
SOC	101	3	0 3	(F,W,S,Su)

CLASS DESCRIPTIONS

Classes marked with an asterisk are taught in the evening school.

BUS 158—Business Law II*
3 hrs./wk. 3 cr.
Partnerships, corporations, real property, estates and bankruptcy. Continuation of BUS 156.

BUS 204—Banking and Finance*
5 hrs./wk. 5 cr.
Introduction to the elements of financial management from viewpoint of leading institutions and business managers.

US 210—Investments*
3 hrs./wk. 3 cr.
peration of the security market. veloping ability to analyze corporate urities. Introduces investment ectives and design of portfolios.

250—Intermediate Accounting I*
10 hrs./wk. 4 cr.
nce sheet analysis, current assets, ties, transaction flow, the accounting ss.

251—Intermediate Accounting II*
hrs./wk. 4 cr.
e sheet analysis, non-current assets.

BUS 252—Intermediate Accounting III*
10 hrs./wk. 4 cr.
Balance sheet analysis, retained earnings, contributed capital, appropriations, income statement analysis, analysis of variations—gross income, net income, costs.

BUS 263—Cost Accounting*
5 hrs./wk. 4 cr.
Materials, labor, overhead, job cost and standard cost.

BUS 270—Federal Income Tax*
5 hrs./wk. 4 cr.
Basic Federal Tax Legislation and regulation for the individual or for the company.

BUS 280—Business Statistics*
3 hrs./wk. 3 cr.
Introduction to basic business statistics, use of population parameters, probability sampling and forecasting, particularly for decision making in business management.

DP 200—Computer Audit*
5 hrs./wk. 4 cr.
Applied auditing principles through computer media.

CLERK-TYPIST

Extensive instruction is provided in the use of typewriters, calculators, adding machines, duplicating machines, transcribing equipment and other office machines.

Classes are provided in English, Report Writing, Clerical Recordkeeping, Data Processing and Filing. Also a class in Secretarial Procedures details use of the telephone, how to write telegrams, what to do with incoming and outgoing mail, etc.

The graduate may be placed in one of a number of possible positions, such as purchasing secretary, inventory clerk, policy typist, assistant to a manager, receptionist, etc. Many exciting jobs are also open to the clerk typist in federal, state and local government offices.

Recent salary ranges for graduates have been from $350.00 to $450.00 per month.

Certificate

An alternate sequence of typing beginning with Intermediate Typing may be approved.

First Quarter (F, W, S)		Hrs./wk. Lec.	Lab.	Cr.
BUS 101	Begin. Typewriting	5	5	4
BUS 129	Clerical Rec. Keep.	3	2	3
ENG 80	Business English	3	2	3
MTH 80	Business Math	3	2	3
PSY 55	Human Relations	3	—	3
		17	11	16

Approx. cost of Books, Tools, Supplies = $60.00

Second Quarter (W, S, Su)		Hrs./wk. Lec.	Lab.	Cr.
BUS 102	Intermed. Typing	5	5	4
BUS 131	Office Machines	—	5	3
BUS 155	Records Manage.	3	2	3
DP 60	Appl. Computer Cosc.	2	3	3
ENG 95	Bus. Report Writing	3	—	3
		13	15	16

Approx. cost of Books, Tools, Supplies = $50.00

Third Quarter (S, Su, F)		Hrs./wk. Lec.	Lab.	Cr.
BUS 103	Advanced Typing	5	5	4
BUS 119	Vocabulary Building	3	—	3
BUS 134	Machine Transcrip.	2	3	3
BUS 136	Secretarial Proced.	3	—	3
BUS 180	Intro. to Business or	4	—	4
BUS 259	Exec. Acct. Pract. or Coop Education	3	—	3
		17	8	20

Approx. cost of Books, Tools, Supplies = $25.00

CLASS DESCRIPTIONS

Classes marked with an asterisk are taught in the evening school.

BUS 101—Typewriting I
10 hrs./wk. 4 cr.
Introduction to keyboard, correct typing techniques, speed and accuracy building.

BUS 102—Intermediate Typing
10 hrs./wk. 4 cr.
Keyboard drills; Speed and accuracy building; Improving techniques; and introduction to production typing. Prerequisite: completion of BUS 101 or equivalent—30 WPM.

BUS 103—Advanced Typing
10 hrs./wk. 4 cr.
Refining of techniques, building higher speeds and accuracy. Production typing. Duplicating machines. Prerequisite: completion of BUS 102 or equivalent—45 WPM.

BUS 104—Advanced Production Typing
10 hrs./wk. 4 cr.
Medical and legal typing, correspondence, records, indexing, filing, manuscripts, reports, and dictaphone. Prerequisite: BUS 103 or equivalent—55 WPM.

BUS 119—Vocabulary Building*
3 hrs./wk. 3 cr.
Course in vocabulary building and spelling improvement.

BUS 129—Clerical Record Keeping
5 hrs./wk. 3 cr.
Practice on business forms, cashier's records, checks and bank statements, petty cash records, purchase records and payroll.

BUS 131—Office Machines*
5 hrs./wk. 3 cr.
Introduction to ten-key adding machine, electronic printing calculator, electronic display calculator, rotary calculator, ten-key adding listing machine, and full keyboard machine. Emphasis on proficiency achievement and working with business forms.

BUS 134—Machine Transcription*
5 hrs./wk. 3 cr.
Operating IBM, Norelco, Sony, Dictaphone transcribing equipment. Develops typewriting production skill in setting up letters, memos, and other documents from belts or tapes. Prerequisite: BUS 102 or 45 WPM.

BUS 136—Secretarial Training
3 hrs./wk. 3 cr.
Application and interview training, office procedures, duties of the receptionist, clerk, and secretary. Emphasis on attitudes.

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

BUS 180—Introduction to Business*
4 hrs./wk. 4 cr.
Designed to give students an overview of the business world and to assist the student in making an occupational choice.

BUS 259—Executive Accounting Practice
3 hrs./wk. 3 cr.
Medical or legal practice sets, in preparation for general recordkeeping in the professional office.

DP 60—Applied Computer Concepts
5 hrs./wk. 3 cr.
Introduction to Data Processing. Automation in industry; use of terminology, card punch, sorter, and binary number system. CRT terminals? Data storage and retrieval systems?

COMMERCIAL ART

A commercial artist is a specialist in graphic communications which includes translating ideas into well designed visual forms such as drawings, art for printing, layouts, posters, cartoons, fashion illustrations, brochures, letterheads, and package design.

Since the artist is involved in the communication-selling functions, the artist must possess human relations skills to coordinate between client and printer to produce a finished product that will be high quality and economical.

The commercial artist may be a free-lance artist serving a group of clients or may be associated with an art studio, advertising agency, printing firm or other related commercial enterprises. Graduates may earn approximately $2.75-$4.00 an hour starting salary.

Diploma, A.A.S. Degree

First Quarter (F, W)		Hrs./wk. Lec.	Lab.	Cr.
CA 115	Drawing I	1	3	2
CA 116	Princ. & Elem. of Art	3	1	3
CA 117	Media & Tech. I	2	3	3
CA 118	Lettering I	2	4	3
COM 55	Communications*	5	—	5
		13	11	16

Approx. cost of Books, Tools, Supplies = $135.00

Second Quarter (W, S)		Hrs./wk. Lec.	Lab.	Cr.
CA 123	Perspective	1	3	2
CA 125	Lettering II	1	3	2
CA 126	Anatomy	2	3	3
CA 127	Color	3	1	3
CA 128	Media & Tech. II	2	4	3
MTH 50	Voc. Math*	5	—	5
		14	14	18

Approx. cost of Books, Tools, Supplies = $75.00

Third Quarter (S, Su)

		Hrs./wk. Lec.	Lab.	Cr.
CA 135	Typography I	2	3	3
CA 136	Figure Drawing	1	3	2
CA 137	Design I	2	2	3
CA 139	Drawing II	1	4	2
CA 140	Layout I	2	3	3
CA 141	History of Art	3	—	3
		11	15	16

Approx. cost of Books, Tools, Supplies = $45.00

Fourth Quarter (F)

		Hrs./wk. Lec.	Lab.	Cr.
CA 215	Art Preparation I	2	3	3
CA 230	Layout II	2	2	3
ECN 55	Applied Econ.*	3	—	3
Electives†				
		**7	5	9

Approx. cost of Books, Tools, Supplies = $40.00

Fifth Quarter (W)

		Hrs./wk. Lec.	Lab.	Cr.
CA 220	Art Preparation II	2	2	2
CA 239	Design II	2	2	3
PRT 107	Printing-Comm. Art	2	1	2
Electives†				
		**6	5	8

Approx. cost of Books, Tools, Supplies = $45.00

Sixth Quarter (S)

		Hrs./wk. Lec.	Lab.	Cr.
CA 247	Studio Production	3	3	4
CA 236	Occupational Orient.	2	4	4
PSY 55	Human Relations*	3	—	3
Electives†				
		**8	7	11

Approx. cost of Books, Tools, Supplies = $35.00

**Does not include elective lecture, lab, or credit.

†**Electives:** Choose 3 from each quarter list.

Fourth Quarter:

		Hrs./wk. Lec.	Lab.	Cr.
CA 227	Typography II	1	2	2
CA 245	Adv. Figure Drawing	1	3	2
CA 249	Cartoon	2	1	2
CA 250	Retail Illustration	1	2	2
PRT 104	Photography	1	3	2

Fifth Quarter:

CA 216	Illustration	2	4	3
CA 228	Silk Screen Prep.	1	3	2
CA 240	Sign Painting	1	3	2
CA 252	Advanced Layout	1	2	2

Sixth Quarter:

CA 244	Adv. Silk Screen Prt.	1	3	2
CA 246	Adv. Illustration	1	3	2
CA 253	Fashion Illustration	1	2	2
CA 254	Promotional Design	1	2	2
CA 255	Pack. & Display Des.	1	3	2

*This General Education class is required for the Diploma. For the A.A.S. Degree a minimum of 24 credit hours in General Education subjects is required. These classes must include English 101 and 21 additional credit hours in at least three of the following areas:

(HU) Humanities
(LS) Life Sciences
(PS) Physical Sciences
(SS) Social Sciences

Often more than one such class will need to be scheduled each quarter in place of the asterisked classes above, or in addition where no such General Education classes are listed in a quarter.

The following classes are available for the A.A.S. Degree:

English:

ENG 101	3	0	3	(F,W,S,Su)
ENG 102	3	0	3	(F,W,S,Su)
ENG 103	3	0	3	(F,W,S,Su)

Humanities:

ADT 134	3	0	3	(S,Su)
CA 141	3	0	3	(S,Su)
ENG 130	3	0	3	(F,W,S,Su)
ENG 160	3	0	3	(F,W,S)
ENG 251	3	0	3	(S)

Life Sciences:

LS 111	4	2	5	(F,S,Su)
LS 201	5	0	5	(F,S,Su)

Physical Science:

CEM 101	5	2	5	(F,W,S,Su)
MTH 101	5	0	5	(F,W,S,Su)
MTH 105	5	0	5	(F,W,S,Su)
MTH 106	5	0	5	(F,W,S,Su)
MTH 138	5	0	5	(F,W,S,Su)
PHY 101	5	0	5	(F,W,S,Su)
PHY 105	5	0	5	(F,W,S,Su)
PHY 117	5	1	5	(F,W,S)
PHY 118	5	1	5	(W,S)
PHY 119	5	1	5	(S,Su)

Social Science:

ECN 101	3	0	3	(F,W,S,Su)
PS 110	3	0	3	(F,W,S,Su)
PSY 101	3	0	3	(F,W,S,Su)
SOC 101	3	0	3	(F,W,S,Su)

CLASS DESCRIPTIONS

Classes marked with an asterisk are taught in the evening school.

CA 50—General Art*
6 hrs./wk. 0 cr.
Introductory course in basic elements of commercial art including lettering, composition, perspective, design and shading.

CA 51—Water Color and Still Life Oil Painting*
6 hrs./wk. 0 cr.
Painting experience in water colors, acrylics or oils. Students will have the option of following either a prescribed course outlined for beginners or will be given advanced training in the media of their choice.

CA 52—Photo Retouching*
6 hrs./wk. 0 cr.
Basic retouching of photos for coarse and fine screen reproduction, cropping of photos, handling of negatives.

CA 53—Layout & Design I*
6 hrs./wk. 0 cr.
Introductory course including psychology of graphic selling, researching a design problem, symbolism, conventionalization of forms, creative processes, and preparing a morgue as applies to the advertising media.

CA 60—Beginning Drawing*
6 hrs./wk. 0 cr.
Learning to see things as they are and to transfer this information to paper. Drawings will be made from three-dimensional objects.

CA 61—Water Color and Still Life Oil Painting II*
6 hrs./wk. 0 cr.
Continuation of CA 51 with emphasis on more advanced techniques. Prerequisite: CA 51.

CA 62—Figure Drawing*
6 hrs./wk. 0 cr.
Development in drawing directly from live models. Learning to see proper relationships and to develop a foundation in length, size, direction, rhythm, anatomy and gesture. Prerequisite: CA 60.

CA 63—Layout & Design II*
6 hrs./wk. 0 cr.
Advanced course in problem solving through advertising orders, going from research, thumbnails, roughs, and comprehensives to finished art. Prerequisite: CA 53.

CA 115—Drawing I
4 hrs./wk. 2 cr.
Beginning drawing with emphasis on application of principles of correct drawing.

CA 116—Principles and Elements of Art
4 hrs./wk. 3 cr.
Study of principles and elements of art as they apply to commercial art.

CA 117—Media and Techniques I
5 hrs./wk. 3 cr.
Introduction to basic commercial art media: pencil, pen and ink, and brush and ink.

CA 118—Lettering I
8 hrs./wk. 3 cr.
Introduction to brush and pen lettering, including use and care of instruments.

CA 123—Perspective
4 hrs./wk. 2 cr.
Theory and practice in basic perspective.

CA 125—Lettering II
4 hrs./wk. 2 cr.
Development of skill in brush and pen lettering and application to commercial art. Prerequisite: CA 118.

CA 126—Anatomy
5 hrs./wk. 3 cr.
Intensive study of bone and muscle structure as basis for drawing the head and figure.

CA 127—Color
4 hrs./wk. 3 cr.
Theory and practice in pigment color.

CA 128—Media and Techniques II
5 hrs./wk. 3 cr.
Introduction to basic media and techniques including tempera and wash.

CA 135—Typography I
5 hrs./wk. 3 cr.
Lettering indication, study of typography in general, study of specific type faces.

CA 136—Figure Drawing
4 hrs./wk. 2 cr.
Drawing the head and figure using male and female models. Prerequisite: CA 115.

CA 137—Design I
4 hrs./wk. 3 cr.
Introduction to principles of advertising design. Includes creative processes.

CA 139—Drawing II
5 hrs./wk. 2 cr.
Advanced drawing. Includes drawing from nature. Prerequisite: CA 115.

CA 140—Layout I
5 hrs./wk. 3 cr.
Introduction to advertising layout. Includes thumbnails and roughs.

CA 141—History of Art
3 hrs./wk. 3 cr.
Study of art forms of the post-impressionistic through contemporary movements with emphasis on current trends, techniques and concepts.

CA 215—Art Preparation I
5 hrs./wk. 3 cr.
Introduction to camera ready art preparation.

CA 216—Illustration
5 hrs./wk. 3 cr.
Introduction to illustrating techniques including book illustration. Prerequisite: CA 115.

CA 220—Art Preparation II
4 hrs./wk. 3 cr.
Advanced techniques in camera ready art, including color separation and mechanics of reproduction. Prerequisite: CA 215.

CA 227—Typography II
4 hrs./wk. 2 cr.
Intensive study of various type faces and their application in commercial art. Prerequisite: CA 135.

CA 228—Silk Screen Preparation
4 hrs./wk. 2 cr.
Introducton to silk screen techniques including preparation of art for silk screen reproduction and exploration of various uses in the art field.

CA 230—Layout II
4 hrs./wk. 3 cr.
Advanced layout with emphasis on comprehensives. Prerequisite: CA 140.

CA 239—Design II
5 hrs./wk. 3 cr.
Advanced design with emphasis on corporate logos and advertising design applications. Prerequisite: CA 137.

CA 240—Sign Painting
4 hrs./wk. 2 cr.
Emphasis on the practice of lettering in enamels for outdoor advertising including familiarization with surface preparations and materials. Prerequisite: CA 125.

CA 244—Advanced Silk Screen
4 hrs./wk. 2 cr.
Advanced silk screen techniques including preparation of art for silk screen reproduction. Prerequisite: CA 228.

CA 245—Advanced Figure Drawing
4 hrs./wk. 2 cr.
Drawing and painting from male and female models in full color, charcoal and other media. Prerequisite: CA 136.

CA 246—Advanced Illustration
4 hrs./wk. 2 cr.
Emphasis on creating finished art for client presentation in full color including figure illustration and product illustration. Prerequisites: CA 115, CA 136, CA 139.

CA 247—Studio Production
6 hrs./wk. 4 cr.
On the job simulated work. Actual advertising problems presented under working conditions. Prerequisite: CA 220.

CA 249—Cartooning
3 hrs./wk. 2 cr.
Introduction to cartooning principles and techniques. Prerequisite: CA 115.

CA 250—Retail Illustration
3 hrs./wk. 2 cr.
Introduction to materials and techniques involved in fashion and product illustration for department store advertising. Prerequisite: CA 115.

CA 252—Advanced Layout
3 hrs./wk. 2 cr.
Advanced course in layout including psychology of graphic selling.

CA 253—Fashion Illustration
3 hrs./wk. 2 cr.
Advanced instruction in materials and techniques involved in fashion illustration for department store advertising.

CA 254—Promotional Design
3 hrs./wk. 2 cr.
Research and solving design problems with emphasis on three-dimensional and display design.

CA 255—Packing & Display Design
4 hrs./wk. 2 cr.
Fundamentals of packaging, point-of-purchase and exhibition design with emphasis on development of three-dimensional concepts and techniques. Includes principles of packaging design, construction, graphics, production and materials.

CA 256—Occupational Orientation
6 hrs./wk. 4 cr.
Study of art studios, advertising agencies, sign shops, engraving, printing plants and field trips including techniques and deportment in job interviews.

PRT 107—Printing-Commercial Art
3 hrs./wk. 2 cr.
Utilization of commercial art layouts, drawings and photographs in making plates, film negatives, and color proofs.

COOPERATIVE EDUCATION

The College recognizes the importance of integrating classroom study with planned and supervised practical experience in vocational activities outside of the formal classroom environment. Practical experience in Cooperative Education is usually in the form of paid employment in industrial, business, government or service-type work situations. This means that supervised employment in the occupational field for which the student is preparing enhances comprehensive learning and vocational adaptation. The Cooperative experience enables students to be better prepared to seek employment in their chosen field and to become better acquainted with both theory and practice. Cooperative experience may be arranged during day or evening hours.

Advantages of Cooperative Education for the Student:

- Gives reality to learning
- Increases educational motivation
- Develops greater human understanding
- Accelerates maturation
- Provides orientation to the world of work
- Provides financial aid
- Provides useful employment contacts
- Develops experience before graduation

For the Employer:

- Provides a good source of labor supply
- Facilitates recruitment and retention
- Permits better utilization of personnel

For the College:

- Permits more effective use of plant facilities
- Encourages greater community support
- Provides closer relationships with business, industry and professionals

Eligibility for Placement:

- Application for Cooperative Education is required before registration
- A cumulative grade point average of 2.0 or better
- Program and advisor approval

Academic Credit:

A maximum of 9 quarter credit hours will be granted in Cooperative Education. Flexible credit hours up to *3 hours per quarter* facilitates scheduling and achievement of work objectives.

Following is a list of Cooperative Education classes:

CE 101, 102, and 103 are designed for flexible entry. Behavioral skills needed by students to be proficient in obtaining employment are determined through the application process. The Cooperative Education office will assign students, according to their needs, the course necessary for a successful Cooperative experience.

CE 101—Work Orientation I
5 hrs./wk 1 cr.
Designed to prepare students to seek, obtain, and hold a job. One hour credit asigned for one (1) to four (4) behavioral skills. Course can be completed in a few weeks depending on student effort. If completed within four weeks, student can enroll for CE 112 or CE 122.

CE 102—Work Orientation II
5 hrs./wk. 2 cr.
Preparation to seek, obtain, and hold a job. Two hours credit assigned for five (5) to eight (8) behavioral skills. Course can be completed in several weeks depending on student effort. If completed within four weeks, student can enroll for CE 111 or CE 121.

CE 103—Work Orientation II
5 hrs./wk. 3 cr.
Preparation to seek, obtain, and hold a job. Three hours credit assigned for nine (9) to fourteen (14) behavioral skills. After completion students can enroll for CE 113 or CE 123 for following quarter.

CE 111—Career Related Cooperative Work Experience
5 hrs./wk. 1 cr.
For students working in jobs related to their careers and which can provide meaningful experiences for advancement towards their career objectives. This course requires approval of the student's instructor coordinator.

CE 112—Career Related Cooperative Work Experience
10 hrs./wk. 2 cr.
For students working in jobs related to their careers and which can provide meaningful experiences for advancement towards their career objectives. This course requires approval of the student's instructor coordinator.

CE 113—Career Related Cooperative Work Experience
15 hrs./wk. 3 cr.
For students working in jobs related to their careers and which can provide meaningful experiences for advancement towards their career objectives. This course requires approval of the student's instructor coordinator.

**NOTE: Only three (3) credit hours of CE 111-113 will be allowed toward the maximum nine (9) credit hours in the Cooperative Education program.

CE 121—Career Oriented Cooperative Work Experience
5 hrs./wk. 1 cr.
For students working in their careers and employment that will cooperate to provide meaningful experiences for advancement toward their career objectives. This course requires approval of the student's instructor coordinator.

CE 122—Career Oriented Cooperative Work Experience
10 hrs./wk. 2 cr.
For students working in their careers and employment that will cooperate to provide meaningful experiences for advancement toward their career objectives. This course requires approval of the student's instructor coordinator.

CE 123—Career Oriented Cooperative Work Experience
15 hrs./wk. 3 cr.
For students working in their careers and employment that will cooperate to provide meaningful experiences for advancement toward their career objectives. This course requires approval of the student's instructor coordinator.

CE 124—Career Oriented Cooperative Work Experience
5 hrs./wk. 1 cr.
For students working in their careers and employment that will cooperate to provide additional experiences for advancement toward their career objectives. This course requires approval of the student's instructor coordinator.
Prerequisite: CE 121, 122 or 123.

CE 125—Career Oriented Cooperative Work Experience
10 hrs./wk. 2 cr.
For students working in their careers and employment that will cooperate to provide additional experiences for advancement toward their career objectives. This course requires approval of the student's instructor coordinator.
Prerequisite: CE 121, 122 or 123.

CE 126—Career Oriented Cooperative Work Experience
15 hrs./wk. 3 cr.
For students working in their careers and employment that will cooperate to provide additional experiences for advancement toward their career objectives. This course requires approval of the student's instructor coordinator.
Prerequisite: CE 121, 122 or 123.

CE 127—Career Oriented Cooperative Work Experience
5 hrs./wk. 1 cr.
For students working in their careers and employment that will cooperate to provide additional experiences for advancement toward their career objectives. This course requires approval of the student's instructor coordinator.
Prerequisite: CE 124, 125 or 126.

CE 128—Career Oriented Cooperative Work Experience
10 hrs./wk. 2 cr.
For students working in their careers and employment that will cooperate to provide additional experiences for advancement toward their career objectives. This course requires approval of the student's instructor coordinator.
Prerequisite: CE 124, 125 or 126.

CE 129—Career Oriented Cooperative Work Experience
15 hrs./wk. 3 cr.
For students working in their careers and employment that will cooperate to provide additional experiences for advancement toward their career objectives. This course requires approval of the student's instructor coordinator.
Prerequisite: CE 124, 125 or 126.

COSMETOLOGY

Cosmetology students learn to design hair to enhance the individual client's own beauty. The study of chemicals is made, so the student may know how to maintain the proper condition, color and curl of the hair. Instruction is also given in make-up, manicuring and total care of the skin. Additionally, current and past fashion trends are reviewed, so that every student will be thoroughly familiar with the cycle of hair styles and designs.

The cosmetology profession is a particularly creative field and can be highly individualistic. The successful man or woman in this field needs to be a real self-starter, willing to work hard and make every effort to cultivate a radiant personality.

Most graduates will work in beauty salons as beauticians. It is possible to specialize in cutting, coloring, permanent waving, or trichology. Other possibilities for employment exist as salon managers and receptionists.

The local employment picture is exceptionally good. There are many more openings available than there are graduates at the present time.

Graduates from this program normally work on a percentage basis. After one year's experience a beautician could conservatively expect to earn $400.00 a month or more — depending upon ability, personality and willingness of the individual.

Certificate
Requires 1500 clock hours of instruction and prepares the student to meet requirements for taking the State Licensing Examination.

New students will be admitted any Monday morning during the school year whenever there is space available.

First Quarter (F, W, S, Su)	Hrs./wk. Lec.	Lab.	Cr.
COS 110 Cosmetology Lab	—	25	9
COS 111 Cosmetology Theory	5	—	5
	5	25	14

Approx. cost of Books, Supplies = $150.00

Second Quarter (F, W, S, Su)	Hrs./wk. Lec.	Lab.	Cr.
COS 120 Cosmetology Lab	—	25	9
COS 121 Cosmetology Theory	5	—	5
	5	25	14

Third Quarter (F, W, S, Su)	Hrs./wk. Lec.	Lab.	Cr.
COS 130 Cosmetology Lab	—	25	9
COS 131 Cosmetology Theory	5	—	5
	5	25	14

Fourth Quarter (F, W, S, Su)	Hrs./wk. Lec.	Lab.	Cr.
COS 140 Cosmetology Lab	—	25	9
COS 141 Cosmetology Theory	5	—	5
	5	25	14

Fifth Quarter (F, W, S, Su)	Hrs./wk. Lec.	Lab.	Cr.
COS 150 Cosmetology Lab	—	25	9
COS 151 Cosmetology Theory	5	—	5
	5	25	14

CLASS DESCRIPTIONS

COS 110, 120, 130, 140—Cosmetology Lab
25 hrs./wk. 9 cr./class
Learning by doing is emphasized. Lab instruction and practice are an integral part and extend over length of program. Shampooing, scalp treatments, manicuring, haircutting, hair styling, permanent waving, facials, massaging, trichology, care and styling of wigs and wiglets, finger waving, hair coloring and bleaching.

COS 111—Cosmetology Theory
5 hrs./wk. 5 cr.
Sterilization and sanitation, hygiene, anatomy and physiology, personality, and other related topics directly connected with practical units of laboratory instruction.

COS 121—Cosmetology Theory
5 hrs./wk. 5 cr.
Diseases of hair, skin and nails, electricity, and other related topics directly connected with practical units of laboratory instruction.

COS 131—Cosmetology Theory
5 hrs./wk. 5 cr.
Courtesy, telephone conversation, ethics, salesmanship, salon management, and other related topics directly connected with practical units of laboratory instruction.

COS 141—Cosmetology Theory
5 hrs./wk. 5 cr.
Comprehensive review of cosmetology theory and practical application.

COS 150—Cosmetology Lab
25 hrs./wk. 9 cr.
Final preparation on all phases of cosmetology laboratory work for graduation and for taking the State Board Licensing Examination.

COS 151—Cosmetology Theory
5 hrs./wk. 5 cr.
Student is coached in final preparation on all phases of Cosmetology theory for graduation and for taking the State Board Licensing Examination.

DATA PROCESSING

Data Processing, whether business or scientific, consists of recording and reporting meaningful information manually or electronically, through the use of punch card equipment, data terminals interfaced with high speed printers or totally self-contained computers along with their peripheral equipment such as disk or tape drives — some with seemingly unlimited capabilities.

The computer has been called an extension of the human brain; however, it does nothing that a human being does not instruct it to do. Therefore, an ideal training program provides the technical courses used to program or "instruct" the computer to perform the innumerable and repetitive tasks desired instantaneously and with flawless accuracy.

Graduates of the first-year certificate program can expect to obtain entry positions in the field of data processing as key punch operators, card-to-tape operators, tape operators, console operators, data origination and control, coders, and programmers using the very basic computer languages. Graduates of the two-year program can expect excellent placement as programmers using the computer languages they learned in the second year, such as advanced assembly, Cobol, Fortran, RPG and Basic. As ability is proved the programmer may be offered positions of increased responsibility such as computer operations supervisor, programming supervisor, systems and procedures supervisor, manager or assistant manager for data processing. Entry level positions range between $550 and $750 a month, while graduates of the two-year program receive substantially higher salaries such as $800 to $1,000 a month; supervisory positions generally rise to $1,500 to $2,000 a month. 100% placement of our two-year graduates has been the pattern for the past several years.

Cerificate, Diploma, A.A.S. Degree

First Quarter (F)			Hrs./wk. Lec.	Lab.	Cr.
DP	112	Basic Comp. Prog. I	4	6	6
BUS	160	Elem. Acctg. I	5	5	4
MTH	51	Elem. Algebra*	5	—	5
ENG	80	Business English*	3	2	3
BUS	70	Type	—	5	2
			17	18	20

Approx. cost of Books, Tools, Supplies = $90.00

Second Quarter (W)			Hrs./wk. Lec.	Lab.	Cr.
DP	120	Basic COBOL	5	10	7
BUS	161	Elem. Acctg. II	5	5	4
MTH	101	Intro. to Col. Algebra	5	—	5
ENG	95	Bus. Report Writing*	3	—	3
			18	15	19

Approx. cost of Books, Tools, Supplies = $60.00

Third Quarter (S)			Hrs./wk. Lec.	Lab.	Cr.
DP	115	Basic Comp. Prog. II	5	10	7
BUS	162	Elem. Acctg. III	5	5	4
MTH	105	College Algebra	5	—	5
ECN	55	Applied Economics*	3	—	3
			18	15	19

Approx. cost of Books, Tools, Supplies = $40.00

Fourth Quarter (F)			Hrs./wk. Lec.	Lab.	Cr.
DP	220	Applied COBOL Prog.	3	7	5
DP	231	Applied BAL Prog.	3	7	5
BUS	263	Cost Accounting	3	2	4
MTH	106	Plane Trigonometry	5	—	5
			14	16	19

Approx. cost of Books, Tools, Supplies = $42.00

Fifth Quarter (W)		Hrs./wk. Lec.	Lab.	Cr.
DP 211	Fortran-Applied Math	5	5	7
DP 271	Data Communication	3	2	4
DP 290	Adv. Prog. Tech.	5	5	7
		13	12	18

Approx. cost of Books, Tools, Supplies = 32.00

Sixth Quarter (S)		Hrs./wk. Lec.	Lab.	Cr.
DP 280	Bus. System Design	5	5	7
PSY 55	Human Relations*	3	—	3
DP 200	Computer Audit	3	2	4
DP 295	Ind. Case Studies	5	5	5
		16	12	19

Approx. cost of Books, Tools, Supplies = $45.00

*This General Education class is required for the Diploma. For the A.A.S. Degree a minimum of 24 credit hours in General Education subjects is required. These classes must include English 101 and 21 additional credit hours in at least three of the following areas:

(HU) Humanities
(LS) Life Sciences
(PS) Physical Sciences
(SS) Social Sciences

Often more than one such class will need to be scheduled each quarter in place of the asterisked classes above, or in addition where no such General Education classes are listed in a quarter.

The following classes are available for the A.A.S. Degree:

English:

ENG 101	3 0 3	(F,W,S,Su)
ENG 102	3 0 3	(F,W,S,Su)
ENG 103	3 0 3	(F,W,S,Su)

Humanities:

ADT 134	3 0 3	(S,Su)
CA 141	3 0 3	(S,Su)
ENG 130	3 0 3	(F,W,S,Su)
ENG 160	3 0 3	(F,W,S)
ENG 251	3 0 3	(S)

Life Sciences:

LS 111	4 2 5	(F,S,Su)
LS 201	5 0 5	(F,S,Su)

Physical Science:

CEM 101	5 2 5	(F,W,S,Su)
MTH 101	5 0 5	(F,W,S,Su)
MTH 105	5 0 5	(F,W,S,Su)
MTH 106	5 0 5	(F,W,S,Su)
MTH 138	5 0 5	(F,W,S,Su)
PHY 101	5 0 5	(F,W,S,Su)
PHY 105	5 0 5	(F,W,S,Su)
PHY 117	5 1 5	(F,W,S)
PHY 118	5 1 5	(W,S)
PHY 119	5 1 5	(S,Su)

Social Science:

ECN 101	3 0 3	(F,W,S,Su)
PS 110	3 0 3	(F,W,S,Su)
PSY 101	3 0 3	(F,W,S,Su)
SOC 101	3 0 3	(F,W,S,Su)

CLASS DESCRIPTIONS

Classes marked with an asterisk are taught in the evening school.

BUS 70—Typewriting*
5 hrs./wk. 2 cr.
Introduction to keyboard and correct typing techniques; letters and memos.

BUS 160—Elementary Accounting I*
10 hrs./wk. 4 cr.
Basic structure of accounting. Understanding asset, liability, capital and expense accounts. The accounting cycle, special journals, receivables, payables, inventory. Includes worksheet, adjusting and closing entries.

BUS 161—Elementary Accounting II*
10 hrs./wk. 4 cr.
Study of deferrals, accruals, tangible and intangible assets, cash control, payroll and partnerships.

BUS 162—Elementary Accounting III*
10 hrs./wk. 4 cr.
Study of corporations, branch accounting, manufacturing and cost accounting. Includes study of funds and cash flow.

BUS 263—Cost Accounting*
5 hrs./wk. 4 cr.
Materials, labor, overhead job cost, process cost and standard cost.

DP 112—Basic Computer Programming I
10 hrs./wk. 6 cr.
RPG programming and concepts. Familiarization with actual operation of computer.

DP 115—Basic Computer Programming II
15 hrs./wk. 7 cr.
Continuing basic assembly language programming problems. Familiarization with instructions and their use.
Prerequiste: Grade of "C" or better in DP 112 and passing grade in MTH 51.

DP 120—Basic COBOL Programming
15 hrs./wk. 7 cr.
Training and instruction in COBOL language and emphasis on solution of problems.

DP 200—Computer Audit*
5 hrs./wk. 4 cr.
Applied auditing principles through computer media.

DP 211—Fortran & Applied Math
10 hrs./wk. 7 cr.
Basic principles and fundamentals of Fortran programming. Basic statistical concepts and application of Fortran language in solving mathematical problems. Use of statistics in business programs. Prerequisite: Grade of "C" or better in DP 231 and passing grade in MTH 106.

DP 220—Applied COBOL Programming
10 hrs./wk. 5 cr.
Advanced programming technique used in COBOL with emphasis on case studies and problem solution. Prerequisite: Grade of "C" or better in DP 120, passing grade in MTH 105 and BUS 162.

DP 231—Applied BAL Programming
10 hrs./wk. 5 cr.
Advanced assembly language programming principles with emphasis on macros, subroutines, indexing, instruction modification, software techniques, multiprocessing and error handling. Prerequisite: Grade of "C" or better in DP 115 and DP 120 and passing grade in BUS 162 and MTH 105.

DP 271—Data Communications*
5 hrs./wk. 4 cr.
Application and practical use of data bases, terminals, communications inter- and intra-computer with emphasis on application programming.

DP 280—Business Systems Design
10 hrs./wk. 7 cr.
Techniques and analyzing, designing and implementing business systems using computers. Prerequisite: A grade of "C" or better in DP 220.

DP 290—Adv. Programming Techniques
10 hrs./wk. 7 cr.
Advanced techniques in programming using Assembly language, Fortran or COBOL. Software writing stressed. Prerequisite: A grade of "C" in DP 220.

DP 295—Individual Case Studies
10 hrs./wk. 5 cr.
Selected practical business problems for actual production situations in Assembly language, Fortran or COBOL. Includes use of tape, and disc storage and use of job control language in programs. Job interviews and resumés discussed.

DRAFTING & DESIGN TECHNOLOGY

A drafting and design technician prepares working drawings from sketches or verbal instructions. The technician will be able to do neat, legibile freehand and mechanical lettering; tracing work; engineering order changes, sepia drawing changes and preparations; design and layout an entire project and check drawings. The technician is able to demonstrate capabilities in mathematics including plane geometry, solid geometry, algebra, trigonometry. Skills will also be developed in mechanics and strength of materials, basic physics, Smoley's tables and the use of the Machinery's handbook.

Since the technician works closely with professionals such as engineers and is also required to do liaison work in the field, neat appearance and good verbal skills are required.

Graduates may expect to receive approximately $3.00-$4.50 an hour starting salary.

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First Quarter (F, W)	Hrs./wk. Lec.	Lab.	Cr.
DDT 110 Draft. Fundamentals	3	7	5
DDT 112 Plane Des. Geometry	3	7	5
MTH 51 Elem. Algebra*	5	0	5
MTH 56 Scientific Calcltrs.*	2	—	2
	13	14	17

Approx. cost of Books, Tools, Supplies = $140.00

Second Quarter (F, W, S)	Hrs./wk. Lec.	Lab.	Cr.
DDT 124 Adv. Des. Geom.	3	7	5
DDT 127 Shape Description	3	7	5
DDT 270 Basic Design	3	2	3
Social Science Elective*	3	—	3
MTH 52 Elem. Trig.*	2	—	2
	14	16	18

Approx. cost of Books, Tools, Supplies = $40.00

Third Quarter (W, S, Su)	Hrs./wk. Lec.	Lab.	Cr.
DDT 133 Eng. Drawing I	3	7	5
DDT 134 Eng. Drawing II	3	7	5
PHY 55 Applied Physics*	5	—	5
MS 227 Machine Shop	2	2	3
	13	16	18

Approx. cost of Books, Tools, Supplies = $40.00

Fourth Quarter (F)**	Hrs./wk. Lec.	Lab.	Cr.
DDT 214 Topo. Drawing (or)			
DDT 230 Electronic Drafting	5	15	10
DDT 216 Str. of Materials	4	—	4
COM 55 Communications*	5	—	5
	14	15	19

Approx. cost of Books, Tools, Supplies = $35.00

Fifth Quarter (W)**	Hrs./wk. Lec.	Lab.	Cr.
DDT 221 Machine Drafting	—	15	5
DDT 226 Machine Design	4	—	4
DDT 234 Manuf. Process	3	—	3
DDT 254 Geo. Dim & Toler.	3	—	3
	10	15	15

Approx. cost of Books, Tools, Supplies = $35.00

Sixth Quarter (S)**	Hrs./wk. Lec.	Lab.	Cr.
(option #1)			
DDT 223 Structural Draft.	—	15	5
DDT 224 Steel Design	4	—	4
DDT 231 Photo Draft.	3	—	3
PSY 55 Human Relations*	3	—	3
	10	15	15
(option #2)			
DDT 217 Tech. Illust.	5	15	10
DDT 231 Photo Drafting	3	—	3
PSY 55 Human Relations*	3	—	3
	11	15	16

Approx. cost of Books, Tools, Supplies = $30.00

**9 credit hours of prior approved ADT course work may be substituted for 9 credit hours of DDT courses in the 4th, 5th, or 6th Quarters not to exceed 9 credit hours of ADT courses for total program.

*This General Education class is required for the Diploma. For the A.A.S. Degree a minimum of 24 credit hours in General Education subjects is required. These classes must include English 101 and 21 additional credit hours in at least three of the following areas:

(HU) Humanities
(LS) Life Sciences
(PS) Physical Sciences
(SS) Social Sciences

Often more than one such class will need to be scheduled each quarter in place of the asterisked classes above, or in addition where no such General Education classes are listed in a quarter.

The following classes are available for the A.A.S. Degree:

English:

ENG 101	3 0 3	(F,W,S,Su)
ENG 102	3 0 3	(F,W,S,Su)
ENG 103	3 0 3	(F,W,S,Su)

Humanities:

ADT 134	3 0 3	(S,Su)
CA 141	3 0 3	(S,Su)

ENG	130	3	0	3 (F,W,S,Su)
ENG	160	3	0	3 (F,W,S)
ENG	251	3	0	3 (S)

Life Sciences:

LS	111	4	2	5 (F,S,Su)
LS	201	5	0	5 (F,S,Su)

Physical Science:

CEM	101	5	2	5 (F,W,S,Su)
MTH	101	5	0	5 (F,W,S,Su)
MTH	105	5	0	5 (F,W,S,Su)
MTH	106	5	0	5 (F,W,S,Su)
MTH	138	5	0	5 (F,W,S,Su)
PHY	101	5	0	5 (F,W,S,Su)
PHY	105	5	0	5 (F,W,S,Su)
PHY	117	5	1	5 (F,W,S)
PHY	118	5	1	5 (W,S)
PHY	119	5	1	5 (S,Su)

Social Science:

ECN	101	3	0	3 (F,W,S,Su)
PS	110	3	0	3 (F,W,S,Su)
PSY	101	3	0	3 (F,W,S,Su)
SOC	101	3	0	3 (F,W,S,Su)

DRAFTING AND DESIGN TECHNOLOGY (Extended Day)

Certificate

First Quarter (F)

		Hrs./wk. Lec.	Lab.	Cr.
DDT 115	Mech. Draft. I	4	12	8
		4	12	8

Approx. cost of Books, Tools, Supplies = $60.00

Second Quarter (W)

		Hrs./wk. Lec.	Lab.	Cr.
DDT 123	Descriptive Geo.	2	10	5
MTH 51	Ele. Algebra	5	—	5
		7	10	10

Approx. cost of Books, Tools, Supplies = $40.00

Third Quarter (S)

		Hrs./wk. Lec.	Lab.	Cr.
DDT 133	Eng. Drawing I	2	10	5
MTH 52	Elem. Trig.	2	—	2
MTH 56	Scientific Calcltors.	2	—	2
		6	10	9

Approx. cost of Books, Tools, Supplies = $80.00

Fourth Quarter (F)

		Hrs./wk. Lec.	Lab.	Cr.
DDT 134	Eng. Drawing II	2	8	5
DDT 216	Mech. & Str. of Mat.	4	—	4
ENG 130	Tech. Writing	3	—	3
		9	8	12

Approx. cost of Books, Tools, Supplies = $25.00

Fifth Quarter (W)

		Hrs./wk. Lec.	Lab.	Cr.
DDT 225	Mach. Tool Draft.	—	8	3
DDT 226	Machine Design	4	—	4
MS 227	Machine Shop	2	2	3
		6	10	10

Approx. cost of Books, Tools, Supplies = $20.00

Sixth Quarter (S)

		Hrs./wk. Lec.	Lab.	Cr.
DDT 237	Structural Draft.	2	3	3
DDT 236	Pipe Drafting	2	3	3
DDT 238	Elec. Mech. Draft.	2	3	3
		6	9	9

Approx. cost of Books, Tools, Supplies = $25.00

CLASS DESCRIPTIONS

Classes marked with an asterisk are taught in the evening school.

DDT 50—Mechanical Drafting I*
6 hrs./wk. 0 cr.
Fundamentals of drafting including sketching, lettering, orthographic projection, auxiliary views and sectioning.

DDT 51—Pipeline Drafting*
6 hrs./wk. 0 cr.
Basic fundamentals of drawing tank designs, cryogenics, and piping systems in industrial application including spools, P&I and plans.

DDT 52—Layout for Fabricators I*
6 hrs./wk. 0 cr.
Fundamentals of graphic layout of complex objects in flat pattern.

DDT 60—Mechanical Drafting II *
6 hrs./wk. 0 cr.
Advanced techniques including assembly production, dimensions, tolerances, surface quality, specifications and basic descriptive geometry. Prerequisite: DDT 50.

DDT 61—Structural Drafting I*
6 hrs./wk. 0 cr.
Basic fundamentals of drawing structural steel and steel connections for fabrication, Smoley's tables and estimating.

DDT 62—Layout for Fabricators II*
6 hrs./wk.
Continuation of DDT 52. Prerequisite: DDT 52.

DDT 63—Structural Drafting II*
6 hrs./wk. 0 cr.
Design of simple beams and columns, reactions and stresses in connections, bolted, welded, and riveted. Prerequisite: DDT 61.

DDT 64—Structural Drafting III*
6 hrs./wk. 0 cr.
Design and detail of trusses, design drawings for framed and seated connections, skewed, sloped and canted beam connections. Prerequisite: DDT 63.

DDT 65—Layout for Fabricators III*
6 hrs./wk.
Continuation of DDT 62. Prerequisite: DDT 62.

DDT 67—Plant Layout
6 hrs./wk. 0 cr.
Layout techniques in designing heavy industrial plants, process flow, equipment requirements and size, architectural design, site location, and materials handling.

DDT 70—Mechanical Drafting III*
6 hrs./wk.
Continued descriptive geometry, shop processes, materials and basic working drawings. Prerequisite: DDT 60.

DDT 71—Technical Illustrating*
6 hrs./wk. 0 cr.
Review of multiview drawing and basic projection systems. Includes parallel and perspective projection in oblique and orthographic. Prerequisite: DDT 70 or equivalent.

DDT 75—Layout for Fabricators V
6 hrs./wk. 0 cr.
Continuation of DDT 65. Prerequisite: DDT 65.

DDT 101—Smoley's Tables
1 hr./wk. 1 cr.
Solution of triangles and circular segments by using the tables of slopes and rises, parallel tables of logs and squares, and table of segmental functions.

DDT 108—Electronic Drafting*
5 hrs./wk. 3 cr.
Broad coverage of basic drafting techniques, electronic diagrams, symbols, charts, graphs and printed circuit drawings.

DDT 110—Drafting Fundamentals
20 hrs./wk. 5 cr.
Laboratory practice with drafting tools, media, lettering, sketching and basic drafting techniques. Taught first half of quarter only (days).

DDT 112—Plane Descriptive Geometry
20 hrs./wk. 5 cr.
Geometric construction, orthographic projection, auxiliary views and sectional views. Taught second half of quarter only (days).

DDT 115—Mechanical Drafting I*
16 hrs./wk. 8 cr.
Fundamentals of basic drawing including tools, lettering, orthographic projection, auxiliary views and descriptive geometry.

DDT 123—Descriptive Geometry*
12 hrs./wk. 5 cr.
Study of points, lines, planes, and polyhedrons and their manipulation in space. Auxiliary views, intersections and developments. Taught first half of quarter (days).

DDT 124—Advanced Descriptive Geometry
20 hrs./wk. 5 cr.
Secondary auxiliaries, pictorials, isometric sketching, perspective. Taught first half of quarter only (days).

DDT 127—Shape Description
20 hrs./wk. 5 cr.
Intersections and developments, solids and flat patterns. Cones, spheres, and polyhedrons. Taught second half of quarter only (days).

DDT 133—Engineering Drawing I*
20 hrs./wk. 5 cr.
Fundamentals of tolerancing, true position, limit tolerancing, screw threads and fasteners as applied to detail drawings. Taught first half of quarter only (days).

DDT 134—Engineering Drawing II*
20 hrs./wk. 5 cr.
Detail and assembly drawings, catalog use and parts callouts. Taught second half of quarter only (days).
Prerequisite: MTH 52 or MTH 106.

DDT 214—Topographic Drawing
20 hrs./wk. 10 cr.
Surface features of the earth are drawn and depicted by conventional symbols. Also includes sub-divisions, curves and intersections, contours, natural and man-made features. Prerequisite: DDT 124.

DDT 216—Mechanics & Strength of Materials*
4 hrs./wk. 4 cr.
Basic theory of forces, force systems, section modulus, shear, tension and compression and properties of materials and how they apply to machines.

DDT 217—Technical Illustration
20 hrs./wk. 10 cr.
Review of orthographics will be taught. Continued study including isometric, dimetric, trimetric, perspective, Anderson board, grid, media, color and presentation.

DDT 221—Machine Tool Drafting
15 hrs./wk. 5 cr.
Design and elementary research of small units in machine tools applied to working drawings.

DDT 223—Structural Drafting
15 hrs./wk. 5 cr.
General course covering AISC standard detailing, welding symbols, connections details, shapes and plates and Smoley's tables. Prerequisite: DDT 134.

DDT 226—Machine Design*
4 hrs./wk. 4 cr.
Principles of the design of shafts, bearings, fasteners, couplings, gears, and cams, as they apply to the machine field. Prerequisite: DDT 216.

DDT 230—Electrical & Electronic Drafting
20 hrs./wk. 10 cr.
Board coverage of components, materials, symbols, standards, industrial, diagrams, wiring harnesses and printed circuits and military standards.

DDT 231—Photo Drafting
3 hrs./wk. 3 cr.
Study in the combination of photographs and technical drawings.

DDT 234—Manufacturing Processes
5 hrs./wk. 3 cr.
Application of economy practices in modern design. Costs of various materials and manufacturing processes and their application to design practices.

DDT 236—Pipe Drafting*
5 hrs./wk. 3 cr.
Specialized training in controls, symbols, fittings, part specifications, diagrams and detail drawings as they apply to piping.

DDT 237—Structural Drafting*
5 hrs./wk. 3 cr.
Specialized course in detailing, sizing, and estimating of structural steel with special emphasis on the use of Smoley's Tables.

DDT 238—Electro Mechanical Drafting*
5 hrs./wk. 3 cr.
Specialized course in electronics diagrams, component design, P.C. and terminal boards and assemblies.

DDT 254—Geometric Dimensioning and Tolerancing
5 hrs./wk. 3 cr.
Application of geometric symbols per ANSI Y14.5 to dimension machine parts for interchangeability. Prerequisite: DDT 133.

DDT 270—Basic Design
5 hrs./wk. 3 cr.
Study of design fundamentals and aesthetics as they apply to mechanical component design covering form, texture and color.

MS 227—Machine Shop*
4 hrs./wk. 3 cr.
Introduction to actual machine processes and demonstrations in the machine shop including numerical control and electrical discharge machining.

ELECTRICITY

Upon completion the student is qualified for entry level in the electrical field. The program will prepare for apprenticeship training in residential and industrial construction industry, electrical helper in utility companies, motor rewind shops, in-plant maintenance and electrical service shops, electrical and pneumatic controls and others.

Certificate

First Quarter (F, W)	Hrs./wk. Lec.	Lab.	Cr.
ELC 111 Basic Electricity	5	—	5
ELC 103 Electrical Codes	5	—	5
ELC 110 Electrical Wiring	—	15	5
MTH 60 Applied Math	5	—	5
	15	15	20

Approx. cost of Books, Tools, Supplies = $220.00

Second Quarter (W, S)		Hrs./wk. Lec.	Lab.	Cr.
ELC 120	Electric Motors	—	15	5
ELC 121	AC & Elc. Apparatus	5	—	5
MTH 52	Elem. Trigonometry	2	—	2
MTH 56	Scientific Calcltrs.	1	—	1
MTH 58	Elem. Phasor Algebra	2	—	2
PHY 55	Applied Physics	5	—	5
		15	15	20

Approx. cost of Books, Tools, Supplies = $60.00

Third Quarter (S, Su)		Hrs./wk. Lec.	Lab.	Cr.
ELC 131	Instrumentation	5	—	5
ELC 151	Adv. Motor Control	5	—	5
ELC 160	Industrial Controls	—	15	5
COM 55	Communications	5	—	5
		15	15	20

Approx. cost of Books, Tools, Supplies = $60.00

EXTENDED DAY PROGRAM

First Quarter (F, W, S)		Hrs./wk. Lec.	Lab.	Cr.
ELC 111	Basic Electricity	5	—	5
MTH 60	Applied Math	5	—	5
		10	—	10

Second Quarter (F, W, S)		Hrs./wk. Lec.	Lab.	Cr.
ELC 103	Electrical Code	5	—	5
COM 55	Communications	5	—	5
		10	—	10

Third Quarter (F, W, S)		Hrs./wk. Lec.	Lab.	Cr.
ELC 110	Electrical Wiring	—	15	5
		—	15	5

Fourth Quarter (F, W, S)		Hrs./wk. Lec.	Lab.	Cr.
ELC 121	AC & Elec. Appar.	5	—	5
MTH 52	Elem. Trigonometry	2	—	2
MTH 56	Scientific Calcltr.	1	—	1
MTH 58	Elem. Phasor Algebra	2	—	2
PHY 55	Applied Physics	5	—	5
		15	—	15

Fifth Quarter (F, W, S)		Hrs./wk. Lec.	Lab.	Cr.
ELC 120	Electric Motors	—	15	5
		—	15	5

Sixth Quarter (F, W, S)		Hrs./wk. Lec.	Lab.	Cr.
ELC 131	Instrumentation	5	—	5
ELC 151	Adv. Motor Control	5	—	5
		10	—	10

Seventh Quarter (F, W, S)		Hrs./wk. Lec.	Lab.	Cr.
ELC 160	Industrial Controls	—	15	5
		—	15	5

CLASS DESCRIPTIONS

Classes marked with an asterisk are taught in the evening school.

ELC 55—Electrical Wiring
15 hrs./wk. 0 cr.
Applications of electrical code and theory in lab. or live projects. Sheathed cable, conduit and low voltage remote control wiring. Prerequisite: ELC 57 and ELC 60.

ELC 57—Basic Electricity
5 hrs./wk. 0 cr.
Electron theory, batteries, magnetism, D.C. circuits, Ohm's law, etc. as they apply to solutions of practical problems.

ELC 58—Electric Motors
15 hrs./wk. 0 cr.
Application of A.C. and electrical apparatus such as motor types, operation, maintenance, selection and applications. Includes rewinding, troubleshooting, and repair on single/polyphase motors.

ELC 59—A.C. and Electrical Apparatus
5 hrs./wk. 0 cr.
Principles of A.C. in electrical apparatus such as generators, motors, magnetic circuits, transformers, etc. Prerequisite: ELC 57.

ELC 60—Electrical Codes
5 hrs./wk. 0 cr.
Basic National Electrical Code including residential, commercial, and hazardous wiring requirements; blueprint reading.

ELC 61—Industrial Controls
15 hrs./wk. 0 cr.
Practical applications of instrumentation and motor controls in the lab including installation, troubleshooting and maintenance.

ELC 62—Instrumentation
5 hrs./wk. 0 cr.
Principles of industrial automation and instrumentation including equipment and industrial techniques.

ELC 63—Advanced Motor Control
5 hrs./wk. 0 cr.
Principles of motor controls, techniques, diagramming, analysis and development of industrial motor control systems.

ELC 103—Electrical Codes
5 hrs./wk. 5 cr.
National Electrical Code covering residential, commercial, industrial, and hazardous wiring requirements. Also includes electrical blueprint reading and use.

ELC 104—AC-DC Fundamentals
5 hrs./wk. 5 cr.
Electron theory, Ohm's Law and its application, equivalent circuits, magnetism, motors, generators, transformers and instruments.

ELC 105—AC-DC Circuits
5 hrs./wk. 5 cr.
Electrical circuits as related to power mechanisms. Includes the theory of operation, maintenance and overhaul of motors, transformers, and basic controls.

ELC 106—Solid State Fundamentals
5 hrs./wk. 5 cr.
Theory and operation of semi-conductors and electronic control devices used in refrigeration and major appliances.

ELC 107—Practical Wiring & Controls
5 hrs./wk. 5 cr.
Requirements for power service wiring and function and adjustment of all basic refrigeration and air-conditioning controls. Applicable National Electric Code.

ELC 110—Electrical Wiring
15 hrs./wk. 5 cr.
Laboratory application of principles covered in ELC 103 and ELC 111. Wiring techniques applied to practical laboratory projects using NM sheathed cable, conduit and low voltage remote control wiring. Wiring houses constructed by the College. Prerequisite: ELC 103, ELC 111.

ELC 111—Basic Electricity
5 hrs./wk. 5 cr.
Theory of electron flow, batteries, magnetism, D.C. circuits, Ohm's Law, power, wire — ampacity/resistance, circuit simplification, Kirchoff's Law, and Thevenin's theorem, applied to the solution of practical problems.

ELC 120—Electric Motors
15 hrs./wk. 5 cr.
Laboratory application of principles covered in ELC 121. Study of electric motor types, operation, maintenance, selection, and application. Principles are applied by troubleshooting, rewinding, repairing, and connecting single/polyphase motors. Prerequisite: ELC 121.

ELC 121—A.C. and Electrical Apparatus
5 hrs./wk. 5 cr.
Theory of alternating current and principles of electrical apparatus. Emphasis on generators, motors, magnetic circuits, inductance, transformers, capacitance, reactance, impedance, resonance, power factor, and single/polyphase power systems. Prerequisite: ELC 111.

ELC 131—Instrumentation
5 hrs./wk. 5 cr.
Theory of principles, equipment, and techniques of industrial automation and instrumentation.

ELC 151—Advanced Motor Controls
5 hrs./wk. 5 cr.
Theory of principles, equipment, and techniques of motor control. Includes diagramming, analysis, and theoretical development of practical industrial motor control systems.

ELC 160—Industrial Controls
15 hrs./wk. 5 cr.
Laboratory application of principles covered in ELC 131 and ELC 151. Emphasis on motor control development, installation, troubeshooting, and maintenance. Practical laboratory projects using typical instrumentation of modern industry. Prerequisite: ELC 131 and ELC 151.

ELECTRONIC TECHNOLOGY

Diploma

The diploma program is designed to prepare students to enter the field of electronics. Upon completion, the student is prepared for employment in manufacturing, maintaining, repairing and selling electronic devices and systems. Other areas for possible employment are microwave, communication, radio and television, mobile communication, medical electronics, instrumentation and industrial controls, and electronic data processing.

A.A.S. Degree

The A.A.S. Degree program is designed to provide students with a broad background in mathematics, physics, and chemistry, along with theoretical and practical training in electronics. This prepares the electronic technician to assist the engineer in production, operation and servicing of electronic systems and equipment. With an A.A.S. Degree technicians may be employed as testers or inspectors, or they may be expected to apply their background in science assisting engineers or scientists in resolving problems in research and development.

Day Program - Diploma

First Quarter (F, W, S, Su)		Hrs./wk. Lec.	Lab.	Cr.
ELT 140	DC & AC Appl.	—	10	3
ELT 141	DC & AC Fund.	6	4	7
DDT 108	Electronic Drafting	2	3	3
MTH 91	Intro. to Col. Algebra	5	—	5
		13	17	18

Approx. cost of Books, Tools, Supplies = $220.00

Second Quarter (F, W, S, Su)		Hrs./wk. Lec.	Lab.	Cr.
ELT 150	App. Amp. Dev.	—	10	3
ELT 151	Amp. Dev. Fund.	6	4	7
PSY 55	Human Relations	3	—	3
MTH 95	App. College Algebra	5	—	5
		14	14	18

Approx. cost of Books, Tools, Supplies = $50.00

Third Quarter (F, W, S, Su)		Hrs./wk. Lec.	Lab.	Cr.
ELT 160	App. Adv. Amp. Dev.	—	10	3
ELT 161	Adv. Amp. Dev. Fund.	6	4	7
COM 55	Communications	5	—	5
		11	14	15

Approx. cost of Books, Tools, Supplies = $50.00

Fourth Quarter (F, W, S, Su)		Hrs./wk. Lec.	Lab.	Cr.
ELT 170	App. Com. Dev.	—	10	3
ELT 171	Com. Dev. Fund.	6	4	7
PHY 87	Applied Mechanics	5	1	5
		11	15	15

Approx. cost of Books, Tools, Supplies = $50.00

Fifth Quarter (F, W, S, Su)		Hrs./wk. Lec.	Lab.	Cr.
ELT	Lab elective	—	10	3
ELT	Theory elective	6	4	7
PHY 88	Applied Light, Heat & Sound	5	1	5
		11	15	15

Approx. cost of Books, Tools, Supplies = $50.00

Sixth Quarter (F, W, S, Su)		Hrs./wk. Lec.	Lab.	Cr.
ELT	Lab elective	—	10	3
ELT	Theory elective	6	4	7
PHY 89	Appl. Elec., Mag. & Mod. Physics	5	1	5
		11	15	15

Approx. cost of Books, Tools, Supplies = $50.00

Extended Day - Diploma

First Quarter (F, W, S)	Hrs./wk. Lec.	Lab.	Cr.
ELT 146 D.C. App.	—	4	1
ELT 147 D.C. Fund.	2	2	3
MTH 91 Intro. Col. Algebra	5	—	5
DDT 108 Elec. Drafting	2	3	3
	9	9	12

Second Quarter (F, W, S)	Hrs./wk. Lec.	Lab.	Cr.
ELT 148 A.C. App.	—	6	2
ELT 149 A.C. Fund.	4	2	4
MTH 95 App. College Algebra	5	—	5
PSY 55 Human Relations	3	—	3
	12	8	14

Third Quarter (F, W, S)	Hrs./wk. Lec.	Lab.	Cr.
ELT 156 App. Amp. Dev. I	—	4	1
ELT 157 Amp. Dev. Fund. I	2	2	3
COM 55 Communications	5	—	5
	7	6	9

Fourth Quarter (F, W, S)	Hrs./wk. Lec.	Lab.	Cr.
ELT 158 App. Amp. Dev. II	—	6	2
ELT 159 Amp. Dev. Fund. II	4	2	4
PHY 87 Applied Mechanics	5	1	5
	9	9	11

Fifth Quarter (F, W, S)	Hrs./wk. Lec.	Lab.	Cr.
ELT 166 App. Adv. Amp. Dev. I	—	4	1
ELT 167 Adv. Amp. Dev. I	2	2	3
PHY 88 Applied Light, Heat & Sound	5	1	5
	7	7	9

Sixth Quarter (F, W, S)	Hrs./wk. Lec.	Lab.	Cr.
ELT 168 App. Adv. Amp. Dv. II	—	6	2
ELT 169 Adv. Amp. Dev. II	4	2	4
PHY 89 Applied Elec., Mag. & Mod. Physics	5	1	5
	9	9	11

Seventh Quarter (F, W, S)	Hrs./wk. Lec.	Lab.	Cr.
ELT 170 App. Com. Dev.	—	10	3
ELT 171 Com. Dev. Fund.	6	4	7
	6	14	10

Eighth Quarter (F, W, S)	Hrs./wk. Lec.	Lab.	Cr.
ELT elective	6	14	10
	6	14	10

Ninth Quarter (F, W, S)	Hrs./wk. Lec.	Lab.	Cr.
ELT elective	6	14	10
	6	14	10

Day Program - A.A.S. Degree

First Quarter (F, W, S, Su)	Hrs./wk. Lec.	Lab.	Cr.
ELT 140 DC & AC App.	—	10	3
ELT 141 DC & AC Fund.	6	4	7
DDT 108 Electronic Drafting	2	3	3
MTH 95 App. College Algebra	5	—	5
	13	17	18

Approx. cost of Books, Tools, Supplies = $220.00

Second Quarter (F, W, S, Su)	Hrs./wk. Lec.	Lab.	Cr.
ELT 150 App. Amp. Dev.	—	10	3
ELT 151 Amp. Dev. Fund.	6	4	7
MTH 96 App. Plane Trig.	5	—	5
ENG 101 English Comp.	3	—	3
	14	14	18

Approx. cost of Books, Tools, Supplies = $50.00

Third Quarter (F, W, S, Su)	Hrs./wk. Lec.	Lab.	Cr.
ELT 160 App. Adv. Amp. Dev.	—	10	3
ELT 161 Adv. Amp. Dev. Fund.	6	4	7
MTH 98 App. Calculus	5	—	5
CEM 91 App. Chem.	3	2	4
	14	16	19

Approx. cost of Books, Tools, Supplies = $50.00

Fourth Quarter (F, W, S, Su)	Hrs./wk. Lec.	Lab.	Cr.
ELT 170 App. Com. Dev.	—	10	3
ELT 171 Com. Dev. Fund.	6	4	7
PHY 117 Mechanics	5	1	5
ENG 130 Tech. Writing	3	—	3
	14	15	18

Approx. cost of Books, Tools, Supplies = $50.00

Fifth Quarter (F, W, S, Su)	Hrs./wk. Lec.	Lab.	Cr.
ELT elective	6	14	10
PHY 118 Heat, Light, & Sound	5	1	5
Soc. Science elective	3	—	3
	14	15	18

Approx. cost of Books, Tools, Supplies = $50.00

Sixth Quarter (F, W, S, Su)	Hrs./wk. Lec.	Lab.	Cr.
ELT elective	6	14	10
PHY 119 Elec., Magn. & Modern Physics	5	1	5
	11	15	15

Approx. cost of Books, Tools, Supplies = $50.00

Extended Day - A.A.S. Degree

First Quarter (F, W, S)	Hrs./wk. Lec.	Lab.	Cr.
ELT 146 D.C. App.	—	4	1
ELT 147 D.C. Fund.	2	2	3
DDT 108 Electronic Drafting	2	3	3
MTH 95 App. College Algebra	5	—	5
	9	9	12

Second Quarter (F, W, S)	Hrs./wk. Lec.	Lab.	Cr.
ELT 148 A.C. App.	—	6	2
ELT 149 A.C. Fund.	4	2	4
MTH 96 App. Plane Trig.	5	—	5
ENG 101 English Comp.	3	—	3
	12	8	14

Third Quarter (F, W, S)	Hrs./wk. Lec.	Lab.	Cr.
ELT 156 App. Amp. Dev. I	—	4	1
ELT 157 Amp. Dev. Fund. I	2	2	3
MTH 98 App. Calculus	5	—	5
CEM 91 App. Chem.	3	2	4
	10	8	13

Fourth Quarter (F, W, S)	Hrs./wk. Lec.	Lab.	Cr.
ELT 158 App. Amp. Dev. II	—	6	2
ELT 159 Amp. Dev. Fund. II	4	2	4
PHY 117 Mechanics	5	1	5
ENG 130 Tech. Writing	3	—	3
	12	9	14

Fifth Quarter (F, W, S)	Hrs./wk. Lec.	Lab.	Cr.
ELT 166 App. Adv. Amp. Dev. I	—	4	1
ELT 167 Adv. Amp. Dev. I	2	2	3
PHY 118 Heat, Light & Sound	5	1	5
Soc. Science Elective	3	—	3
	10	7	12

Sixth Quarter (F, W, S)	Hrs./wk. Lec.	Lab.	Cr.
ELT 168 App. Adv. Amp. Dv. II	—	6	2
ELT 169 Adv. Amp. Dev. II	4	2	4
PHY 119 Elec., Magn., Modern Physics	5	1	5
	9	9	11

Seventh Quarter (F, W, S)	Hrs./wk. Lec.	Lab.	Cr.
ELT App. Com. Dev.	—	10	3
ELT Com. Dev. Fund.	6	4	7
	6	14	10

Eighth Quarter (F, W, S)	Hrs./wk. Lec.	Lab.	Cr.
ELT elective	6	14	10
	6	14	10

Ninth Quarter (F, W, S)	Hrs./wk. Lec.	Lab.	Cr.
ELT elective	6	14	10
	6	14	10

Electives

ELT 208, 209 Home Entertainment with Lab
ELT 218, 219 Advanced Communications and B&W Television with Lab
ELT 228, 229 Microwave Systems with Lab
ELT 238, 239 Computer Technology with Lab
ELT 248, 249† Medical Electronics with Lab
ELT 258, 259 Instrumentation with Lab
ELT 268, 269 Color TV with Lab
ELT 278, 279 Closed Circuit TV with Lab

†Students taking the medical electronics option are required to take ELT 247, and substitute PHY 105 for PHY 119.

*This General Education class is required for the Diploma. For the A.A.S. Degree a minimum of 24 credit hours in General Education subjects is required. These classes must include English 101 and 21 additional credit hours in at least three of the following areas:

(HU) Humanities
(LS) Life Sciences
(PS) Physical Sciences
(SS) Social Sciences

Often more than one such class will need to be scheduled each quarter in place of the asterisked classes above, or in addition where no such General Education classes are listed in a quarter.

The following classes are available for the A.A.S. Degree:

English:

ENG 101	3 0 3	(F,W,S,Su)
ENG 102	3 0 3	(F,W,S,Su)
ENG 103	3 0 3	(F,W,S,Su)

Humanities:

ADT 134	3 0 3	(S,Su)
CA 141	3 0 3	(S,Su)
ENG 130	3 0 3	(F,W,S,Su)

ENG	160	3	0 3	(F,W,S)
ENG	251	3	0 3	(S)

Life Sciences:

LS	111	4	2 5	(F,S,Su)
LS	201	5	0 5	(F,S,Su)

Physical Science:

CEM	101	5	2 5	(F,W,S,Su)
MTH	101	5	0 5	(F,W,S,Su)
MTH	105	5	0 5	(F,W,S,Su)
MTH	106	5	0 5	(F,W,S,Su)
MTH	138	5	0 5	(F,W,S,Su)
PHY	101	5	0 5	(F,W,S,Su)
PHY	105	5	0 5	(F,W,S,Su)
PHY	117	5	1 5	(F,W,S)
PHY	118	5	1 5	(W,S)
PHY	119	5	1 5	(S,Su)

Social Science:

ECN	101	3	0 3	(F,W,S,Su)
PS	110	3	0 3	(F,W,S,Su)
PSY	101	3	0 3	(F,W,S,Su)
SOC	101	3	0 3	(F,W,S,Su)

CLASS DESCRIPTIONS

Classes marked with an asterisk are taught in the evening school.

DDT 108—Electronic Drafting*
5 hrs./wk. 3 cr.
Broad coverage of basic drafting techniques, electronic diagrams, symbols, charts, graphs and printed circuit drawings.

ELT 45—Aviation Ground School*
6 hrs./wk. 0 cr.
Prepares students to pass written portion of private pilot FAA examination. Includes FAA regulations, radio techniques, air navigation, weather, use of hand computer and plotter for flight training.

ELT 52—FCC Study (2nd class)*
6 hrs./wk. 0 cr.
Study of typical F.C.C. questions and theory behind each question. Designed to help pass second class F.C.C. test. Prerequisite: Student should have some background in electronics, either through school or work experience.

ELT 53—FCC Study (1st class)*
6 hrs./wk. 0 cr.
Study of typical F.C.C. questions and theory behind each question. Designed to help pass F.C.C. First Class Test. Prerequisite: ELT 52 or equivalent.

ELT 56—Eectronic Assembly
25 hrs./wk. 0 cr.
Covers basic electronics theory, math and color codes, safety procedures, use of tools and necessary equipment, soldering and assembly to meet industrial standards.

ELT 140—DC & AC Application and Practice
10 hrs./wk. 3 cr.
Application of DC and AC principles. Familiarization with basic test equipment. Practice with soldering and wiring techniques. Study of meters and associated circuitry.

ELT 141—DC & AC Fundamentals
10 hrs./wk. 7 cr.
Basic electronics including electron theory, direct current, alternating current, meters, series and parallel circuits, and batteries.

ELT 146—DC Application and Practice*
4 hrs./wk. 1 cr.
Application of Direct Current and familiarization with basic test equipment. Soldering and wiring techniques.

ELT 147—DC Fundamentals*
4 hrs./wk. 3 cr.
Basic electronics, including electron theory, direct current principles, series, and parallel concepts, and DC power sources.

ELT 148—AC Application and Practice*
6 hrs./wk. 2 cr.
Application of alternating current to series and parallel circuits.

ELT 149—AC Fundamentals*
6 hrs./wk. 4 cr.
Generation and use of alternating current. Inductance, capacitance, resonance, AC circuit analysis, using phasors and complex numbers.

ELT 150—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 troubleshooting of amplifier circuits.

ELT 151—Amplifying Device Fundamentals
10 hrs./wk. 7 cr.
Vacuum tube, bi-polar, and field effect transistor theory and characteristic curves and parameters. Introduction to the design of amplifier circuitry.

ELT 156—Applicatoin of Amplifying Devices I*
4 hrs./wk. 1 cr.
Application and use of vacuum tubes, diodes, transistors, and basic amplifiers.

ELT 157—Amplifying Device Fundamentals I*
4 hrs./wk. 3 cr.
Physics of solid state materials. Bi-polar transistor theory and characteristic curves

ELT 158—Application of Amplifying Devices II*
6 hrs./wk. 2 cr.
Application and use of field effect transistors; characteristic curves to design amplifiers; testing and troubleshooting techniques.

ELT 159—Amplifying Device Fundamentals II*
6 hrs./wk. 4 cr.
Field effect transistors, theory and characteristic curves. Introduction to design of amplifier circuitry.

ELT 160—Application of Advanced Amplifying Devices
10 hrs./wk. 3 cr.
Application, testing, and troubleshooting of thyristors, misc. solid state devices, integrated circuits, digital electronics, optoelectronic devices, operational amplifiers, electronic power supplies.

ELT 161—Advanced Amplifying Device Fundamentals
10 hrs./wk. 7 cr.
Fundamentals of thyristors, misc. solid state devices, integrated circuits, digital electronics, optoelectronic devices, introduction to operational amplifiers, electronic power supplies.

ELT 166—Application of Advanced Amplifying Devices I*
4 hrs./wk. 1 cr.
Application, testing, and troubleshooting of thyristors, misc. solid state devices, integrated circuits.

ELT 167—Advanced Amplifying Device Fundamentals I*
4 hrs./wk. 3 cr.
Fundamentals of thyristors, misc. solid state devices, integrated circuits.

ELT 168—Application of Advanced Amplifying Devices II*
6 hrs./wk. 2 cr.
Application, testing and troubleshooting of digital electronics, optoelectronic devices, electronic power supplies, operational amplifiers.

ELT 169—Advanced Amplifying Device Fundamentals II*
6 hrs./wk. 4 cr.
Fundamentals of digital electronics, optoelectronic devices, electronic power supplies, introduction to operational amplifiers.

ELT 170—Application and Testing of Electronic Communication Devices
10 hrs./wk. 3 cr.
Use of amplifiers built previous quarter to assemble receivers, and transmitter circuits; test and repair receivers.

ELT 171—Principles of Electronic Communication Devices
10 hrs./wk. 7 cr.
Theory of oscillators, audio amplifiers, radio frequency amplifiers, super-heterodyne receivers, transmitters, frequency modulation, amplitude modulation.

ELT 208—Home Entertainment and Sound-Systems Lab
10 hrs./wk. 3 cr.
Application of principles taught in ELT 209. Troubleshooting, installation, and repair of home-entertainment equipment.

ELT 209—Home Entertainment and Sound-Systems
10 hrs./wk. 7 cr.
Study of modern home entertainment equipment. Stereophonic, quadraphonic, and speaker systems, commercial speaker and sound equipment and installation.

ELT 218—Application of Advanced Communications and TV
10 hrs./wk. 3 cr.
Application of all principles studied in previous courses as they are integrated into a working system. Troubleshooting and supervised repair work is emphasized.

ELT 219—Advanced Communications and TV
10 hrs./wk. 7 cr.
Principles of integrated communication systems with special application to black and white TV.

ELT 228—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 229—Microwave System Anaylsis
10 hrs./wk. 7 cr.
Principles of microwave theory, microwave oscillators, wave guides, antenna theory. Smith Chart and related circuits—application to radar and communications. Advanced solid state work with integrated circuits and their application.

ELT 238—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 239—Computer Technology
10 hrs./wk. 7 cr.
Concepts of pulse and digital circuitry, logical design and digital computers, data transmission, and system analysis. Emphasis on technical aspects of computers. Programming of digital and analog computers.

ELT 247—Applied Physiology
3 hrs./wk. 3 cr.
Familiarization with functional systems of the human body wtih emphasis on those most adaptable to monitoring by electronic instrumentation.

ELT 248—Medical Electronics Lab
10 hrs./wk. 3 cr.
Application and operation of Medical Electronic Equipment as studied in ELT 249. Alignment, adjustment and trouble-shooting and supervised repair work is emphasized. Field trips to various medical centers.

ELT 249—Medical Electronics
10 hrs./wk. 7 cr.
Design and operation of Medical Electronic Equipment including: X-Ray and related instrumentation. Coronary care instrumentation including: EKG, Rate Meters, Defibrillators, Synchronizers, Pacemakers, Strain Gauges and Amplifiers. Nuclear Medicine Instrumentation including: Radiation detection devices, counting devices, scalers and scanning devices. Biological potentials and computer applications as used in medicine are considered.

ELT 258—Instrumentation Lab
10 hrs./wk. 3 cr.
Processes of calibration and standardization of test equipment.

ELT 259—Instrumentation
10 hrs./wk. 7 cr.
Repair, calibration and standardization of electronic test equipment. Operation and circuits common to each type of basic test equipment.

ELT 268—Color TV Lab
10 hrs./wk. 3 cr.
Application of trouble-shooting techniques and testing circuitry of color television receivers.

ELT 269—Color TV
10 hrs./wk. 7 cr.
Application of TV principles as they pertain to color television systems.

ELT 278—Application of Broadcast Techniques for CCTV
10 hrs./wk. 3 cr.
Application of principles of closed circuit television and broadcast techniques. Actual video taping, editing, use of film and camera chains will be stressed.

ELT 279—Broadcast and Closed Circuit TV
10 hrs./wk. 7 cr.
Concepts and operation of closed circuit television and broadcast television. Broadcast standards will be stressed.

EVENING SCHOOL

GENERAL:

A wide variety of programs and courses are offered to meet the educational needs of students unable to attend regular day programs. Classes are offered for apprentice workers; occupational improvement classes designed to keep workers current in their field; occupational preparatory (Extended Day) programs provide skill training to prepare for entry level employment; supervisory training classes assist in preparing for management and supervisory skills. General Education and pre-technical classes are also available.

MINIMUM ENROLLMENT:
Any class with fewer than 10 students enrolled may be cancelled by the College for that quarter. Students registered will receive 100% refund of tuition and fees for any class so cancelled.

ELIGIBILITY:
Courses are open to anyone over 16 years of age, and are offered without reference to college credit, except where indicated otherwise.

EVENING SCHOOL HOURS:
Most classes operate from 7:00 p.m. to 10:00 p.m. Mondays through Fridays, and Saturday from 8:30 a.m. to 3:30 p.m. Occupational preparatory classes are held weekdays from 5:00 p.m. to 11:00 p.m.

NEW COURSES:
New courses may be added on request from the community, business, or industry (10 people minimum).

APPRENTICE COURSES:
A related training program for workers learning a trade through apprenticeship or on-the-job training. Courses are offered primarily in the evening during the Fall and Winter quarters. Training consists of 81 clock hours per quarter with emphasis in special theory and shop practices which supplement on-the-job experience. Courses are open only to qualified apprentices and trainees in the following areas:

Brickmasonry, Cabinet Making, Carpentry, Drywall Construction, Electricity, Foundry Working, Glaziers, Ironworkers Layout, Structural Ironworkers, Millwrights, Painting and Decorating, Pipefitting and Refrigeration, Plumbing, Sheetmetal, and Welding.

Apprenticeship programs are offered to fit particular needs. Programs are presently operated for:
Kennecott Copper Corporation
EIMCO Corporation

OCCUPATIONAL IMPROVEMENT COURSES:
Special classes have been planned to help trained workers keep current with new developments and technological changes. These classes also assist the partially trained workers in gaining new skills for job advancement.
For course descriptions see program sections.

Apparel Manufacturing
Dressmaking on Commercial or Home Machines.

Automotive
Autobody, Fuel and Electrical, Owner's Course, Diesel, Foreign Auto Tune-Up, Motorcycle Mechanics, Small Engine Repair, and Industrial Hydraulics.

Building Construction
Blueprint Reading, Cabinet and Furniture Making, Plastic Counter Tops, Construction Estimating, Industrial Safety, Basic Building Inspection, Advanced Code Enforcement.

Business
Advertising, Accounting, Business Law, Business Vocabulary, Checkstand Training, Front Office Procedure, Hotel-Motel Management, Machine Shorthand (Court Reporting), Machine Transcription, Shorthand, Office Machines, Retailing, Trucking Management, Typewriting, Credit and Collections, Money Management, Motor Carrier Safety, Federal Income Tax, Cost Accounting, and Interior Design.

Data Processing
Computer Programming and Keypunch.

Electronics & Electricity

Alternating Current Theory, Color Television, Closed Circuit Television, Computer Electronics, Direct Current Theory, FCC License Study, Medical Electronics, Microwave Systems, Radio Receivers, Radio Transmitters, Solid State Circuits, Basic Electricity, Electrical Codes, Electrical Control Systems, Electric Motors and Controls, and Electrical Wiring.

Graphics

Architectural Drafting, Plant Layout.
ART—*Art Layout and Design, Beginning Drawing, Water Color and Oils, Figure Drawing, and Photo Retouching.*
DRAFTING & DESIGN—*Mechanical Drafting, Structural Drafting, Technical Illustration, Electronic Drafting, Metal Fabricators Layout.*
PRINTING—*Offset Printing and Duplicating, Offset Camera—Black & White and Color, Pasteup, Cold Copy Typesetting, Printing Management.*
PHOTOGRAPHY—*Beginning, Intermediate and Color Photography.*

Metal Trades

MACHINE SHOP—*Beginning Machine Shop, Machine Shop for Hobbyists, Machinist's Numerical Control, Advanced Machine Shop, Machine Shop Math, and Blueprint Reading.*
APPLIANCES—*Major Appliance Repair, and Refrigeration.*
WELDING—*Beginning, Advanced, and Inert Gas Welding.*

Men's Hair Styling

Basic and high fashion (open to licensed barbers).

Upholstery

Beginning Furniture Upholstery (see Apparel Manufacturing).

OCCUPATIONAL PREPARATION (EXTENDED DAY)

Full programs are offered during evenings and Saturdays to prepare students to enter various fields with entry level skills. The courses have the same subject matter as the day school occupational preparatory programs and lead to a certificate, diploma or associate in applied science degree.

The following programs are found under the respective division sections in the catalog:

Business

Drafting Design & Technology

Electricity

Electronics

SUPERVISORY TRAINING

Special courses to assist supervisory personnel, executives and those preparing for such positions to become familiar with new techniques, developments and improved methods in business and industrial supervision and management.

BUSINESS—*Business Management, Credit Management, Restaurant and Food Service Management, Middle Management, Supervision and Management Skills, Communication Skills, Personnel and Labor, Strategy of Working with People.*
GENERAL EDUCATION—*Business English and Report Writing, Speed Reading, Speaking Effectively, I'm OK, You're OK, Human Potential Seminar, How to Satisfy Everyone You Meet.*
CONSTRUCTION TRADES—*Building Inspectors Course.*

GENERAL EDUCATION DEPARTMENT

General education classes are offered in the evening as support for the Occupational Preparatory programs. Subject areas include *English, Mathematics, Chemistry, Physics, Civics, Human Relations, Communications, Political Science, and Psychology.*

Non credit classes are also offered in *Mathematics, Communications, Personal Development* and *Reading Skills* for those desiring up-grading to enter technical programs but lack necessary entry skills.

EXECUTIVE SECRETARY

This program requires prerequisite typing (55 wpm) and shorthand (80 wpm) in order to accomplish the challenging level of legal, medical or engineering dictation, transcription and terminology. Each student progresses toward higher typing and shorthand speeds with very desirable executive transcription and secretarial skills. On completion of training the student will be qualified to select from many job opportunities. Beginning salaries have ranged from $450 to $650 a month.

Certificate, Diploma, A.A.S. Degree

Certificate: Pre-requiste: Type skill 55 w/m; Shorthand skill 80 w/m. Dip. or AAS; Pre-requisite: Steno Program or equivalent.

First Quarter (F)		Hrs./wk. Lec.	Lab.	Cr.
BUS 201	Advanced Typing	—	5	2
BUS 247	Dictation†	5	—	5
BUS 249	Transcription†	2	3	3
BUS 200	Secretarial Proced.	5	—	5
ENG 80	Business English*	3	—	3
MTH 80	Business Math*	3	2	3
		18	10	20

Approx. cost of Books, Tools, Supplies = $90.00

Second Quarter (W)		Hrs./wk. Lec.	Lab.	Cr.
BUS 202	Executive Typing	1	2	2
BUS 256	Dictation†	2	—	1
BUS 257	Transcription†	5	—	5
BUS 221	Spec. Sec. Proced.	5	10	8
ENG 95	Bus. Report Writing*	3	—	3
		16	12	19

Approx. cost of Books, Tools, Supplies = $75.00

Third Quarter (S)		Hrs./wk. Lec.	Lab.	Cr.
BUS 203	Executive Typing	—	2	1
BUS 258	Dictation†	5	—	5
BUS 267	Transcription†	1	2	2
BUS 259	Exec. Acctg. Prac.	3	2	3
* BUS 222	Spec. Sec. Proced.	5	10	8
		14	16	19

Approx. cost of Books, Tools, Supplies = $40.00

†An alternate sequence of Dictation and Transcription in Machine Shorthand may be followed. BUS 215 & 225, 216 & 236, 217 & 237.

*This General Education class is required for the Diploma. For the A.A.S. Degree a minimum of 24 credit hours in General Education subjects is required. These classes must include English 101 and 21 additional credit hours in at least three of the following areas:

(HU) Humanities
(LS) Life Sciences
(PS) Physical Sciences
(SS) Social Sciences

Often more than one such class will need to be scheduled each quarter in place of the asterisked classes above, or in addition where no such General Education classes are listed in a quarter.

The following classes are available for the A.A.S. Degree:

English:

ENG	101	3	0	3 (F,W,S,Su)
ENG	102	3	0	3 (F,W,S,Su)
ENG	103	3	0	3 (F,W,S,Su)

Humanities:

ADT	134	3	0	3 (S,Su)
CA	141	3	0	3 (S,Su)
ENG	130	3	0	3 (F,W,S,Su)
ENG	160	3	0	3 (F,W,S)
ENG	251	3	0	3 (S)

Life Sciences:

LS	111	4	2	5	(F,S,Su)
LS	201	5	0	5	(F,S,Su)

Physical Science:

CEM	101	5	2	5	(F,W,S,Su)
MTH	101	5	0	5	(F,W,S,Su)

MTH	105	5	0 5	(F,W,S,Su)
MTH	106	5	0 5	(F,W,S,Su)
MTH	138	5	0 5	(F,W,S,Su)
PHY	101	5	0 5	(F,W,S,Su)
PHY	105	5	0 5	(F,W,S,Su)
PHY	117	5	1 5	(F,W,S)
PHY	118	5	1 5	(W,S)
PHY	119	5	1 5	(S,Su)

Social Science:

ECN	101	3	0 3	(F,W,S,Su)
PS	110	3	0 3	(F,W,S,Su)
PSY	101	3	0 3	(F,W,S,Su)
SOC	101	3	0 3	(F,W,S,Su)

CLASS DESCRIPTIONS

Classes marked with an asterisk are taught in the evening school.

BUS 200—Secretarial Procedures*
5 hrs./wk. 5 cr.
Practice in communications, services, and mechanized office operations.

BUS 201—Advanced Typing
5 hrs./wk. 2 cr.
For the Executive Typist: letter-placement, arrangement, business forms, legal forms, manuscripts and tables.

BUS 202—Executive Typing
3 hrs./wk. 2 cr.
For Executive Typist: speed and accuracy development to handle any assigned typing tasks.

BUS 203—Executive Typing
2 hrs./wk. 1 cr.
For Executive Typist: competency in production typing, speed and accuracy.

BUS 215—Court Reporting IV*
5 hrs./wk. 5 cr.
Court Reporting Theory: High frequency words and phrases in legal terminology, legal dictation, introduction to two-voice testimony, speed building practice. Dictation 120 to 150 WPM. OPEN ENTRY. Prerequisite: BUS 178 or equivalent.

BUS 216—Court Reporting V*
5 hrs./wk. 5 cr.
Advanced Court Reporting Theory: Two voice testimony; jury charges; medical dictation. Speed building practice. Dictation 150 to 175 WPM. OPEN ENTRY. Prerequisite: BUS 215 or equivalent.

BUS 217—Court Reporting VI*
5 hrs./wk. 5 cr.
Advanced Court Reporting Theory: Legal-medical dictation; high speed dictation of two-voice testimony; literary practice for CSR test. Intensive speed building practice. Dictation 175 to 200 WPM. OPEN ENTRY. Prerequisite: BUS 216 or equiv.

BUS 221—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 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. Prerequisite: BUS 221.

BUS 225—Transcription
5 hrs./wk. 2 cr.
Legal documents and instruments; reports and testimony. Prerequisite: Typing speed 65 WPM. To be taken concurrently with BUS 215.

BUS 236—Transcription
5 hrs./wk. 2 cr.
Legal testimony; medical testimony; legal-medical transcription practice. To be taken concurrently with BUS 216.

BUS 237—Transcription
5 hrs./wk. 2 cr.
Depositions; jury charges, actual courtroom testimony. To be taken concurrently with BUS 217.

BUS 247—Dictation
5 hrs./wk. 5 cr.
Theory review, special shorthand shortcuts, speed and transcription development.

BUS 249—Transcription
5 hrs./wk. 2 cr.
Transcription techniques under office conditions.

BUS 256—Transcription
2 hrs./wk. 1 cr.
Transcription techniques for work efficiency under office conditions.

BUS 257—Executive Dictation
5 hrs./wk. 5 cr.
Advanced dictation and effective transcription procedures; office style dictation.

BUS 258—Executive Dictation
5 hrs./wk. 5 cr.
Continuation of BUS 257 skill development.

BUS 259—Executive Accounting Practice
5 hrs./wk. 3 cr.
Medical or legal practice sets, in preparation for general recordkeeping in the professional office.

BUS 267—Transcription
3 hrs./wk. 2 cr.
Transcription techniques and office efficiency.

FOOD SERVICE

The food service graduate may enter the career field as a cook's helper, second or first cook, specialty cook, dietary aid, assistant storekeeper, hostess, etc. Opportunities may rapidly develop for advancement and with further training may enter as assistant manager, food production manager cook or baker. Managerial levels are quickly attained by the well trained highly motivated worker.

Training skills include basic and advanced food preparation, menu planning, creative food production, and various management skills.

Food service is a rapidly growing industry with a wide variety of employment opportunities. Locally there are a large number of establishments engaged in food service. They include hospitals, nursing homes, industrial cafeterias, catering, fast food outlets, and a good variety of restaurants. Graduates may expect to enter the field with initially low salaries of $300 to $500 per month, but can quickly increase their earnings, within a matter of months to upwards of $800 per month. Many assistant managers and managers earn over $1,000 per month and highly qualified chefs can command $20,000 - $25,000 per year salaries.

Certificate, Diploma, A.A.S.

First Quarter (F, W)			Hrs./wk. Lec.	Lab.	Cr.
HM	101	Intro. to Hosp. Ind.	3	—	3
FS	124	Food Preparation I	3	6	4
FS	125	Service of Food	2	—	2
FS	126	Safety & Sanitation	2	—	2
MTH	80	Business Math*	3	2	3
CIV	55	Vocational Civics*	3	—	3
			16	8	17

Approx. cost of Books, Tools, Supplies = $40.00

Second Quarter (W, S)			Hrs./wk. Lec.	Lab.	Cr.
FS	127	Food & Beverage Cost Control	3	—	3
FS	128	Menu Plan. & Purch.	3	—	3
FS	129	Food Preparation II	3	6	4
FS	130	Creat. Food Produc.	—	2	1
FS	131	Nutrition	3	—	3
PSY	55	Human Relations*	3	—	3
			15	8	17

Approx. cost of Books, Tools, Supplies = $40.00

Third Quarter (S, Su)			Hrs./wk. Lec.	Lab.	Cr.
FS	132	Supervis. & Manage.	3	—	3
FS	133	Work Simplification	2	—	2
FS	134	Food Preparation III	3	6	4
BUS	160	Elemen. Accounting	5	5	4
Sociology Elective			3	—	3
			16	11	16

Approx. cost of Books, Tools, Supplies = $40.00

Fourth Quarter (F)

			Hrs./wk. Lec.	Lab.	Cr.
FS	214	Adv. Food Prepar. I	3	6	4
HM	125	Food & Bev. Manage.	3	6	4
BUS	161	Elem. Accounting II	5	—	5
ENG	80	Business English*	3	2	3
CE	123	Coop. Work Exper.	5	—	3
			21	13	19

Approx. cost of Books, Tools, Supplies = $40.00

Fifth Quarter (W)

			Hrs./wk. Lec.	Lab.	Cr.
FS	225	Adv. Food Prepar. II	3	6	4
BUS	162	Elemen. Acctg. III	5	5	4
ENG	95	Bus. Report Writing*	3	2	3
CE	126	Coop. Work Exper.	5	—	3
MTH	51	Elementary Algebra*	5	—	5
			21	13	19

Approx. cost of Books, Tools, Supplies = $40.00

Sixth Quarter (S)

			Hrs./wk. Lec.	Lab.	Cr.
FS	236	Meat Science	1	3	2
FS	239	Gourmet Cooking or			
HM	226	Manage. Techniques	3	2	3
BUS	284	Small Bus. Manage.	5	—	5
BUS	288	Managerial Acctg.	5	—	5
General Education Elective*			3	—	3
			17	5	18

Approx. cost of Books, Tools, Supplies = $40.00

*This General Education class is required for the Diploma. For the A.A.S. Degree a minimum of 24 credit hours in General Education subjects is required. These classes must include English 101 and 21 additional credit hours in at least three of the following areas:

(HU) Humanities
(LS) Life Sciences
(PS) Physical Sciences
(SS) Social Sciences

Often more than one such class will need to be scheduled each quarter in place of the asterisked classes above, or in addition where no such General Education classes are listed in a quarter.

The following classes are available for the A.A.S. Degree:

English:

ENG	101	3 0 3	(F,W,S,Su)
ENG	102	3 0 3	(F,W,S,Su)
ENG	103	3 0 3	(F,W,S,Su)

Humanities:

ADT	134	3 0 3	(S,Su)
CA	141	3 0 3	(S,Su)
ENG	130	3 0 3	(F,W,S,Su)
ENG	160	3 0 3	(F,W,S)
ENG	251	3 0 3	(S)

Life Sciences:

LS	111	4 2 5	(F,S,Su)
LS	201	5 0 5	(F,S,Su)

Physical Science:

CEM	101	5 2 5	(F,W,S,Su)
MTH	101	5 0 5	(F,W,S,Su)
MTH	105	5 0 5	(F,W,S,Su)
MTH	106	5 0 5	(F,W,S,Su)
MTH	138	5 0 5	(F,W,S,Su)
PHY	101	5 0 5	(F,W,S,Su)
PHY	105	5 0 5	(F,W,S,Su)
PHY	117	5 1 5	(F,W,S)
PHY	118	5 1 5	(W,S)
PHY	119	5 1 5	(S,Su)

Social Science:

ECN	101	3 0 3	(F,W,S,Su)
PS	110	3 0 3	(F,W,S,Su)
PSY	101	3 0 3	(F,W,S,Su)
SOC	101	3 0 3	(F,W,S,Su)

CLASS DESCRIPTIONS

Classes marked with an asterisk are taught in the evening school.

BUS 160—Elementary Accounting I*
10 hrs./wk. 4 cr.
Basic structure of accounting. Understanding the asset, liability, capital and expense accounts. The accounting cycle, special journals, receivables, payables, inventory. Includes worksheet, adjusting and closing entries.

BUS 161—Elementary Accounting II*
10 hrs./wk. 4 cr.
Study of deferrals, accruals, tangible and intangible assets, cash control, payroll and partnerships.

BUS 162—Elementary Accounting III*
10 hrs./wk. 4 cr.
Study of corporations, branch accounting, manufacturing and cost accounting. Includes study of funds and cash flow.

BUS 284—Small Business Management*
5 hrs./wk. 5 cr.
Introduction to problems of the small business man — borrowing, taxes, purchasing and personnel.

BUS 288—Budgeting*
5 hrs./wk. 5 cr.
Emphasizes management uses of accounting, but also considers financial accounting. Underlines the accountant's role in an organization: scorekeeping, attention directing, and problem solving.

FS 124—Food Preparation I*
9 hrs./wk. 4 cr.
Production and use of food and materials; introduction to tools and equipment; development of standards in food preparation; the effect of these factors upon economic, nutritive value; and aesthetic appeal of food.

FS 125—Service of Food*
2 hrs./wk. 2 cr.
Fundamentals of food service. Restaurant or coffee shop, formal dining room, cafeteria, and patient service. Health and sanitation, grooming and personal cleanliness, table setting, completing and placing orders, suggesting menu items, efficient and correct serving of meals and proper clean up.

FS 126—Safety and Sanitation*
2 hrs./wk. 2 cr.
Principles of personal health and hygiene; health, safety and sanitary requirements (including OSHA) relating to food, equipment, food preparation, service of food, inspection, and codes, standards and laws relating to food service.

FS 127—Food and Beverage Cost Controls*
3 hrs./wk. 3 cr.
Cost control as a necessity to profit and to continue in business. Sound purchasing, proper storeroom operation, controlled food production, standardized recipes, effective labor practices, use of records and proper supervision.

FS 128—Menu Planning and Purchasing*
2 hrs./wk. 2 cr.
Basics of menu planning including: types of menus, cycle menus, factors in planning, and menu making techniques. The student will produce several types of menus as a practical experience. Identification of food products quality factors, quality and cost control of non-food supplies, specifications, ordering, receiving and storage.

FS 129—Food Preparation II*
9 hrs./wk. 4 cr.
Continuation of Food Preparation I, with an introduction to proper baking as an emphasis. Prerequisite: FS 124 or equivalent.

FS 130—Creative Food Production*
2 hrs./wk. 1 cr.
Experimental workshop approach to correct and incorrect methods of food production. Emphasis on ingredients, mixing, weighing or measuring, and cooking.

FS 131—Nutrition*
3 hrs./wk. 3 cr.
Basics of nutrition. Nutritional body requirements, nutritional value of various foods, combinations for meal planning, proper preparation methods, etc.

FS 132—Supervision and Management*
3 hrs./wk. 3 cr.
Responsibility, authority and organization of the food service establishment for efficient operation, employee morale and customer service. Principles of supervision and management are explored.

FS 133—Work Simplification*
2 hrs./wk. 2 cr.
Methods, procedures, organization of time, equipment and materials for increased efficiency in the production and service of food—"Learn how to work smarter and not harder."

FS 134—Food Preparation III*
9 hrs./wk. 4 cr.
Continuation of basic food preparation methods and principles. Kitchen facilities utilized. Prerequisite: FS 129 or equiv.

FS 214—Advanced Food Preparation I*
9 hrs./wk. 4 cr.
Restaurant and Banquet service, including sauces, pastries, sugar work, and other advanced food preparation methods.

FS 225—Advanced Food Preparation II*
9 hrs./wk. 4 cr.
Techniques of Buffet work. Garnishes, display, food decorations, etc. Service methods.

FS 239—Gourmet Cooking*
5 hrs./wk. 3 cr.
Introduction to world cuisine. Specialized techniques and recipes.

FS 236—Meat Science*
4 hrs./wk. 2 cr.
Study of meat, poultry and fish. Grades and cuts. Utilization of meat and cutting methods.

HM 101—Introduction to the Hospitality Industry*
3 hrs./wk. 3 cr.
Traces the growth and development of the industry from early inns to the modern high rise and commercial hotels; lodging and food operations; opportunities and future trends.

HM 125—Food & Beverage Management*
5 hrs./wk. 5 cr.
Surveys food and beverage operations, covering such areas as menu planning, receiving, storing and issuing, food production, food and beverage service, bar operation, budgeting, sanitation, operational analysis, equipment layout selection, and maintenance.

HM 226—Management Techniques*
5 hrs./wk. 3 cr.
Advanced, practical management principles through class instruction; seminars, case problems, and discussions with managers and other experts in the industry.

GENERAL EDUCATION

General Education classes are offered to meet the following needs:

1. Related instruction for trade and technical programs to supplement the theory and lab classes.
2. Transfer credit to fill lower division General Education requirements for baccalaureate degree at other institutions.
3. Remedial classes for students to review and strengthen their background in General Education subjects.

GENERAL EDUCATION TRANSFER CREDIT:

The following General Education classes are acceptable for filling General Education requirements at schools in the Utah System of Higher Education:

English:
ENG 101, 102, 103

Humanities:
ADT 134, CA 141, ENG 130, 160, 251

Physical Sciences:
CEM 101
MTH 101, 105, 106, 138
PHY 101, 105, 117, 118, 119

Social Sciences:
ECN 101
PS 110
PSY 110
SOC 101

Life Science:
LS 111, 201

CLASS DESCRIPTIONS

Classes marked with an asterisk are taught in the evening school.

(HU) ADT 134—Achitectural History
3 hrs./wk. 3 cr.
General Survey of the history of Architecture from ancient through modern and the effects of history on modern design.

(HU) CA 141—History of Art*
3 hrs./wk. 3 cr.
Study of the art forms of the post-impressionistic through contemporary movements with emphasis on current trends, techniques and concepts.

CEM 91—Applied Chemistry
5 hrs./wk. 4 cr.
Survey of general chemistry, covering structure, compositions, and properties of substances and of their transformations with special emphasis for electronics.

(PS) CEM 101—Introduction to Chemistry*
7 hrs./wk. 5 cr.
Survey of general chemistry, covering structure, compositions and properties of substances and of their transformations.

CIV 55—Vocational Civics
3 hrs./wk. 3 cr.
Includes citizenship, functions of government, history, economics, and philosophy of the democratic ideal.

COM 55—Communications*
5 hrs./wk. 5 cr.
Review of oral and written communications to include conventional use of spelling, punctuation, individual speech analysis and grammar. Practical instruction is also given in job interview procedures and preparation of resumes.

COM 60—Campus Publications
2 hrs./wk. 2 cr.
Supervised experience in writing and editing for the college newspaper and other publications. Open to newspaper staff members, or by consent of the instructor. May be repeated for credit and substituted for COM 55 or ENG 80.

COM 64—Speed Reading*
3 hrs./wk. 0 cr.
Improvement of reading skills, vocabulary and word power; comprehension and retention.

COM 66—Speaking Effectively*
3 hrs./wk. 0 cr.
Basic principles of effective speaking; self confidence and skill in performance; locating materials; organization and delivery.

ECN 55—Applied Economics*
3 hrs./wk. 3 cr.
General business principles including profit, loss, income, taxes, interest rates, loans and personal budget management.

(SS) ECN 101—General Economics*
3 hrs./wk. 3 cr.
Personal, consumer, and national economics. Production and use of goods and services, money and credit, income and taxes.

ENG 80—Business English*
5 hrs./wk. 3 cr.
Review of grammar, punctuation, sentence structure, paragraphing, and the effective use of words. Some short compositions will be required in the application of principles taught.

ENG 95—Business Report Writing*
3 hrs./wk. 3 cr.
Application of effective use of words, proper language structure, and mechanics of style in a variety of written assignments. Includes creative business writing, business letters, and other formal and informal reports and communications, to include job applications, resumes and oral communications. Prerequisite: ENG 80.

ENG 101—English Composition*
3 hrs./wk. 3 cr.
Basic principles of effective composition, and necessary practice in expressing ideas. Reading of essays required.

ENG 102—English Composition*
3 hrs./wk. 3 cr.
Continuation of ENG 101 with special and extensive study in the art of research papers, critical reviews, business letters, and resumes. Reading of essays required. Prerequisite: ENG 101.

ENG 103—English Composition
3 hrs./wk. 3 cr.
Principles of logic and critical thinking applied to the writing of persuasion and opinion. Outside reading required. Prerequisite: ENG 102.

(HU) ENG 130—Technical Writing*
3 hrs./wk. 3 cr.
Introduction to technical writing includes study of practical work in style, language, and mechanics of technical reports.

(HU) ENG 160—Effective Speaking*
3 hrs./wk. 3 cr.
Emphasis on the dual role of speech as both a speaking and listening skill. Practice is provided through individual speeches and group discussions with emphasis on organization and delivery.

(HU) ENG 251—American Literature*
3 hrs./wk. 3 cr.
Survey of American Literature from beginning to the present with readings selected from all periods.

FL 101—Principles of Nutrition
3 hrs./wk. 3 cr.
Basic principles of human nutrition and their application through the life cycle.

FL 150—Child Growth & Development
5 hrs./wk. 5 cr.
Fundamentals of growth and development relating to effective human relationships within the family; a study of behavior and cultural influences from infancy through adolescence. A nursery school serves as a child development laboratory to give students practical experience.

(LS) LS 111—Microbiology
7 hrs./wk. 5 cr.
Fundamental concepts of micro-organisms as biological forces affecting man. Practical application of concepts in modern society.

(LS) LS 201—Human Anatomy and Physiology
7 hrs./wk. 5 cr.
Functional and anatomical consideration of the human body.

MTH 50—Vocational Math*
5 hrs./wk. 5 cr.
Review of fractions and decimals with a coverage of percentage, ratio and proportion, powers and roots, areas and volumes, rules and formulas.

MTH 51—Elementary Algebra*
5 hrs./wk. 5 cr.
Fundamentals of Algebra. Prerequisite: MTH 50 or equivalent.

MTH 52—Elementary Trigonometry*
2 hrs./wk. 2 cr.
Solution of right triangles. Elementary exposure to the use of sine, cosine, and tangent in solving right triangles and logarithms. Prerequisite: MTH 51 or MTH 60.

MTH 54—Pocket Calculators
1 hr./wk. 1 cr.
Use of four-function calculators in finding square root, cube root, trigonometric functions, e^x functions, and logarithms. Also use of more sophisticated pocket calculators.

MTH 56—Scientific Calculators*
1 hrs./wk. 1 cr.
Use of scientific calculators in performing arithmetic functions and finding roots and exponent values, e^x functions, trigonometric functions, and logarithms. Prerequisite: MTH 52.

MTH 58—Phasor Algebra*
2 hrs./wk. 2 cr.
Complex numbers, "j" operator, phasor operation in rectangular and polar form. Prerequisite: MTH 52.

MTH 60—Applied Math*
5 hrs./wk. 5 cr.
Short review of arithmetic with emphasis on fractions and decimals, also basic applied algebra.

MTH 80—Business Math*
5 hrs./wk. 3 cr.
Review of fundamentals of math including decimals, fractions, percentages and interest with basic business application.

MTH 91—Introduction to Applied College Algebra*
5 hrs./wk. 5 cr.
Basic equations, special products, factoring, fractions, fractional equations, simultaneous equations, exponents, radicals, quadratic equations, and logarithms.

MTH 95—Applied College Algebra*
5 hrs./wk. 5 cr.
Complex numbers, sequences and series, matrices, exponential and logarithmic functions, graphical analysis. Prerequiste: MTH 91.

MTH 96—Applied Plane Trigonometry*
5 hrs./wk. 5 cr.
Trigonometric equations, identities, trigonometric solutions of triangles, radian measure, introduction to hyperbolic functions. Prerequisite: MTH 95.

MTH 98—Applied Calculus*
5 hrs./wk. 5 cr.
Differential and integral calculus. Rates, limits, derivatives, definite and indefinite integrals and various functions are discussed. Prerequisite: MTH 106.

(PS) MTH 101—Intro. to College Algebra*
5 hrs./wk. 5 cr.
Basic equations, special products, factoring, fractions, fractional equations, simultaneous equations, exponents, radicals, quadratic equations, and logarithms. Prerequisite: MTH 51 with C grade or better.

(PS) MTH 105—College Algebra*
5 hrs./wk. 5 cr.
Functions, graphs, complex numbers, quadratic functions, equations, logarithms, matrices, and inequalities. Prerequisite: MTH 101 with C grade or better.

(PS) MTH 106—Plane Trigonometry*
5 hrs./wk. 5 cr.
Solution of right triangles, oblique triangles, solutions of trigonometric equations, identities, graphing of trigonometric functions. Prerequisite: MTH 105 with C grade or better.

MTH 138—Consumer Math*
5 hrs./wk. 5 cr.
Emphasis on interest, mortgages, loans, annuities, and discounts. Prerequisite: MTH 80 with C grade or equivalent skills.

PHY 55—Applied Physics*
5 hrs./wk. 5 cr.
Lecture-demonstration including concepts of mechanics, fluid mechanics, heat, light, sound, electricity, and magnetism as they apply to industry.

PHY 87—Applied Mechanics*
6 hrs./wk. 5 cr.
Study of mechanics, including force, motion, energy transformation, simple machines, fluid mechanics, and concepts of work and power. Prerequisite: MTH 51

PHY 88—Applied Heat, Light & Sound*
6 hrs./wk. 5 cr.
Continuation of PHY 87, covering concepts of heat, light, and sound. Prerequisite: PHY 87.

PHY 89—Applied Electricity, Magnetism and Modern Physics*
6 hrs./wk. 5 cr.
Continuation of PHY 88, covering concepts of electricity, magnetism, and atomic physics. Prerequisite: PHY 88.

(PS) PHY 101—Introduction to Physics*
5 hrs./wk. 5 cr.
Survey of general physics covering mechanics, heat, light, sound, electricity and magnetism, and modern physics. Prerequisite: MTH 51.

(PS) PHY 105—Modern Physics*
5 hrs./wk. 5 cr.
Survey of atomic physics covering relativity, atomic structure, spectra, radiation, radioactivity, sources and their detection, and nuclear reaction. Prerequisite: MTH 101.

PHY 117—Mechanics*
6 hrs./wk. 5 cr.
Fundamental concepts of mechanics and fluid mechanics. Lab included. Prerequisite: MTH 91.

PHY 118—Heat, Light and Sound*
6 hrs./wk. 5 cr.
Continuation of PHY 117 covering fundamentals of heat, light, and sound. Lab included. Prerequisite: PHY 117.

PHY 119—Electricity, Magnetism and Modern Physics*
6 hrs./wk. 5 cr.
Continuation of PHY 118 covering fundamentals of electricity, magnetism, atomic and nuclear physics. Lab included. Prerequisite: PHY 118.

PS 101, 102, 103—Studentbody Leadership
2 hrs./wk. 2 cr./qtr.
Survey of leadership techniques, procedures, and communication skills with practical experience and application through administration and organization of studentbody activities. (Limited to Studentbody officers.)

(SS) PS 110—Political Science*
3 hrs./wk. 3 cr.
A study of the Constitution and branches of the Federal and State Government. A history of the development of government in the U.S.

PSY 55—Human Relations*
3 hrs./wk. 3 cr.
Application of psychological principles of life problems. Includes theories of personality, personal and social adjustment, principles of success, and human relations development.

PSY 69—Graphoanalysis*
1 hr./wk. 0 cr.
The type of pen stroke in your handwriting does reveal your personality. Scientific study of 65 personality traits that can be seen in handwriting are studied.

PSY 70—Advanced Graphoanalysis*
1 hr./wk. 0 cr.
Continuation of PSY 69. Personality traits are studied as they appear in handwriting. Prerequisite: PSY 69.

PSY 71—I'm OK, You're OK*
3 hrs./wk. 3 cr.
You have read the book. Now put it to practice in a fun class with a common language of parent, adult, and child —not ego, alter ego and id.

PSY 85—Human Potential Seminar*
2 hrs./wk. 0 cr.
Promote your own personal growth and gain empathy for others by discussing your achievements, strengths, values, and goals. Principles of human behavior and motivation for use in classroom, on the job, and in the home.

PSY 86—How to Satisfy Everyone You Meet*
2 hrs./wk. 0 cr.
Develop skill in calming impatient customers, disenchanted employees. Analysis and solution of the most difficult problems in human relations.

(SS) PSY 101—General Psychology*
3 hrs./wk. 3 cr.
Basic survey course emphasizing common problems of life. Units include studies of childhood growth and development, personality formation, motivation and adjustment.

SOC 55—Applied Sociology
3 hrs./wk. 3 cr.
Analysis of social organization in the industrial setting. Human behavior and group interaction. Forces in society that influence behavior.

(SS) SOC 101—Introduction to Sociology*
3 hrs./wk. 3 cr.
Study of culture, mores, institutions, beliefs, and values. Includes analysis of social organization, group interaction and human behavior, group standards and values, and forces in society that influence behavior.

HEAVY DUTY MECHANICS

Heavy duty mechanics repair and maintain diesel engines that power: (a) transportation equipment, such as heavy trucks and buses; (b) construction equipment, like bulldozers, earthmovers and cranes; (c) farm equipment, such as tractors and irrigation pumps; and (d) a variety of other diesel-powered equipment like generators, compressors and pumps used in public uitilities or oil well drilling rigs.

Diesel or heavy duty mechanics use common hand-tools, such as pliers, wrenches and screwdrivers, as well as special tools including valve refacers and piston pin fitting machines. Additionally, they may use complex testing equipment like dynamometers, which measure engine power, and special fuel injecting equipment.

Many diesel mechanics are required to buy their own hand tools. A beginner accumulates tools as he gains experience.
A young person planning to go into this phase of mechanics should be in good physical condition, have above average mechanical ability and have good eye-hand coordination.

Certificate, Diploma, A.A.S. Degree

(PHY 101 is required for the AAS Degree.)

First Quarter (F, W, S)			**Hrs./wk.**		
			Lec.	**Lab.**	**Cr.**
HDM	114	H.D. Chassis Lab.	—	20	7
HDM	115	H.D. Chassis Thry.	5	—	5
MS	228	Machine Practice	2	3	3
PSY	55	Human Relations	3	—	3
			10	23	18

Approx. cost of Books, Tools, Supplies = $290.00

Second Quarter (F, W, S)			**Hrs./wk.**		
			Lec.	**Lab.**	**Cr.**
HDM	122	Basic Diesel Eng.	—	20	7
HDM	123	Basic Dsl. Eng. Thy.	5	—	5
WLD	105	Welding	2	3	3
			7	23	15

Approx. cost of Books, Tools, Supplies = $20.00

Third Quarter (F, W, S)			**Hrs./wk.**		
			Lec.	**Lab.**	**Cr.**
HDM	134	Prev. Maint. & Serv.	—	20	7
HDM	135	Pr. Maint. & Ser. Thy.	5	—	5
WLD	106	Welding	2	3	3
			7	23	15

Approx. cost of Books, Tools, Supplies = $15.00

Fourth Quarter (F, W)			**Hrs./wk.**		
			Lec.	**Lab.**	**Cr.**
HDM	202	H.D. Elec. Lab.	—	20	7
HDM	203	H.D. Elec. Thry.	5	—	5
MTH	50	Vocational Math*	5	—	5
			10	20	17

Approx. cost of Books, Tools, Supplies = $130.00

Fifth Quarter (F, W)			**Hrs./wk.**		
			Lec.	**Lab.**	**Cr.**
HDM	222	Adv. Dsl. Eng. Lab.		—20	7
HDM	223	Adv. Dsl. Eng. Thy.	5	—	5
PHY	55	Applied Physics*	5	—	5
			10	20	17

Approx. cost of Books, Tools, Supplies = $15.00

NOTE: In the final Quarter students may choose between Truck Mechanics and Construction Equipment Mechanics.

Sixth Quarter (S)		Hrs./wk. Lec.	Lab.	Cr.
HDM 232	Truck Mech. Lab.	—	20	7
HDM 233	Truck Mech. Thy.	5	—	5
COM 55	Communications*	5	—	5
		10	20	17

Approx. cost of Books, Tools, Supplies = $15.00

Sixth Quarter (S)		Hrs./wk. Lec.	Lab.	Cr.
HDM 238	Const. Eq. Mec. Lb.	—	20	7
HDM 239	Const. Eq. Mec. Thy.	5	—	5
COM 55	Communications*	5	—	5
		10	20	17

Approx. cost of Books, Tools, Supplies = $15.00

*This General Education class is required for the Diploma. For the A.A.S. Degree a minimum of 24 credit hours in General Education subjects is required. These classes must include English 101 and 21 additional credit hours in at least three of the following areas:

(HU) Humanities
(LS) Life Sciences
(PS) Physical Sciences
(SS) Social Sciences

Often more than one such class will need to be scheduled each quarter in place of the asterisked classes above, or in addition where no such General Education classes are listed in a quarter.

The following classes are available for the A.A.S. Degree:

English:

ENG 101	3 0 3	(F,W,S,Su)
ENG 102	3 0 3	(F,W,S,Su)
ENG 103	3 0 3	(F,W,S,Su)

Humanities:

ADT 134	3 0 3	(S,Su)
CA 141	3 0 3	(S,Su)
ENG 130	3 0 3	(F,W,S,Su)
ENG 160	3 0 3	(F,W,S)
ENG 251	3 0 3	(S)

Life Sciences:

LS 111	4 2 5	(F,S,Su)
LS 201	5 0 5	(F,S,Su)

Physical Science:

CEM 101	5 2 5	(F,W,S,Su)
MTH 101	5 0 5	(F,W,S,Su)
MTH 105	5 0 5	(F,W,S,Su)
MTH 106	5 0 5	(F,W,S,Su)
MTH 138	5 0 5	(F,W,S,Su)
PHY 101	5 0 5	(F,W,S,Su)
PHY 105	5 0 5	(F,W,S,Su)
PHY 117	5 1 5	(F,W,S)
PHY 118	5 1 5	(W,S)
PHY 119	5 1 5	(S,Su)

Social Science:

ECN 101	3 0 3	(F,W,S,Su)
PS 110	3 0 3	(F,W,S,Su)
PSY 101	3 0 3	(F,W,S,Su)
SOC 101	3 0 3	(F,W,S,Su)

CLASS DESCRIPTIONS

Classes marked with an asterisk are taught in the evening school.

HDM 114—Heavy Duty Chassis Lab
20 hrs./wk. 7 cr.
Practical experience in front end and steering, clutch, transmission, differential, suspension and undercarriage.

HDM 115—Heavy Duty Chassis
5 hrs./wk. 5 cr.
Class room instruction in front end and steering, clutch, transmission, differential, suspension and undercarriage.

HDM 122—Basic Diesel Engines Lab
20 hrs./wk. 7 cr.
Practical experience in the theory, operation, trouble shooting and repair, maintenance, and parts nomenclature of both 2-cycle and 4-cycle diesel engine.

HDM 123—Basic Diesel Engines
5 hrs./wk. 5 cr.
Class room instruction in the theory, operation, trouble shooting and repair, maintenance, and parts, nomenclature of both 2-cycle and 4-cycle diesel engines.

HDM 134—Preventative Maintenance & Service Lab
20 hrs./wk. 7 cr.
Practical experience in preventative maintenance and servicing of heavy duty equipment.

HDM 135—Preventative Maintenance & Servicing
5 hrs./wk. 5 cr.
Class room instruction in preventative maintenance and servicing of heavy duty equipment. Note: No prerequisite required and information will be basic and introductory.

HDM 202—Heavy Duty Electrical Lab
20 hrs./wk. 7 cr.
Practical experience in operation, maintenance, testing, trouble shooting, and repair of all electrical units of the heavy duty field; basic operation, maintenance and repair of air conditioning units.

HDM 203—Heavy Duty Electrical
5 hrs./wk. 5 cr.
Class room instruction in operation, maintenance, testing, trouble shooting and repair of all electrical units of the heavy duty field; basic operation, maintenance and repair of air conditioning units.

HDM 222—Advanced Diesel Engines Lab
20 hrs./wk. 7 cr.
Practical experience in tuneup, trouble shooting, and maintenance of 2-cycle and 4-cycle diesel engines, with emphasis on all systems.

HDM 223—Advanced Diesel Engines
5 hrs./wk. 5 cr.
Class room instruction in tuneup, trouble shooting, and maintenance of 2-cycle and 4-cycle diesel engines, with emphasis on all systems.

HDM 232—Truck Mechanics Lab
20 hrs./wk. 7 cr.
Practical experience in truck-type transmissions, air systems, cab and chassis reconditioning, with emphasis on highway trucks, trailers, and systems.

HDM 233—Truck Mechanics
5 hrs./wk. 5 cr.
Class room instruction in truck-type transmissions, air systems, cab and chassis reconditioning, with emphasis on highway trucks, trailers, and systems.

HDM 232—Construction Equipment Mechanics Lab
20 hrs./wk. 7 cr.
Practical experience in mobile hydraulics, torque converters, and power shift transmissions.

HDM 233—Construction Equipment Mechanics
5 hrs./wk. 5 cr.
Class room instruction in mobile hydraulics, torque converters, and power shift transmissions.

HOSPITAL NURSE AIDE

Nurse aides help care for patients in health care institutions. They work cooperatively with other members of the health team under the direction of a registered or licensed practical nurse.

In general, the nurse aide duties will fall under one of five categories: (1) nursing care, (2) care of the patient's unit, (3) food service, (4) handling equipment and supplies, (5) record keeping and messenger duties.

Some of the personal qualities that are desirable in a nurse aide are: trustworthy; enjoys working with people, gets along easily with others, tries to be aware of others' feelings, and gets satisfaction in helping others.

The nurse aide should be at least eighteen years old and in good physical and mental health.

Men and women entering this field can expect to receive approximately $2.30 an hour starting salary.

Certificate of Completion
This 200 hour program is designed to develop the knowledge, skills and attitudes needed to function as a nurse aide. 100 hours will be spent in the classroom and labora-

tory plus 100 hours of supervised experience in a patient-care clinical facility.

15 hr/wk O Cr

Offered Fall and Spring Quarters

Approx. cost of Books, Supplies and Uniforms = $50.00

NURSE AIDE MEDS

This 60 hour class is offered to qualified nurse aides who are employed in and recommended from a Nursing Home to develop the knowledge and skills of administering oral medications in the extended care facility.

6 hr/wk O Cr

Offered Fall and Spring Quarters

Approx. cost of Books = $8.00

HOSPITAL WARD CLERK

The hospital ward clerk is a receptionist and a clerk on a nursing unit. The clerk maintains patient charts and records, transcribes doctor's orders, receives and directs visitors, maintains assignments and other staff records, receives and transmits patient requests, orders supplies, answers the intercom, answers the telephone and maintains files.

The hospital ward clerk works with other members of the hospital staff for one main purpose: to help care for the patient.

Communications is the fundamental function. The Ward Clerk's desk is a vital link between patients and the staff of the unit as well as the rest of the hospital. The clerk understands the hospital environment and is aware of the different ways in which members of the hospital staff communicate with each other. Through various means of communication, this person understands the types of information to transmit and the appropriate procedure in each case.

Men or women interested in becoming ward clerks should be mature, dependable individuals who enjoy working with all types of people and are able to maintain pleasant relations with them.

The starting salary is approximately $2.30 an hour.

Certificate of Completion

This 180 hour 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. 84 hours will be spent in theory and 96 hours in a patient care clinical facility.

15 hr/wk 0 Cr

Offered Fall and Spring Quarters

Approx. cost of Books, Supplies = $15.00

HOTEL/MOTEL MANAGEMENT

Students entering the Hotel/Motel Management program learn such diverse skills as front office procedures, food and beverage management, maintenance and engineering, supervisory housekeeping, sales promotion and convention management, hotel accounting and hotel/motel law.

The graduate normally starts in the simplest jobs within the career path. For example, there are basic positions which eventually lead to Executive Housekeeper. Then there are the range of front office positions which may bring the industrious man or woman to general management positions. There are beginning jobs in the food service area which can lead to openings as chef, or food and beverage manager.

Employment opportunities are excellent, since the total job market in hotels and motels is vast. While beginning salaries tend to be low, it is very possible for graduates with experience who become chefs to earn $15,000.00 and more; food and beverage managers up to $20,000.00; and general managers of hotels can received from $15,000.00 to $25,000.00 in the state of Utah.

Diploma, A.A.S. Degree

First Quarter (F, W)			**Hrs./wk. Lec.**	**Lab.**	**Cr.**
HM	101	Intro. to Hospitality Industry	3	—	3
BUS	180	Intro. to Business	4	—	4
BUS	160	Elem. Accounting	5	5	4
MTH	80	Business Math*	3	2	3
ENG	80	Business English*	3	2	3
			18	9	17

Approx. cost of Books, Supplies = $55.00

Second Quarter (W, S)			**Hrs./wk. Lec.**	**Lab.**	**Cr.**
HM	120	Front Office Proced.	3	—	3
HM	125	Food & Bev. Mgmt.	5	—	5
BUS	161	Elem. Acctg. II	5	5	4
DP	101	Basic Comp. Conc.	2	3	3
ENG	95	Bus. Report Writing*	3	—	3
			18	8	18

Approx. cost of Books, Supplies = $60.00

Third Quarter (S, Su)			**Hrs./wk. Lec.**	**Lab.**	**Cr.**
HM	130	Mainten. & Engineer.	3	—	3
HM	135	Superv. Housekeep.	3	—	3
BUS	162	Elem. Acctg. III	5	5	4
BUS	286	Personnel & Labor	5	—	5
			16	5	15

One quarter Coop. Ed. required during first year.

Approx. cost of Books, Supplies = $55.00

Fourth Quarter (F)			**Hrs./wk. Lec.**	**Lab.**	**Cr.**
BUS	131	Office Machines	—	5	3
HM	240	Hotel/Motel Mktg.	3	2	3
HM	245	Food Prod. Principles	3	2	3
ECN	55	Applied Economics*	3	—	3
PSY	55	Human Relations*	3	—	3
			12	9	15

Approx. cost of Books, Supplies = $60.00

Fifth Quarter (W)			**Hrs./wk. Lec.**	**Lab.**	**Cr.**
HM	250	Tourism and the Hospitality Industry	4	—	4
SOC	101	Intro. to Sociology	3	—	3
HM	255	Supervisory Develop.	3	—	3
BUS	156	Business Law	5	—	5
			15	—	15

Approx. cost of Books, Supplies = $60.00

Sixth Quarter (S)			Hrs./wk. Lec.	Lab.	Cr.
CE	113	or			
CE	123	Coop. Edu.	—	15	3
HM	266	Management Tech.	3	2	3
HM	258	Hotel/Motel Law	2	—	2
MTH	101	Intro. to Col. Algebra	5	—	5
SOC	55	Applied Sociology*	3	—	3
			13	17	16

Approx. cost of Books, Supplies = $66.00

*This General Education class is required for the Diploma. For the A.A.S. Degree a minimum of 24 credit hours in General Education subjects is required. These classes must include English 101 and 21 additional credit hours in at least three of the following areas:

(HU) Humanities
(LS) Life Sciences
(PS) Physical Sciences
(SS) Social Sciences

Often more than one such class will need to be scheduled each quarter in place of the asterisked classes above, or in addition where no such General Education classes are listed in a quarter.

The following classes are available for the A.A.S. Degree:

English:

ENG	101	3 0 3		(F,W,S,Su)
ENG	102	3 0 3		(F,W,S,Su)
ENG	103	3 0 3		(F,W,S,Su)

Humanities:

ADT	134	3 0 3	(S,Su)
CA	141	3 0 3	(S,Su)
ENG	130	3 0 3	(F,W,S,Su)
ENG	160	3 0 3	(F,W,S)
ENG	251	3 0 3	(S)

Life Sciences:

LS	111	4 2 5	(F,S,Su)
LS	201	5 0 5	(F,S,Su)

Physical Science:

CEM	101	5 2 5	(F,W,S,Su)
MTH	101	5 0 5	(F,W,S,Su)
MTH	105	5 0 5	(F,W,S,Su)
MTH	106	5 0 5	(F,W,S,Su)
MTH	138	5 0 5	(F,W,S,Su)
PHY	101	5 0 5	(F,W,S,Su)
PHY	105	5 0 5	(F,W,S,Su)
PHY	117	5 1 5	(F,W,S)
PHY	118	5 1 5	(W,S)
PHY	119	5 1 5	(S,Su)

Social Science:

ECN	101	3 0 3	(F,W,S,Su)
PS	110	3 0 3	(F,W,S,Su)
PSY	101	3 0 3	(F,W,S,Su)
SOC	101	3 0 3	(F,W,S,Su)

CLASS DESCRIPTIONS

Classes marked with an asterisk are taught in the evening school.

BUS 131—Office Machines*
5 hrs./wk. 3 cr.
Introduction to ten-key adding machine, electronic printing calculator, electronic display calculator, rotary calculator, ten-key adding listing machine, and full keyboard machine. Emphasis on proficiency achievement and working with business forms.

BUS 156—Business Law I*
5 hrs./wk. 5 cr.
Introduction to business law, contracts, agency and employment, commercial paper, bailments, sales, security devices, and truth-in-lending.

BUS 160—Elementary Accounting I*
10 hrs./wk. 4 cr.
Basic structure of accounting. Understanding the asset, liability, capital and expense accounts. The accounting cycle, special journals, receivables, payables, inventory. Includes worksheet, adjusting and closing entries.

BUS 161—Elementary Accounting II*
10 hrs./wk. 4 cr.
Study of deferrals, accruals, tangible and intangible assets, cash control, payroll and partnerships.

BUS 162—Elementary Accounting III*
10 hrs./wk. 4 cr.
Study of corporations, branch accounting, manufacturing and cost accounting. Includes study of funds and cash flow.

BUS 180—Introduction to Business*
4 hrs./wk. 4 cr.
Overview of the business world and making an occupational choice.

BUS 286—Personnel & Labor Relations*
5 hrs./wk. 5 cr.
Introduction to problems associated with employees individually, and complex problems associated with organized labor.

DP 101—Basic Computer Concepts*
5 hrs./wk. 3 cr.
Terminology, syntax, and basic concepts pertaining to computers. Introduction to programming languages. BUS 70 taken concurrently or type skill for satisfactory key punch performance.

HM 101—Introduction to the Hospitality Industry*
3 hrs./wk. 3 cr.
Traces growth and development of the industry from early inns to modern high rise and commercial hotels lodging and food operations; opportunities and future trends, exploration of management responsibilities.

HM 120—Front Office Procedure*
3 hrs./wk. 3 cr.
Procedures used in all areas in the front office, including reservations, registration, check-out and guest service. Duties of all front office personnel. Public relations responsibilities emphasized.

HM 125—Food & Beverage Management*
5 hrs./wk. 5 cr.
Surveys food and beverage operations, covering such areas as menu planning, receiving, storing and issuing, food production, food and beverage service, bar operation, budgeting, sanitation, operational analysis, equipment layout selection, and maintenance.

HM 130—Maintenance & Engineering*
3 hrs./wk. 3 cr.
Technical information on preventive maintenance measures. Basic technical information on electricity, air conditioning, plumbing, heating, acoustics, elevators and other equipment.

HM 135—Supervisory Housekeeping*
3 hrs./wk. 3 cr.
Fundamentals of housekeeping management. Emphasis on leadership and staff development, skills, work improvement techniques, materials and equipment used; safety, human relations, purchasing controls and record keeping.

HM 226—Management Techniques*
5 hrs./wk. 3 cr.
Advanced, practical management principles through class instruction; seminars, case problems, and discussions with managers and other experts in the industry.

HM 240—Hotel/Motel Marketing*
3 hrs./wk. 3 cr.
Modern marketing techniques in food and lodging industries, including human factors—consumer demand, planning advertising and sales methods.

HM 245—Food Production Principles*
5 hrs./wk. 3 cr.
Basic cooking methods and food preparation. Concurrent instruction and lab experience in the kitchen.

HM 250—Tourism and the Hospitality Industry*
5 hrs./wk. 3 cr.
Current principles, practices, and philosophies of tourism, including integration with other segments of hospitality industry.

HM 255—Supervisory Development*
3 hrs./wk. 3 cr.
Middle management supervisory skills including human relations, communications, training, and counseling.

HM 258—Hotel/Motel Law*
2 hrs./wk. 2 cr.
Status and responsibilities, discrimination, theories of liability, labor laws, liens, evictions and crimes.

HM 266—Management Techniques*
5 hrs./wk. 3 cr.
Advanced, practical management principles through class instruction; seminars, case problems, and discussions with managers and other experts in the industry.

MACHINE SHOP

A machine shop student learns the basic level skills in the following machine shop areas: the operation of machining, tools, measurement, accuracy, quality finishing and speed performance. Also quality control inspection, testing, heat treatment, metallurgy, Numerical Control and NC programming, and electrical discharge machining.

Students in this area are required to work closely with other professional and non-professional people, and good work habits are expected.

Certificate

First Quarter (F, W)		Hrs./wk. Lec.	Lab.	Cr.
MS 110	Mach. Shop Lab.	—	15	5
MS 111	Mach. Shop Theory	5	—	5
BPR 100	Blueprint Reading	3	2	3
MS 54	Applied M.S. Math	5	—	5
		13	17	18

Approx. cost of Books, Tools, Supplies = $180.00

Second Quarter (W, S)		Hrs./wk. Lec.	Lab.	Cr.
MS 120	Mach. Shop Lab.	—	15	5
MS 121	Mach. Shop Theory	5	—	5
MS 101	Blueprint Reading	3	2	3
MS 56	Applied M.S. Math	5	—	5
		13	17	18

Approx. cost of Books, Tools, Supplies = $35.00

Third Quarter (S, Su)		Hrs./wk. Lec.	Lab.	Cr.
MS 130	Adv. M.S. Lab.	—	15	5
MS 131	Adv. Mach. Theory	5	—	5
PHY 55	Applied Physics	5	—	5
COM 55	Communications	5	—	5
		15	15	20

Approx. cost of Books, Tools, Supplies = $40.00

CLASS DESCRIPTIONS

Classes marked with an asterisk are taught in the evening school.

BPR 45—Basic Blueprint Reading*
6 hrs./wk. 0 cr.
Study of the alphabet of lines, basic sketching and orthographic projection.

BPR 46—Intermediate Blueprint Reading*
6 hrs./wk. 0 cr.
Principles of projection, position of views and sections.

BPR 100—Blueprint Reading
5 hrs./wk. 3 cr.
Study of orthographic third angle projection including sketching, section conventions, auxiliary views and interpretation of fractional and decimal measurements. Includes symbol measurements, drafting standards of blueprints, sections, auxiliary views, details and specifications as they relate to the machine trades.

MS 45—Machine Shop Math*
6 hrs./wk. 0 cr.
Review of arithmetic including square roots and an introduction to algebra.

MS 46—Machine Shop Math*
6 hrs./wk. 0 cr.
Review of algebra and introduction to geometry and right angle trigonometry.

MS 50—Basic Machine Shop*
6 hrs./wk. 0 cr.
Three-quarter course offering practical experience in bench work, drill press and lathe operations. Includes shop safety, care and maintenance of machines, shop math and blueprint reading.

MS 52—Advanced Machine Shop*
6 hrs./wk. 0 cr.
Three-quarter course offering practical experience on mills, shapers and precision grinders. Includes shop safety, care and maintenance of machines and shop math. Prerequisite: MS 50.

MS 54—Applied Machine Shop Math
5 hrs./wk. 5 cr.
Fractions, decimals, square roots, and algebra as applied to machinist occupations.

MS 55—Numerical Control Programming & Electrical Discharge Machining*
6 hrs./wk. 0 cr.
Basic experience in programming and operation of a two axis N.C. machine and operation of E.D.M. machine. Prerequisite: MS 52 or Industrial Experience.

MS 56—Applied Machine Shop Math
5 hrs./wk. 5 cr.
Includes geometry, solution of triangles by trigonometry with applications to tapers, indexing, and gear trains. Prerequisite: MS 54.

MS 57—Applied N.C. Math*
5 hrs./wk. 5 cr.
Study of the binary numbering system and analytical geometry with vectors as applied to N.C. machines. Prerequisite: MS 56.

MS 58—Hobby Machine Shop*
6 hrs./wk. 0 cr.
Special course for those who machine special projects such as amateur gunsmithing, product development, etc. Prerequisite: MS 50 or Industrial Experience.

MS 101—Blueprint Reading
5 hrs./wk. 3 cr.
Advanced technical blueprint reading including isometric sketching of basic machines and their parts, the study of military standards, dimensioning and tolerancing, metric system dimensioning, welding symbols and how they effect machine shop drawings.

MS 110—Machine Shop Lab
15 hrs./wk. 5 cr.
Laboratory application of principles covered in MS 111. Includes operation of drill presses, lathes and extensive bench work with hand tools and introduction to mills.

MS 111—Basic Machine Theory
5 hrs./wk. 5 cr.
Basic machine shop theory including operation and performance of drill presses, lathes, basic hand tools, and mills. Includes problems in measurement and accuracy.

MS 120—Machine Shop Lab
15 hrs./wk. 5 cr.
Application of principles covered in MS 121. Includes operation of shapers and mills.

MS 121—Basic Machine Theory
5 hrs./wk. 5 cr.
Basic machine shop theory including operation and performance of machine tools including shapers, mills and planers. Emphasis is placed on operation, maintenance and performance.

MS 130—Advanced Machine Shop Lab
15 hrs./wk. 5 cr.
Includes manufacture of gears, heat treating, use of grinders, quality assurance and numerical control. Practical application of numerical control programming, use of Flexowriter, metallurgy, electrical discharge machining, testing and inspection.

MS 131—Advanced Machine Theory
5 hrs./wk. 5 cr.
Advanced application of machining principles including instruction in gears, gearing, grinders, heat treating, numerical control, precision grinding and metallurgy; electrical discharge machining, testing and inspection.

MS 227—Machine Shop*
4 hrs./wk. 3 cr.
Introduction to actual machine processes and demonstrations in the machine shop including numerical control and electrical discharge machining.

MS 228—Related Machine Shop
5 hrs./wk. 3 cr.
Introduction to basic drill press operations, lathe operations, bench work and layout procedures.

MAJOR APPLIANCE REPAIR

The Appliance Repair student learns the basic and necessary electrical and mechanical fundamentals of repairing all types of major appliances.

Job opportunities cover repairing, installing, or selling of major appliances as well as parts sales. The major appliance field includes domestic refrigerators, freezers, automatic washers and dryers (both gas and electric), dishwashers, electric ranges, self-cleaning electric ranges and microwave ovens.

The student upon completion of the course is ready to work in the industry for large metropolitan service companies specializing in one brand or to work for an appliance dealer on a variety of brands with starting wages from $2.00 to $3.50 per hour.

As appliances become more sophisticated the demand for appliance service grows steadily.

Certificate

First Quarter (F)		Hrs./wk. Lec.	Lab.	Cr.
REF 110	Basic Refrig. Sys.	—	15	5
REF 111	Fund. of Refrig.	5	—	5
MTH 60	Applied Math	5	—	5
ELC 104	AC-DC Fund.	5	—	5
		15	15	20

Approx. cost of Books, Tools, Supplies = $25.00

Second Quarter (W)		Hrs./wk. Lec.	Lab.	Cr.
MAR 120	Basic App. Sys.	—	15	5
MAR 121	Fund. Maj. Appl.	5	—	5
ELC 105	AC-DC Circuits	5	—	5
ELC 106	Solid State Fund.	5	—	5
		15	15	20

Approx. cost of Books, Tools, Supplies = $60.00

Third Quarter (S)		Hr./wk. Lec.	Lab.	Cr.
MAR 130	Adv. Appl. Lab.	—	15	5
MAR 131	Adv. Mech. Thry.	5	—	5
ELC 107	Practical Wiring	5	—	5
MAR 132	Customer Relations	5	—	5
		15	15	20

Approx. cost of Books, Tools, Supplies = $30.00

CLASS DESCRIPTIONS

Classes marked with an asterisk are taught in the evening school.

MAR 55, 56, 57—Major Appliance Repair*
6 hrs./wk. 0 cr.
Fundamentals of electrical and mechanical repair of common major household appliances.

MAR 65—Major Appliance Repair*
6 hrs./wk. 2 cr.
Basic electrical theory as it applies to appliance wiring diagrams and electrical repairs of washers and dryers. Theory and lab applications.

MAR 66—Major Appliance Repair*
6 hrs./wk. 2 cr.
Mechanical theory as applied to washers and dryers. Actual hands on training, diagnosing and repairing washers and dryers.

MAR 67—Major Appliance Repair*
6 hrs./wk. 2 cr.
Mechanical and electrical theory as applied to repair of conventional and self-cleaning ranges. Hands on training, diagnosing and repairing ranges.

MAR 120—Basic Appliance Systems
15 hrs./wk. 5 cr.
Actual hands on training, diagnosing, operating and repairing major appliances (all makes).

MAR 121—Fundamentals of Major Appliances
5 hrs./wk. 5 cr.
Basic appliance mechanical theory as applied to washing machines, dryers, disposals, dishwashers, and compactors.

MAR 130—Advanced Appliance Lab.
15 hrs./wk. 5 cr.
The disassembly of refrigerators and major appliances, including diagnosis, repair and installation.

MAR 131—Advanced Mechanical Theory
5 hrs./wk. 5 cr.
Advanced appliance mechanical theory as applied to major appliances.

MAR 132—Customer Relations
5 hrs./wk. 5 cr.
Techniques and procedures used to successfully deal with customers and related problems. Also covering importance of necessary paper work related to the service industry.

ELC 104—AC-DC Fundamentals
5 hrs./wk. 5 cr.
Electron theory, Ohms Law and its application, equivalent circuits, magnetism, motors, generators, transformers and instruments.

ELC 105—AC-DC Circuits
5 hrs./wk. 5 cr.
Electrical circuits as related to power mechanisms. Includes theory of operation, maintenance and overhaul of motors, transformers and basic controls.

ELC 106—Solid State Fundamentals
5 hrs./wk. 5 cr.
Theory and operation of semi-conductors and electronic control devices used in refrigeration and major appliances.

ELC 107—Practical Wiring & Controls
5 hrs./wk. 5 cr.
Requirements for power service wiring and function and adjustment of all basic refrigeration and air-conditioning controls. Application to the National Electrical Code.

REF 110—Basic Refrigeration Systems
15 hrs./wk. 5 cr.
Refrigerants, domestic refrigerators and freezer systems, including building of a complete individual system.

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.

MARKETING

The Marketing program is organized in such a way that incoming students may take the course with choice of major emphasis in Sales Training, Fashion Merchandising, Transportation or Real Estate.

The total marketing field is one of the fastest growing areas in the commercial world. Sales personnel, buyers, merchandising managers, transportation executives, real estate agents, brokers, appraisers, and insurance agents are just a few of the possible careers which may be pursued as a result of this stimulating yet rigorous program.

Common to the four specialty options is a fundamental program with classes in Sales, Advertising, Marketing and Introduction to Business. The development of positive personality traits is another important aspect of the Marketing course.

Because selling depends so much on personal contact with the public, men and women who are outgoing and sociable are more likely to achieve success. However, some graduates with modest physical handicaps have done well in the field.

Certificate

On completion of a one-year Marketing Program students may enter Business Management (not Acctg. oriented) for a Diploma or AAS degree.

Cooperative Education (3 cr.) is required for graduation and may be taken as part of the elective credit. Refer to Cooperative Education section of the catalog.

First Quarter (F, W)	Hrs./wk. Lec.	Lab.	Cr.
MKT 120 Salesmanship	5	—	5
BUS 180 Intro. to Business	4	—	4
ENG 80 Business English*	3	2	3
BUS 70 Type	—	5	2
†Elective	5	—	5
	17	7	19

Approx. cost of Books, Tools, Supplies = $60.00

Second Quarter (W, S)	Hrs./wk. Lec.	Lab.	Cr.
MKT 102 Princ. of Marketing	3	2	4
MKT 126 Retailing	5	—	5
ENG 95 Bus. Report Writing*	3	—	3
MTH 138 Consumer Math	5	—	5
†Elective	2/3	—	2/3
	18/19	2	19/20

Approx. cost of Books, Tools, Supplies = $50.00

Third Quarter (S, Su)	Hrs./wk. Lec.	Lab.	Cr.
BUS 156 Business Law I	5	—	5
MKT 128 Advertising	3	2	4
ECN 55 Applied Economics*	3	—	3
BUS 160 Elem. Acctg. I	5	5	4
†Elective	2/4	—	2/4
	18/20	7	18/20

Approx. cost of Books, Tools, Supplies = $50.00

†Electives subject to Division Head approval.

CLASS DESCRIPTIONS

Classes marked with an asterisk are taught in the evening school.

BUS 70—Typewriting*
5 hrs./wk. 2 cr.
Introduction to keyboard and correct typing techniques.

BUS 156—Business Law I*
5 hrs./wk. 5 cr.
Introduction to business law, contracts, agency and employment, commercial paper, bailments, sales, security devices, and truth-in-lending.

BUS 160—Elementary Accounting I*
10 hrs./wk. 4 cr.
Basic structure of accounting. Understanding the asset, liability, capital and expense accounts. The accounting cycle, special journals, receivables, payables, inventory. Includes worksheet adjusting and closing entries.

BUS 180—Introduction to Business*
4 hrs./wk. 4 cr.
Designed to give students an overview of the business world and to assist the student in making an occupational choice.

MKT 102—Principles of Marketing*
5 hrs./wk. 4 cr.
Introductory course in problems and policies of manufacturers, wholesalers and retailers as related to marketing of goods and services.

MKT 120—Salesmanship*
5 hrs./wk. 5 cr.
Basic sales class relating psychology and tested selling techniques to each step of the sale—pre-approach, approach, determining wants and needs, product information and organization.

MKT 126—Retailing*
5 hrs./wk. 5 cr.
Fundamentals of merchandising, store location, organization, and layout, problems in the various branches of retailing; store service, and personnel; buying, selling and stock control.

MKT 128—Advertising*
5 hrs./wk. 4 cr.
Introduction to the field of advertising and its role in marketing today.

OPERATING ENGINEERS

Associate in Applied Science Degree

The primary objective of this course is to provide a satisfying educational experience for those indivduals desiring training to prepare for, enter into, and progress in the field of work associated with heavy equipment operation and maintenance (graders, dozers, cranes, etc.).

To qualify, a student must be a person of at least eighteen years of age; be covered by a written agreement with the Utah State Apprenticeship Council; be employed for two thousand hours per year; and be participating in an approved schedule of work experience with his employer(s).

The program is offered in cooperation with the American River College, Sacramento, California, and the Rancho Murieta Training Center, Rancho Murieta, California. It is designed to be completed in a three-year period of time. Courses in the major (OE 101-117) are offered through the American River College. At least forty-eight credit hours must be earned at Utah Technical College at Salt Lake in specified related and general education subjects.

For information on the specific curriculum contact the Apprenticeship office.

OPERATING ROOM TECHNICIAN

The Operating Room Technician under the direct supervision of the Operating Room Supervisor and/or Registered Nurse assigned, functions as a member of the Operating Room Team by assisting with surgical procedures, providing the surgeon with instruments, sutures, sponges, medication and other equipment necessary to accomplish the procedures. Typical duties may include:

Prepares operating room, dusts, arranges furniture, procures sterile and non-sterile equipment. Wears cap and mask, scrubs hands and arms, dons gown and gloves and sets up operating room for surgical procedure. Prepares all material for use. Assists surgeon, anticipates needs, provides linens, sponges, instruments, sutures and other equipment in a manner that insures the sterility of the equipment, sutures and other instruments and the safety of the patient and the success of the procedure.

Men and women entering this field should be at least eighteen years old and a high school graduate or equivalent.

They should be in good mental and physical health. The job requires visual and aural acuity, eye-hand coordination and finger dexterity. Operating Room technicians are required to stand for long periods at a time. They should possess mature judgment, adaptability, cooperativeness, courteousness, and interest and willingness to learn. They must be able to relate and work well with others, be trustworthy and dependable.

Operating Room Technicians can expect to receive approximately $2.75 per hour starting salary.

Certificate

Prepares the graduate for National Certification Examination. The ORT classes must be taken in numbered sequence with theory and related lab taken concurrently. A grade of "C" or better must be achieved in each class in order to remain in the program.

Special application procedure is required and must be initiated through the College Admissions Office. Applicants for the beginning fall quarter will be considered starting April 1, 1975.

First Quarter (F)			Hrs./wk. Lec.	Lab.	Cr.
ORT	81	Microbiology	2	—	2
LS	201	Human Anat. & Phys.	5	—	5
HO	110	Health Occupations	4	—	4
ORT	104	Operat. Rm. Fund. I	7	—	7
ORT	107	Op. Rm. Fund. Lab. I	—	6	2
			18	6	20

Approx. cost of Books, Supplies = $70.00

Second Quarter (W)			Hrs./wk. Lec.	Lab.	Cr.
ORT	202	Oper. Rm. Fund. II	6	—	6
ORT	201	Op. Rm. Fund. Lab. II	—	6	2
ORT	108	Surgical Proced. I	6	—	6
ORT	106	Clinical Exper. I	—	11	4
			12	17	18

Third Quarter (S)			Hrs./wk. Lec.	Lab.	Cr.
ORT	124	Oper. Rm. Fund. III	4	—	4
ORT	118	Surgical Proced. II	4	—	4
ORT	208	Clinical Exper. II	—	24	8
			8	24	16

CLASS DESCRIPTIONS

ORT 81—Microbiology
2 hrs./wk. 2 cr.
General types of micro-organisms relating to aseptic technique.

ORT 104—Operating Room Fundamentals I
7 hrs./wk. 7 cr.
Basic principles used in the operating room by the technician.

ORT 106—Clinical Experience I
11 hrs./wk. 4 cr.
Assembling instruments and supplies for the operating room. Application of the principles of surgical asepsis.

ORT 107—Operating Room Fundamentals Lab II
6 hrs./wk. 2 cr.
Supervised laboratory practice in handling supplies and equipment used during a surgical operation.

ORT 108—Surgical Procedures I
6 hrs./wk. 6 cr.
Fundamental principles guiding the operating room technician in the hospital operating room.

ORT 118—Surgical Procedures II
4 hrs./wk. 4 cr.
Fundamental principles guiding the circulator in the hospital operating room.

ORT 124—Operating Room Fundamentals III
4 hrs./wk. 4 cr.
Developing an understanding of fundamental principles guiding care in recovery room, x-ray, delivery room and emergency room.

ORT 202—Operating Room Fundamentals II
6 hrs./wk. 6 cr.
Care and types of equipment and supplies used in hospital operating room.
Care and collection of specimens.

ORT 201—Operating Room Fundamentals Lab. II
6 hrs./wk. 2 cr.
Supervised laboratory practice of "setting up" for the surgical operative procedure.

ORT 208—Clinical Experience II
24 hrs./wk. 8 cr.
Supervised hospital application of the duties of the operating room technician and the circulator.

PRACTICAL NURSING

The licensed practical nurse gives nursing care under the supervision of a registered professional nurse or physician in simple nursing situations. In more complex situations the licensed practical nurse functions as an assistant to a registered professional nurse.

The LPN provides for the emotional and physical comfort and safety of the patients.

The LPN observes, records and reports to the appropriate person the general physical and mental condition of patients, signs and symptoms which may be indicative of change.

This person performs nursing procedures for which preparation of the LPN has provided the necessary degree of skill and judgment such as: administration of medications and treatments prescribed for the patient; preparation and care of patients receiving specialized treatments; performance of special nursing techniques in caring for patients with communicable diseases; practice of first-aid measures; and preparation and aftercare of equipment for treatments, including sterilization and observation of aseptic techniques. The LPN assists with rehabilitation and health teaching of patients.

Men and women entering this field should be at least 18 years old and in good mental and physical health.

Some desirable personal qualities include trustworthiness, dependability, and working harmoniously with people.

Graduates can expect to receive from $400-$500 a month starting salary.

Certificate

Prepares the graduate to take the State Board Test Pool Examination to become a Licensed Practical Nurse in Utah.

First quarter prerequisite classes must be completed with a "C" or better before registration into subsequent nursing classes. The nursing courses must be taken in numbered sequence with lecture and related lab taken concurrently.

Classes must be passed with a "C" or better. Special application procedure is required and must be initiated through the College Admissions Office. Applicants for the fall quarter will be considered starting March 1, 1975. Applicants for the spring quarter will be considered starting Nov. 1, 1975.

First Quarter (F, S)		Hrs./wk. Lec.	Lab.	Cr.
LS 201	Human Anat. & Phys.	5	—	5
FL 101	Nutrition	3	—	3
PSY 101	Psychology	3	—	3
HO 110	Health Occupations	4	—	4
LS 111	Microbiology	5	—	5
		20	—	20

Approx. cost of Books, Supplies = $90.00

Second Quarter (W, Su)		Hrs./wk. Lec.	Lab.	Cr.
PN 117	Nursing Theory	5	—	5
PN 114	Nursing Lab.	—	24	8
PN 123	Mental Health	3	—	3
PN 119	Pharmacology	3	—	3
		11	24	19

Approx. cost of Books, Supplies and Uniforms = $90.00

Third Quarter (S, F)		Hrs./wk. Lec.	Lab.	Cr.
PN 138	Nursing Theory	12	—	12
PN 139	Nursing Lab.	—	24	8
		12	24	20

Approx. cost of Books, Supplies = $20.00

Fourth Quarter (Su, W)		Hrs./wk. Lec.	Lab.	Cr.
PN 148	Nursing Theory	12	—	12
PN 149	Nursing Lab.	—	24	8
		12	24	20

Approx. cost of Books, Supplies = $85.00

CLASS DESCRIPTIONS

HO 110—Health Occupations
4 hrs./wk. 4 cr.
Introduction of the health worker to medical ethics and legal implications. Basic medical terminology. Personal hygiene and body mechanics. Review of basic mathematics including metric and apothecary systems of measurement. Conversion of one system to the other.

PN 117—Nursing Theory
5 hrs./wk. 5 cr.
Fundamental principles and procedures in nursing care. Rehabilitation and care of the elderly.

PN 114—Nursing Lab
24 hrs./wk. 8 cr.
Supervised laboratory and hospital practice in effective application of fundamental nursing principles and procedures.

PN 119—Pharmacology for Nurses
3 hrs./wk. 3 cr.
Fundamental principles in administration of medicines including supervised application.

PN 123—Mental Health
3 hrs./wk. 3 cr.
Abnormal human behavior problems with emphasis on principles of nursing care in mental illness.

PN 138 & 148—Nursing Theory
12 hrs./wk. 12 cr.
These courses are two interrelated rotations employing the team-teaching approach. They deal with principles of medical-surgical nursing and maternal-child health.

PN 139 & 149—Nursing Lab.
24 hrs./wk. 8 cr.
These are two interrelated clinical rotations dealing with the application of principles of medical-surgical nursing and maternal-child health.

PRE-TECHNICAL DEPARTMENT

A program designed to assist students in upgrading and reviewing basic fundamentals in mathematics, reading, communications, and human relations. It is of particular importance for improving the skills of students desiring entry into trade-technical programs. Additional classes in personal development and exploration of the world of work are also offered.

Students may enter this program at any time and progress at their own rate on an individual basis. They may enter a trade-technical program when attaining entry level requirements for that program.

Students enrolled in a trade-technical program may enroll in a pre-technical class to upgrade their skill in a particular area such as mathematics, reading, etc.

CLASS DESCRIPTIONS

Classes marked with an asterisk are taught in the evening school.

COM 10—Reading Pre-Technical*
5 hrs./wk. 4 cr.
Basic developmental reading program for students reading on a 10th grade level or less. Individual instruction is emphasized.

COM 15—Basic Communication
5 hrs./wk. 4 cr.
Basic course in listening, speaking, and writing. Individualized, and utilizes a multi-media approach.

MTH 20—Math Pre-Vocational*
10 hrs./wk. 7 cr.
Basic operations with whole numbers, fractions, decimals, percentages, proportions, and the metric system. The Sound/Page System is used.

MTH 15—Math Tutoring Lab.*
5 hrs./wk. 1 cr.
Mathematical tutoring program for students enrolled in regular vocational-technical classes.

PSY 10—Zoom*
5 hrs./wk. 3 cr.
A program to build success attitudes, motivation, and goal setting in six facets of living: physical, mental, social, financial, family life, and ethical. Group discussions, movies, records and handouts are used.

PRINTING

A printing student learns the basic entry level of skills in four printing areas: camera, press, copy preparation and printing economics. The student will be able to shoot line copy and halftones in camera, run line copy, halftones, duotones, four-color process in press, basic linotype operations, IBM, MT/ST magnetic tape and Compugraphics phototype cold copy typesetting, layout and design, paste-up, estimating of jobs in the printing field, shop layout, and printing economics. Additionally, fourth quarter student will be placed in a print shop in the cooperative training program.

The printing student works closely with professionals carrying out liaison work between shops and prospective customers. Consequently, the student must be neat in appearance and possess good work habits.

Graduates may expect to receive approximately $2.75-$3.50 starting salary in certain areas. Printing graduates may be placed in 'captive' plants (i.e. businesses which use an internal printing department to print their own forms, leaflets, etc.), or commercial printing firms.

Certificate

First Quarter (F, W, S, Su)		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
BUS 70	Typewriting	—	5	2
MTH 50	Voc. Math	5	—	5
		10	25	19

Approx. cost of Books, Tools, Supplies = $110.00

Second Quarter (F, W, S, Su)		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
PRT 217	Printing Econ.	5	—	5
		10	20	17

Approx. cost of Books, Tools, Supplies = $40.00

Third Quarter (F, W, S, Su)		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
ECN 55	Applied Economics	3	—	3
		8	20	15

Approx. cost of Books, Tools, Supplies = $30.00

Fourth Quarter (F, W, S, Su)		Hrs./wk. Lec.	Lab.	Cr.
PRT 219	Occ. Training or			
PRT 218	Specialization	—	20	7
COM 55	Communications	5	—	5
PSY 55	Human Relations	3	—	3
		8	20	15

Approx. cost of Books, Tools, Supplies = $30.00

CLASS DESCRIPTIONS

Classes marked with an asterisk are taught in the evening school.

BUS 70—Typewriting*
5 hrs./wk. 2 cr.
Introduction to keyboard and correct typing techniques.

PRT 42—Bindery Operator*
6 hrs./wk. 0 cr.
Training in folding machine, cutter, binding operation, and associated hand skills—padding, colating, numbering.

PRT 50—Offset Printing & Duplicating I*
6 hrs./wk. 0 cr.
Introduction to offset presswork, feeders and delivery systems, pressure adjustments, ink and water balance, printing of line and halftones, paper and inks.

PRT 51—Offset Camera—Black & White*
6 hrs./wk. 0 cr.
Basic course in operation of cameras, processing film, calibrating screens, shooting line and halftone negatives. Includes masking and platemaking.

PRT 52—Cold Copy Typesetting Preparation and Pasteup*
6 hrs./wk. 0 cr.
Basic operation of IBM and Compugraphics typesetting equipment for camera ready pasteup. Includes layout and type balance.

PRT 53—Printing Management*
4 hrs./wk. 0 cr.
Printing plant operation, utilization of equipment, work flow, plant layout, and design. Emphasis on pricing and estimating jobs using the Franklin Catalog.

PRT 60—Offset Printing & Duplicating II*
6 hrs./wk. 0 cr.
Continuation in depth of subjects taught in PRT 50 including register printing of line and halftones. Prerequisite: PRT 50.

PRT 61—Offset Camera—Color*
6 hrs./wk. 0 cr.
Color separation of art form transparencies and reflective copy. Masking and plate processing for four color process printing. Prerequisite: PRT 60.

PRT 70—Photography*
6 hrs./wk. 0 cr.
Basic course in understanding of cameras, lighting and darkroom procedures. Camera aperture settings, shutter speeds and films. Outdoor lighting, flash, strobe, flash fill-in and multiple lighting. Darkroom work included.

PRT 71—Offset Printing & Duplicating III*
6 hrs./wk. 0 cr.
Continuation of PRT 61 with emphasis on fundamentals of 4 color printing. Prerequisite: PRT 61.

PRT 72—Offset Camera—Color*
6 hrs./wk. 0 cr.
Continuation of PRT 61 with more emphasis on color separation. Prerequisite: PRT 61.

PRT 73—Color Slide Photography*
6 hrs./wk. 0 cr.
Basic instruction in photo equipment techniques and skills needed to produce color slides and color transparencies.

PRT 74—Intermediate Photography*
6 hrs./wk. 0 cr.
Assignments in portraiture, action, landscape, night, table top, animal, nature, and photo essay photography. Darkroom display prints. Prerequisite: PRT 70.

PRT 75—Making Better Movies*
5 hrs./wk. 0 cr.
Basic photography course in color to help beginners and amateurs in basic camera mechanics, exposure determinations, selection of films, picture quality, techniques to improve movies.

PRT 104—Photography*
4 hrs./wk. 2 cr.
Basic course in understanding and use of cameras, lighting and darkroom procedures. Darkroom work included.

PRT 107—Printing-Commercial Art
3 hrs./wk. 2 cr.
Utilization of commercial art layouts, drawings and photographs in making plates, film negatives, and color proofs.

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 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 IBM and Compugraphics cold copy typesetting equipment and camera ready pasteup.

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

PRT 125, 135—Printing Theory
5 hrs./wk. 2 cr.
Theory of copy preparation by use of IBM and Compugraphics typesetting, photography and advanced use of letterpress and offset presses.

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

PRT 130—Copy Preparation
5 hrs./wk. 2 cr.
Advanced IBM and Compugraphics cold copy typesetting and pasteup.

PRT 134—Camera and Platemaking
5 hrs./wk. 2 cr.
Advanced screen photography and screen platemaking.

PRT 138—Presswork
10 hrs./wk. 3 cr.
Advanced offset and letterpress pressmanship, with emphasis on screen presswork.

PRT 217—Printing Economics
5 hrs./wk. 5 cr.
Study of printing plant operation, utilization of equipment, work flow, plant layout and design. Emphasis on pricing and estimating printing jobs.

PRT 218—Specialization Training
20 hrs./wk. 7 cr.
Special emphasis training by primary area. Copy Prep., Camera and Platemaking or Presswork. Special problems and application of techniques.

PRT 219—Occupational Training
20 hrs./wk. 7 cr.
Work training held on the job features placement of students with printers for experience in their specialty.

REFRIGERATION & AIR CONDITIONING

A refrigeration air-conditioning mechanic is a skilled technician who must be able to install, maintain and service all types of refrigeration and air-conditioning equipment.

This person must have or develop manipulative skills in copper pipe fitting, bending and installation, soft soldering, silfosing, silverbrazing, threading and installing iron pipe, use of air torch and oxy-acetylene torch, and the use of a wide variety of hand tools and power tools.

Such a mechanic must be able to read blueprints and circuit diagrams, work with electricity and perform electrical services, work in awkward and cramped positions and on ladders. Usually such a person also must be able to drive small trucks, maintain stock of parts and equipment, and handle necessary paperwork. It is necessary to be in good physical condition and be able to lift, reach, stoop, pull and push. Many mechanics work extended hours, and many work without supervision.

Job opportunities have been excellent. Trends suggest that they will remain so in the future. Graduates can expect to receive from $3.00 to $4.00 per hour starting salary.

Certificate

First Quarter (F)	Hrs./wk. Lec.	Lab.	Cr.
REF 110 Basic Refrig. Sys.	—	15	5
REF 111 Fund. of Refrig.	5	—	5
MTH 60 Applied Math	5	—	5
ELC 104 AC-DC Fund.	5	—	5
	15	15	20

Approx. cost of Books, Tools, Supplies = $220.00

Second Quarter (W)	Hrs./wk. Lec.	Lab.	Cr.
REF 120 Refrig. Systems	—	15	5
REF 121 Refrig. Systems	5	—	5
ELC 105 AC-DC Circuits	5	—	5
ELC 106 Solid State Fund.	5	—	5
	15	15	20

Approx. cost of Books, Tools, Supplies = $20.00

Third Quarter (S)	Hrs./wk. Lec.	Lab.	Cr.
REF 130 Commerc. Service	—	15	5
REF 131 Auto-Controls Sys.	5	—	5
REF 105 Piping Practice	5	—	5
ELC 107 Practical Wiring	5	—	5
	15	15	20

Approx. cost of Books, Tools, Supplies = $20.00

CLASS DESCRIPTIONS

Classes marked with an asterisk are taught in the evening school.

REF 55-56-57—Refrigeration and Air Conditioning*
6 hrs./wk. 0 cr.
Refrigeration principles and electricity. Emphasis on basic concepts of single phase hermetic units, relays, overloads and electrical diagnosis.

REF 105—Piping Practices
5 hrs./wk. 5 cr.
Refrigeration piping and specifications in commercial construction.

REF 110—Basic Refrigeration Systems
15 hrs./wk. 5 cr.
Refrigerants, domestic refrigerators and freezer systems, including building of a complete individual system.

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 120—Refrigeration Systems
15 hrs./wk. 5 cr.
Continuation of REF 110, including commercial applications, cooling systems and cooling system applications. Selected experiments on individual systems.

REF 121—Refrigeration Systems
5 hrs./wk. 5 cr.
Characteristics and uses of different types of refrigeration systems.

REF 130—Commercial Service
15 hrs./wk. 5 cr.
Air conditioning, heating and humidifying, cooling and dehumidifying, cleaning systems, controls and instructions. Installation of equipment.

REF 131—Automatic Control Systems
5 hrs./wk. 5 cr.
Theory and application of control systems used in all types of refrigeration systems.

ELC 104—AC-DC Fundamentals
5 hrs./wk. 5 cr.
Electron theory, Ohms Law and its application, equivalent circuits, magnetism, motors, generators, transformers and instruments.

ELC 105—AC-DC Circuits
5 hrs./wk. 5 cr.
Electrical circuits as related to power mechanisms. Includes theory of operation, maintenance and overhaul of motors, transformers, and basic controls.

ELC 106—Solid State Fundamentals
5 hrs./wk. 5 cr.
Theory and operation of semi-conductors and electronic control devices used in refrigeration and major appliances.

ELC 107—Practical Wiring & Controls
5 hrs./wk. 5 cr.
Requirements for power service wiring refrigeration and air-conditioning controls, and application to the National Electric Code.

SKILLS CENTER

The Skills Center offers students who qualify, the opportunity to receive short-term (usually 6 to 9 months) vocational training. A variety of courses are offered: Auto Mechanics, Diesel Mechanics, Welding, Auto Body and Fender, Food Service, and Clerical. G.E.D. Preparation, refresher Math and Reading classes are also available for students who need to improve their basic skills.

All classes are individualized, and students progress at their own speed. Upon successful completion of any of the Skills Center courses, students can receive high school credit and a certificate of achievement. However, credit is not transferable to the regular college program. The emphasis is on training for immediate employment.

Scheduling of all courses is on a weekly open-entry, open-exit basis and does not follow the college's quarter program.

Special flexible programs that are offered periodically include: Auto Parts, Material Handlers, Insurance Upgrade Classes, Nurses Aide, Transmission Specialists, etc.

For further information about the Skills Center call 328-8521, or visit the Center at 431 South 6th East, Salt Lake City, Utah 84102.

SMALL INDUSTRIAL ENGINES & RECREATIONAL VEHICLE MAINTENANCE

Mechanics in this field do a variety of jobs. They may be small gasoline repair experts, outboard motor specialists, motorcycle mechanics or mechanics for snowmobiles and other similar recreational vehicles. The mechanic must understand all the electrical and mechanical components of the above equipment.

Most employment will come from recreational equipment dealers, lawn mower shops, etc., where this type of equipment is sold.

The requirements of this trade indicate that a candidate should be strong in mechanical aptitude and have a desire to work to precision specifications.

The student will acquire a basic set of mechanics hand tools on entering training, and adds to them while progressing in the field. Normally the employer expects the mechanic to have a kit of tools.

With the tremendous increase in leisure time and the emphasis on sporting equipment, employment in this field is extremely promising.

Certificate

First Quarter (F)			Hrs./wk. Lec.	Lab.	Cr.
RVM	110	2C & 4C Eng Rep.	—	20	7
RVM	111	2C & 4C Eng. Thry.	5	—	5
MTH	50	Vocational Math	5	—	5
			10	20	17

Approx. cost of Books, Tools, Supplies = $190.00

Second Quarter (W)			Hrs./wk. Lec.	Lab.	Cr.
RVM	130	Snwm. & Mcycl. Lab	—	20	7
RVM	131	Snwm. & Mcycl. Thry.	5	—	5
PHY	55	Applied Physics	5	—	5
			10	20	17

Approx. cost of Books, Tools, Supplies = $15.00

Third Quarter (S)			Hrs./wk. Lec.	Lab.	Cr.
RVM	120	Otbrd. Mtr. Dr. Sys.	—	20	7
RVM	121	Otbrd. Mtr. Dr. Thry.	5	—	5
COM	55	Communications	5	—	5
			10	20	17

Approx. cost of Books, Tools, Supplies = $15.00

CLASS DESCRIPTIONS

Classes marked with an asterisk are taught in the evening school.

RVM 50—Small Engine Repair - 4-Cycle*
6 hrs./wk. 0 cr.
Theory of small 4 cycle gas engines, uses of tools, tuneup, and overhaul operations for small one-cylinder Briggs & Stratton and Tecumseh engines.

RVM 51—Small Engine Repair - 2-Cycle*
6 hrs./wk. 0 cr.
Theory and repair of small 2-cycle gasoline engines, uses of tools, tuneup and overhaul operations to properly repair them. Snowmobiles, chain saws, motorcycles and outboard motors all fit in this category.

RVM 53—Motorcycle Repair & Service*
6 hrs./wk. 0 cr.
Principles of operation and repair of 2 and 4 cycle motorcycle engines, lubrication and fuel systems and basic tuneup procedures.

RVM 110—Two & Four Cycle Engine Repair
20 hrs./wk. 7 cr.
Procedures and practices used in repairing small two and four cycle and small, multi-cyclinder industrial engines.

RVM 111—Two & Four Cycle Engine Theory
5 hrs./wk. 5 cr.
Principles of operation of carburetion, ignition, oiling, cooling and governor systems of small two and four cycle engines; also small, multi-cylinder industrial engines.

RVM 120—Outboard Motor & Drive Systems
20 hrs./wk. 7 cr.
Practices used to tune, maintain, overhaul, store and rig outboard motors, transmissions and lower units.

RVM 121—Outboard Motor & Drive Systems Theory
5 hrs./wk. 5 cr.
Principles of operation of multi-cylinder two cycle engines, drive systems, transmissions, magnetos and carburetion used in outboard motors.

RVM 130—Snowmobiles & Motorcycles Lab.
20 hrs./wk. 7 cr.
Service, overhaul, and maintenance operations used in snowmobiles and motorcycle engines, transmissions and chassis, and chain saws.

RVM 131—Snowmobile & Motorcycle Theory
5 hrs./wk. 5 cr.
Principles of operation of four cycle engines and high performance two cycle engines, multispeed constant mesh gear transmissions, belt transmissions, carburetion systems, lubrication systems and dynamometer operation. Also chain saw operation.

STENO

The Stenographic Course develops shorthand and typewriting skills from the very beginning. The student needs no prerequisite, although a good English grammar background is most desirable and helpful. Along with shorthand and typing classes taken each quarter the stenographer will take Business Math, Business English, Office Machines, Secretarial Training, Filing, and Accounting. On completion of this training the student will be qualified to select from many job opportunities, or may wish to go another year and enter the Executive Secretary Program and obtain an AAS degree. Beginning salaries range from $400 to $500 a month.

Certificate

An alternate sequence of typing beginning with Intermediate Typing may be approved.

First Quarter (F, W, S)	Hrs./wk. Lec.	Lab.	Cr.
BUS 101 Begin. Typewriting	5	5	4
BUS 185 Begin. Shorthand†	5	5	7
ENG 80 Business English*	3	2	3
MTH 80 Business Math*	3	2	3
	16	14	17

Approx. cost of Books, Tools, Supplies = $85.00

Second Quarter (W, S, Su)	Hrs./wk. Lec.	Lab.	Cr.
BUS 102 Intermediate Typing	5	5	4
BUS 106 Shorthand†	5	—	5
BUS 107 Transcription†	2	3	3
BUS 131 Office Machines	—	5	3
BUS 155 Records Manage.	3	2	3
	1	15	18

Approx. cost of Books, Tools, Supplies = $40.00

Third Quarter (S, Su)	Hrs./wk. Lec.	Lab.	Cr.
BUS 103 Advanced Typing	5	5	4
BUS 108 Shorthand†	5	—	5
BUS 109 Transcription†	2	3	3
BUS 136 Secretarial Proced.	3	—	3
BUS 259 Exec. Acctg. Prac.	3	2	3
	18	10	18

Supplies = $60.00

†An alternate sequence of Shorthand and Dictation in Machine Shorthand may be followed. BUS 186, 177 & 187, 178 & 188.

CLASS DESCRIPTIONS

Classes marked with an asterisk are taught in the evening school.

BUS 101—Beginning Typewriting
10 hrs./wk. 4 cr.
Introduction to keyboard, correct typing techniques, speed and accuracy building.

BUS 102—Intermediate Typing
10 hrs./wk. 4 cr.
Keyboard drills; speed and accuracy building; improving techniques; and introduction to production typing. Prerequisite: completion of BUS 101 or equivalent—30 WPM.

BUS 103—Advanced Typing
10 hrs./wk. 4 cr.
Refining of techniques, building higher speeds and accuracy. Production typing. Duplicating machines. Prerequisite: BUS 102 or equivalent—45 WPM.

BUS 104—Advanced Production Typing
10 hrs./wk. 4 cr.
Medical and legal typing, correspondence, records, indexing, filing, manuscripts, reports, and dictaphone. Prerequisite: BUS 103 or equivalent—55 WPM.

BUS 106—Shorthand
5 hrs./wk. 5 cr.
Review of theory. Dictation and speed building. Continuation of BUS 185. Specialized dictation and new material.

BUS 107—Transcription
5 hrs./wk. 3 cr.
Introduction to transcription of letters on the typewriter. Review English fundamentals necessary for mailable letters.

BUS 108—Shorthand
5 hrs./wk. 5 cr.
Speed building to achieve an acceptable speed for employment. Continuation of BUS 106. New material, specialized dictation and theory reinforcement.

BUS 109—Transcription
5 hrs./wk. 3 cr.
New material dictation and transcription with more advanced materials and specialized vocabulary. Continuation of BUS 107.

BUS 131—Office Machines*
5 hrs./wk. 3 cr.
Introduction to ten-key adding machine, electronic printing calculator, electronic display calculator, rotary calculator, ten-key adding listing machine, and full keyboard machine. Emphasis on proficiency achievement and working with business forms.

BUS 136—Secretarial Training
3 hrs./wk. 3 cr.
Application and interview training, office procedures, duties of the receptionist, clerk and secretary. Emphasis on attitudes.

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

BUS 185—Beginning Shorthand
10 hrs./wk. 7 cr.
Introduction to theory. Dictation from practiced material. Preview of new material for dictation and transcription practice.

BUS 186—Court Reporting I
10 hrs./wk. 7 cr.
Stenotype Theory: Keyboard; "touch shorthand" technique; phonetics and note reading; spelling by sound; stress on vowels, consonants and diphthongs; numerals; punctuation; fundamentals of writing by sound; oral reading of Steno-type notes. Beginning speed practice. Dictation 40 to 60 WPM.

BUS 177—Court Reporting II*
5 hrs./wk. 5 cr.
Skill Development: Theory review; high frequency words and phrases; building writing vocabulary; speed building practice. Dictation 60 to 100 WPM. OPEN ENTRY. Prerequisite: BUS 186 or equivalent.

BUS 187—Transcription
5 hrs./wk. 3 cr.
Setup of notes; coordination of typing and English skills; sight reading; sentence and paragraph drills, proofreading. To be taken concurrently with BUS 177.

BUS 178—Court Reporting III*
5 hrs./wk. 5 cr.
Skill Development: Theory reinforcement; additional short forms and phrases; common business and industrial terms: accounting, sales, insurance, banking and investments, publishing, printing, advertising, transportation, education, engineering and communications. Speed building practice. Dictation 100 to 120 WPM. OPEN ENTRY. Prerequisite: BUS 177 or equivalent.

BUS 188—Transcription
5 hrs./wk. 3 cr.
New material transcription to level of vocationally acceptable standards. A continuation of BUS 187. To be taken concurrently with BUS 178.

BUS 259—Executive Accounting Practice
5 hrs./wk. 3 cr.
Medical or legal practice sets, in preparation for general recordkeeping in the professional office.

TRANSPORTATION MANAGEMENT

The Transportation certificate program will prepare the student for employment in middle-management by a highway transportation company or by a shipper of freight. The graduate may become a dispatcher, billing clerk, dock foreman, dock worker, safety supervisor, log clerk, claims agent or a freight agent. In addition to typing, office machines and basic accounting skills, acquired through this program, the student also becomes knowledgeable in the fields of economic and safety regulations of transportation and is usually able to determine whether a company is complying with numerous governing rules and regulations. Employment opportunities are excellent. Wage rates are usually at or above rates of other industries.

The graduate with the AAS Degree will be prepared to work into upper-middle management with either a carrier or a shipper of freight. In addition to the skills enumerated in the Certificate program, the student will be able to interpret freight tariffs, work with personnel programs and to work knowledgeably with other modes of transportation — including trucks, planes, trains and ships.

Employment opportunities are excellent. Utah is an important transportation center for three modes (highway, trains, and air) and intermodal connections with ships is becoming more significant. Wage rates are usually at or above rates of other industries.

Certificate, Diploma, A.A.S. Degree

First Quarter (F, W)		Hrs./wk. Lec.	Lab.	Cr.
BUS 131	Office Machines	—	5	3
BUS 180	Intro. to Business	4	—	4
BUS 197	Highway Trans. I	3	—	3
MTH 138	Consumer Math	5	—	5
		12	5	15

Approx. cost of Books, Tools, Supplies = $23.00

Second Quarter (W, S)		Hrs./wk. Lec.	Lab.	Cr.
BUS 160	Elem. Accounting I	5	5	4
BUS 198	Highway Trans. II	3	—	3
DP 101	Basic Comp. Conc.	2	3	3
ECN 55	Applied Economics*	3	—	3
ENG 80	Business English*	3	2	3
		16	10	16

Approx. cost of Books, Tools, Supplies = $37.00

Third Quarter (S, Su)		Hrs./wk. Lec.	Lab.	Cr.
BUS 70	Typewriting	—	5	2
BUS 156	Business Law I	5	—	5
BUS 199	Highway Trans. III	3	—	3
DP 201	Automated Com.	3	2	4
ENG 95	Bus. Report Writing*	3	—	3
		14	7	17

Approx. cost of Books, Tools, Supplies = $35.00

Fourth Quarter (F, Su)		Hrs./wk. Lec.	Lab.	Cr.
BUS 161	Elem. Accounting II	5	5	4
BUS 284	Small Bus. Manage.	5	—	5
BUS 297	Rates & Tariffs	3	—	3
MTH 101	Intro. to Col. Algebra	5	—	5
		18	5	17

Approx. cost of Books, Tools, Supplies = $35.00

Fifth Quarter (W)		Hrs./wk. Lec.	Lab.	Cr.
BUS 162	Elem. Accounting III	5	5	4
BUS 286	Pers. & Labor Rel.	5	—	5
BUS 298	Commercial Geog.	3	—	3
PSY 55	Human Relations*	3	—	3
		16	5	15

Approx. cost of Books, Tools, Supplies = $35.00

Sixth Quarter (S)		Hrs./wk. Lec.	Lab.	Cr.
BUS 288	Managerial Acctg.	5	—	5
BUS 299	Planes, Trains, Ships	3	—	3
CIV 55	Vocational Civics*	3	—	3
Electives†		6	—	6
		17	0	17

Approx. cost of Books, Tools, Supplies = $30.00

†Electives are chosen from the Business Division and must have Division Head approval.

*This General Education class is required for the Diploma. For the A.A.S. Degree a minimum of 24 credit hours in General Education subjects is required. These classes must include English 101 and 21 additional credit hours in at least three of the following areas:

(HU) Humanities
(LS) Life Sciences
(PS) Physical Sciences
(SS) Social Sciences

Often more than one such class will need to be scheduled each quarter in place of the asterisked classes above, or in addition where no such General Education classes are listed in a quarter.

The following classes are available for the A.A.S. Degree:

English:

ENG 101	3	0	3	(F,W,S,Su)
ENG 102	3	0	3	(F,W,S,Su)
ENG 103	3	0	3	(F,W,S,Su)

Humanities:

ADT 134	3	0	3	(S,Su)
CA 141	3	0	3	(S,Su)
ENG 130	3	0	3	(F,W,S,Su)
ENG 160	3	0	3	(F,W,S)
ENG 251	3	0	3	(S)

Life Sciences:

LS 111	4	2	5	(F,S,Su)
LS 201	5	0	5	(F,S,Su)

Physical Science:

CEM 101	5	2	5	(F,W,S,Su)
MTH 101	5	0	5	(F,W,S,Su)
MTH 105	5	0	5	(F,W,S,Su)
MTH 106	5	0	5	(F,W,S,Su)
MTH 138	5	0	5	(F,W,S,Su)
PHY 101	5	0	5	(F,W,S,Su)
PHY 105	5	0	5	(F,W,S,Su)
PHY 117	5	1	5	(F,W,S)

PHY	118	5 1 5	(W,S)
PHY	119	5 1 5	(S,Su)

Social Science:

ECN	101	3 0 3	(F,W,S,Su)
PS	110	3 0 3	(F,W,S,Su)
PSY	101	3 0 3	(F,W,S,Su)
SOC	101	3 0 3	(F,W,S,Su)

CLASS DESCRIPTIONS

Classes marked with an asterisk are taught in the evening school.

BUS 70—Typewriting*
5 hrs./wk. 2 cr.
Introduction to keyboard and correct typing techniques.

BUS 131—Office Machines*
5 hrs./wk. 3 cr.
Introduction to ten-key adding machine, electronic printing calculator, electronic display calculator, rotary calculator, ten-key adding listing machine, and full keyboard machine. Emphasis on proficiency achievement and working with business forms.

BUS 156—Business Law I*
5 hrs./wk. 5 cr.
Introduction ot business law, contracts, agency and employment, commercial paper, bailments, sales, security devices, and truth-in-lending.

BUS 160—Elementary Accounting I*
10 hrs./wk. 4 cr.
Basic structure of accounting. Understanding the asset, liability, capital and expense accounts. The accounting cycle, special journals, receivables, payables, inventory. Includes worksheet, adjusting and closing entries.

BUS 161—Elementary Accounting II*
10 hrs./wk. 4 cr.
Study of deferrals, accruals, tangible and intangible assets, cash control, payroll and partnerships.

BUS 162—Elementary Accounting III*
10 hrs./wk. 4 cr.
Study of corporations, branch accounting, manufacturing and cost accounting. Includes study of funds and cash flow.

BUS 180—Introduction to Business*
4 hrs./wk. 4 cr.
Overview of the business world and to assist the student in making an occupational choice.

BUS 197—Highway Transportation I*
3 hrs./wk. 3 cr.
Safety regulations and operations. Vehicle nomenclature and design. Economics of vehicle operations.

BUS 198—Highway Transportation II*
3 hrs./wk. 3 cr.
Economic regulations versus free enterprise. Federal versus state regulations. Operating authority. Taxation. Tariffs and rates (basic only). Motor freight classification.

BUS 199—Highway Transportation III*
3 hrs./wk. 3 cr.
Company operations: Financing, organization, labor, insurance, accident investigations, freight movement and control, claims, communication. Intercompany relationships, viz leasing, interlining, cooperative efforts and public relations.

BUS 284—Small Business Management*
5 hrs./wk. 5 cr.
Introduction to problems of the small business man—borrowing, taxes, purchasing and personnel.

BUS 286—Personnel & Labor Relations*
5 hrs./wk. 5 cr.
Introduction to problems associated with individual employees. Complex problems associated with organized labor.

BUS 288—Managerial Accounting*
5 hrs./wk. 5 cr.
Emphasizes management uses of accounting, but also considers financial accounting. Underlines the accountant's role in an organization: scorekeeping, attention directing, and problem solving.

BUS 297—Rates and Tariffs*
3 hrs./wk. 3 cr.
Motor carrier tariff rules and regulations. Rate computations. Freight Classifications.

BUS 298—Commercial Geography*
3 hrs./wk. 3 cr.
Economic implications of geography. Location analysis. Trading area patterns. Transportation networks.

BUS 299—Planes, Trains and Ships*
3 hrs./wk. 3 cr.
Government Regulation. Operations.

DP 101—Basic Computer Concepts*
5 hrs./wk. 3 cr.
Terminology, syntax, and basic concepts pertaining to computers. Introduction to programming languages. BUS 70 taken concurrently or type skill for satisfactory key punch performance.

DP 201—Automated Communications*
5 hrs./wk. 4 cr.
Theory and applications in Data layout, Data input to computer terminals in applications such as accounts receivable and payable, payroll, general ledger, inventory, reservations, etc., survey and study of mini-computers use, cost, trends.

WELDING

Students are trained to enter the field of welding. Arc, acetylene and inert gas welding techniques are taught. A journeyman welder is capable of welding in all positions of ferrous and non-ferrous metals. Such a person operates shears, rolls, drills and breaks. The welder is involved in layout, cutting and forming metals.

A welder determines electrodes and filler metal to be used. The graduate understands and works from blueprints and written procedures and knows the weld symbols.

Welders may be promoted to inspectors or planners. Or a welder might be transferred as a maintenance person or millwright.

The welder's work is performed in sitting, standing, crouching and kneeling positions. The person may be required to lift and carry objects of 70 pounds in weight. Good eyesight is essential.

Welders receive from $3.00 to $4.00 per hour as a starting wage, with top scale of $8.00 per hour in the Salt Lake Valley.

Certificate, Diploma, A.A.S. Degree

First Quarter (F, W)		Hrs./wk. Lec.	Lab.	Cr.
WLD 112	Wld. Pr. Arc. & Acty.	—	20	7
WLD 111	Fund. of Welding	5	—	5
MTH 50	Vocational Math	5	—	5
		10	20	17

Approx. cost of Books, Tools, Supplies = $180.00

Second Quarter (W, S)		Hrs./wk. Lec.	Lab.	Cr.
WLD 122	Wld. Pr. Arc. & Acty.	—	20	7
WLD 121	Fund. of Welding	5	—	5
MTH 61	Math for Welders	5	—	5
		10	20	17

Approx. cost of Books, Tools, Supplies = $25.00

Third Quarter (S, Su)		Hrs./wk. Lec.	Lab.	Cr.
WLD 130	Wld. Pr. Arc. & Acty.	—	20	7
WLD 131	Fund. of Welding	5	—	5
WLD 138	BPR for Welders	5	—	5
		10	20	17

Approx. cost of Books, Tools, Supplies = $20.00

Fourth Quarter (F)		Hrs./wk. Lec.	Lab.	Cr.
WLD 210	Adv. Weld. Practice	—	15	5
WLD 212	Metallurgy for Weld. Ferrous Metals	5	—	5
WLD 213	Proc. for Pipe Weld.	3	2	4
COM 55	Communications	5	—	5
		13	17	19

Approx. cost of Books, Tools, Supplies = $30.00

Fifth Quarter (W)		Hrs./wk. Lec.	Lab.	Cr.
WLD 230	Adv. Weld. Practice	—	15	5
WLD 232	Weld. Insp. Meth.	2	3	3
WLD 233	Inert Gas Weld.	5	—	5
PHY 55	Applied Physics	5	—	5
		12	18	18

Approx. cost of Books, Tools, Supplies = $30.00

Sixth Quarter (S)		Hrs./wk. Lec.	Lab.	Cr.
WLD 220	Adv. Weld. Practice	—	15	5
WLD 223	Spec. Welds. & Fab.	3	2	4
WLD 228	Weld. Estimating	2	3	3
PSY 55	Human Relations	3	—	3
		8	20	15

Approx. cost of Books, Tools, Supplies = $25.00

*This General Education class is required for the Diploma. For the A.A.S. Degree a minimum of 24 credit hours in General

Education subjects is required. These classes must include English 101 and 21 additional credit hours in at least three of the following areas:

(HU) Humanities
(LS) Life Sciences
(PS) Physical Sciences
(SS) Social Sciences

Often more than one such class will need to be scheduled each quarter in place of the asterisked classes above, or in addition where no such General Education classes are listed in a quarter.

The following classes are available for the A.A.S. Degree:

English:

ENG	101	3 0 3	(F,W,S,Su)
ENG	102	3 0 3	(F,W,S,Su)
ENG	103	3 0 3	(F,W,S,Su)

Humanities:

ADT	134	3 0 3	(S,Su)
CA	141	3 0 3	(S,Su)
ENG	130	3 0 3	(F,W,S,Su)
ENG	160	3 0 3	(F,W,S)
ENG	251	3 0 3	(S)

Life Sciences:

LS	111	4 2 5	(F,S,Su)
LS	201	5 0 5	(F,S,Su)

Physical Science:

CEM	101	5 2 5	(F,W,S,Su)
MTH	101	5 0 5	(F,W,S,Su)
MTH	105	5 0 5	(F,W,S,Su)
MTH	106	5 0 5	(F,W,S,Su)
MTH	138	5 0 5	(F,W,S,Su)
PHY	101	5 0 5	(F,W,S,Su)
PHY	105	5 0 5	(F,W,S,Su)
PHY	117	5 1 5	(F,W,S)
PHY	118	5 1 5	(W,S)
PHY	119	5 1 5	(S,Su)

Social Science:

ECN	101	3 0 3	(F,W,S,Su)
PS	110	3 0 3	(F,W,S,Su)
PSY	101	3 0 3	(F,W,S,Su)
SOC	101	3 0 3	(F,W,S,Su)

CLASS DESCRIPTIONS

Classes marked with an asterisk are taught in the evening school.

WLD 50—Fundamentals of Arc Welding*
6 hrs./wk. 0 cr.
Study of arc welding equipment and electrodes. Practice of arc welding lap and tee joints in all positions.

WLD 51—Fundamentals of Oxy-Actelylene Welding*
6 hrs./wk. 0 cr.
Theory and practice of oxygen and acetylene welding, cutting, and safety. Practice of lap and tee joints in all positions.

WLD 52—3rd Quarter Welding*
6 hrs./wk. 0 cr.
Welding procedures and techniques. Fundamentals of blueprint reading. Arc air cutting. Oxy-acetylene practice. Arc welding of corner and butt joints in all positions. Prerequisite: WLD 50 and 51.

WLD 53—4th Quarter Welding*
6 hrs./wk. 0 cr.
Testing and inspection of welds. A.S.M.E. test procedures. Weld symbols. Arc welding butt joints in all positions. M.I.G. (wire feed) welding of mild steel. Study of metal properties.
Prerequisite: WLD 52.

WLD 54—Inert Gas Arc Welding*
6 hrs./wk. 0 cr.
Theory and practice of inert gas processes on steel, aluminum and stainless steels. M.I.G. and T.I.G. processes are taught.
Prerequisite: WLD 53.

WLD 105—Welding Related
5 hrs./wk. 3 cr.
Basic principles of arc and acetylene welding including flat and horizontal welds; also brazing and cutting techniques.

WLD 106—Welding Related
5 hrs./wk. 3 cr.
Intermediate principles of arc and acteylene welding. Practice in all welding positions. Prerequisite: WLD 105.

WLD 111—Fundamentals of Welding
5 hrs./wk. 5 cr.
Basic theory of the oxy-acetylene process, basic theory of arc welding electricity and arc welding machines and equipment. Theory of general welding procedures of mild steel.

WLD 112—Welding Practices-Arc & Acetylene
20 hrs./wk. 7 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 121—Fundamentals of Welding
5 hrs./wk. 5 cr.
Theory of oxy-acetylene cutting and equipment, general welding procedures of mild steel in all positions. Complete study of electrodes and filler metals.

WLD 122—Welding Practices-Arc & Acetylene
20 hrs./wk. 7 cr.
Laboratory application of principles of WLD 121. Practice in oxy-acetylene and arc air cutting. Acetylene welding and fabrication. Arc welding practice in all positions.

WLD 130—Welding Practices-Arc & Acetylene
20 hrs./wk. 7 cr.
Acetylene machine cutting. Welding of fillet welds. Arc welding of butt joints in all positions. Physical testing and inspection of welds. Metal fabrication projects.

WLD 131—Fundamentals of Welding
5 hrs./wk. 5 cr.
Theory of properties of metals. Familiarization to application of major weld joints. Emphasis on welding safety. Procedures of welding and testing of mild steel. Also basics of braze-welding.

WLD 138—Blueprint Reading for Welders
5 hrs./wk. 3 cr.
Basic study of blueprint reading combined with special work on welding symbols and welding terms.

WLD 210—Advanced Welding Practice
15 hrs./wk. 5 cr.
Laboratory application of principles covered in WLD 213. Includes approved fabrication projects.

WLD 212—Welding Ferrous Metals
5 hrs./wk. 5 cr.
Fundamentals of metallurgy for welding carbon steels.

WLD 213—Pipe Welding Procedures
5 hrs./wk. 4 cr.
Procedures and instructions for pipe welding and ASME tests. Covers arc, acetylene, wire feed methods and advanced braze welding.

WLD 220—Advanced Welding Processes
15 hrs./wk. 5 cr.
Advanced welding practice in use of wire feed, solid wire and cored wire. Specialty welds for stainless steel, cast iron, filling holes, etc. Includes fabrication projects.

WLD 223—Specialty Welds and Fabrication Procedures
5 hrs./wk. 4 cr.
Theory of welding with solid and cored wire. Arc welding cast iron, stainless steel and other ferrous and non-ferrous metals common to the trade. Fabrication planning projects as assigned or approved.

WLD 228—Welding Estimating
5 hrs./wk. 3 cr.
Estimating welding costs and economics of welding. Includes welding symbols, layout, completing bills of materials, and fabrication procedures.

WLD 230—Advanced Welding Processes
15 hrs./wk. 5 cr.
Laboratory application of principles covered in WLD 233. Practical application of inert gas welding of ferrous and non-ferrous metals. Includes approved and assigned fabrication projects.

WLD 232—Welding & Inspection Methods and Practices
5 hrs./wk. 3 cr.
Destructive and non-destructive testing and practical application of inspection methods.

WLD 233—Inert Gas Welding
5 hrs./wk. 5 cr.
Gas tungsten arc welding of ferrous and non-ferrous metals. Procedures and instructions for WLD 230.

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WALTER L. WHITE	Graphic Arts
ULRICH E. ZEISLER	Electronics

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FLORA CHAPPUIS	Assistant Librarian
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LARRY CHRISTENSEN	Admissions Counselor
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WILLIAM W. MEANS	Skills Center Counselor
FLORENCE PIACITELLI	Records and Reports Specialist
IRIS ROACH	Financial Aids Director
DEAN SARGENT	Purchasing Agent
MICHAEL J. SHARP	Skills Center Job Developer
GRANT W. SMART	Veterans Affairs Coordinator
ALICE B. SMITH	Admissions Counselor
WILLIAM C. THOMPSON	Skills Center Counselor

FACULTY

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

ANDERSON, Linda (1972) ..... **Practical Nursing**
Experience: Staff and Head Nurse, Medical-Surgical, Nebraska Methodist Hospital; Psychiatric Nurse, University Hospital, St. Mark's Hospital. R.N.; B.S.

ANDERSON, Richmond (1970) ..... **General Education**
Experience: Chemical Technician, U. of U. B.S.; M. Ed.

ANJEWIERDEN, John (1972) ..... **Food Service — Skills Center**
Experience: Salesman & Associate, Anjewierden Realty; Food Production Manager, St. Mark's Hospital; Instructor, Salt Lake Skills Center. B.A.

ASHDOWN, Robert C. (1972) ..... **Welding**
Experience: Tool & Die Mayer, C. M. Roestenburg & Sons, Dynapac Corp.; Machinist, Eimco, Euteck Inc.; Teacher, Davis School District. A.S.; B.S.

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

BALLARD, Davis V. (1968) ..... **General Education**
Experience: Structural Draftsman, Utah State Department of Highways; Home-building, Biology and Science Teacher, Public School System. B.S.; M.S.; T & I.

BARNES, Carol (1973) ..... **Practical Nursing**
Experience: Supervisor and Staff Nurse, Cottonwood, Salt Lake County, St. Elizabeth, Mercer, LDS, and Holy Cross Hospitals. R.N. (Utah); B.S.

BARTHOLOMEW, Earl R. (1961) ..... **Business**
Experience: Office Management Positions: Consolidated Freight, J. C. Penney, Utah Power & Light; Management Consultant Supervisor. B. S.; T & I.

BEEBE, Robert (1968) ..... **Refrigeration and Air Conditioning**
Experience: Refrig. Tech., John H. Wernli Co.; Service Mgr., Schoppe Co., Rebuilding Specialists. Refrig. and A/C Journeyman. B.S.; M.I.E.; T & I.

BEEBE, Kathryn C. (1967) ..... **Executive Secretary**
Experience: Secretarial, Senior & Senior, University of California, etc. B.S.; T & I; C.P.S.

BELNAP, Vola C. (1969) ..... **Pre-Tech**
Experience: Instructor, S. L. City and Murray Schools. B.S.; M. Ed. Secondary Reading Specialist.

BIRCH, Grace K. (1973) ..... **Cosmetology**
Experience: Manager, Cameo College of Beauty; Hair Stylist, LaPetite Beauty Salon. Utah State Cosmetology Instructor's License.

BINGHAM, Keith E. (1974) ..... **Electronics**
Experience: Com-Tel, Inc., Process Systems, Inc., Beehive Medical Electronics, Litton Data Systems and Litton Guidance and Controls Systems; Self-Employed in Automotive-Electrical Service.

BLACK, Dall L. (1964) ..... **General Education**
Experience: Supervisor-Instructor, U. S. Army. B.S.; M.S.; T & I.

BLACK, Durant C. (1973) ..... **Hotel-Motel**
Experience: Manager, Covey's Little America and Ben Lomond Hotel; Food Service Director, University of Utah; Sales and Marketing. B.S.; M.B.A.

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

BLACKHAM, Delice A. (1966) ..... **General Education**
Experience: Carpenter, Talbot and Harlin Construction, Morrison-Knudsen, etc.; Apprentice Instructor, KCC; Training Superintendent, Hercules, Inc. B.S.; M. Ed.; T & I.

BOLINDER, J. Robert ..... **Major Appliance Repair**
Experience: Major Appliance Repair, General Electric; Electric Systems Repair, Tooele Army Depot, Service Repair, and Castle Company.

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.

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

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

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

BURCH, H. Kent (1966) ..... **Heavy Duty Mechanics**
Experience: Heavy Duty Mechanic, Gibbons & Reed, Morrison-Knudsen, etc. A.A.S.; B.S.; M.I.E.; 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) ..... **Practical Nursing**
Experience: Nursing Supervisor, Cottonwood Hospital, Salt Lake General Hospital, etc. R.N. (Utah); B.S.; T & I.

BUTLER, George W. (1973) ..... **Welding**
Experience: Welder Fitter, Mark Steel, Chicago Bridge & Iron, and Ajax Presses. A.A.S.

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

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

CHAFFIN, Evan John (1970) ..... **General Education**
Experience: Manager, local businesses; Carpentry. B.S.; M.I.E.

CHAPA, Tillie A. (1973) ..... **Practical Nursing**
Experience: Nurse, Special Education Team, Granite School District; Staff Nurse, Thomas Dee and LDS Hospitals. R.N.; A.S.; B.S.

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

CHRISTENSEN, Dallis J. (1967) ..... **Electronics**
Experience: Warrant Radio Electrician, U. S. Navy; Flight Instructor, U. S. Navy; Instructor, Weltech College; Navy Electronics School; Navy Nuclear Weapons School; Navy CIC School; Eastman Kodak Chemical Milling. B.S.; M.S.; T & I.

COTTAM, Lester G. (1966) ..... **Machine Shop**
Experience: Machinist, U. S. Mining & Smelting Co., Rice Machine Works, etc. A.S.; T & I.

CROOKSTON, Barbara (1972) ..... **Practical Nursing**
Experience: General Duty Nurse, S. L. County; Head Nurse and Director of Nursing, Valley West Hospital; School Nurse for Granite School District. R.N.; B.S.

CROSSEN, Manford Wayne (1970) ..... **Electronics**
Experience: Principal Engineer, Univac; Supervising Service Engineer, Westinghouse Electric Corp.; Nuclear Design Engineer, Convair. B.S.E.E.; M.S.I.E.

CULLIGAN, James J. (1956) ..... **Electronics**
Experience: Senior Electronics Technician, Sperry Utah, H.A.F.B., etc.; A.A.S.; Delehanty Institute of Radio & TV Certificate; T & I.

DALY, Gladys (1970) ..... **Hospital Ward Clerk - Practical Nursing**
Experience: General Duty Nurse, Tooele Valley Hospital; R.N. duty, hospitals in various states. R.N. (Utah).

DARNELL, Richard (1971) ..... **Electronics**
Experience: Electronics Equipment Specialist, Tooele Army Depot; Electronics Technician, Sperry Rand, H.A.F.B.

DAVIS, Raymond Leon (1972) ..... **Building Construction**
Experience: Contractor; Carpenter Instructor, Jordan, Murray Schools. B.S.; M.I.E.; T & I.

DAVIS, Sherwood L. (1969) ..... **Drafting & Design**
Experience: Designer, Edo Western Corp. and Sperry Utah; Draftsman, Douglas Aircraft. B.S.

DEAN, Ross E. (1959) — **Building Construction**
Experience: Carpenter, W. J. Dean and Sons, etc. B.A.; M.S.; T & I.

DENNISON, Dorene (1972) — **Business — Skills Center**
Experience: Clerical, Tooele Army Depot; Teletype Operator, Mountain States Telephone; Instructor, Salt Lake Skills Center. A.A.; B.A.

DENSLEY, Mary Lou (1961) — **Executive Secretary**
Experience: Secretarial, Instructor, Jordan Schools. B.S.; T I.

DERRICK, Rodney V. (1969) — **Cosmetology**
Experience: Manager of Evening Program, Continental Beauty College; Hair Stylist, Michael's Hair Fashions, Ex-Cel-Cis Beauty College Certificate; Utah State Cosmetology Instructor's License.

DYE, Alfred G. (1968) — **Data Processing**
Experience: Manager, Tax Dept.; Ernst & Ernst, CPA's Staff Acct., Reed & Moran, CPA's; USAF Auditing Officer. B.S.; T & I; C.P.A.

EDGMAND, Nina M. (1970) — **Business**
Experience: Secretarial, various firms. B.S., C.P.S.

EDMONDS, Horace B. (1963) — **Electronics**
Experience: Supervisor, Hercules, Inc.; Technician, Hill Air Force Base, etc. Radio Institute Certificate. A.A.S.; T & I.

EGAN, W. Gerald (1969) — **Marketing**
Experience: Systems Engineer and Salesman, Heuristic Concepts Inc., and IBM Corp.; Systems Analyst, Recognition Equipment, Inc.; Auditor, Utah Sand & Gravel; B.S.; T & I.

ELLISON, Thomas R. (1965) — **Drafting & Design**
Experience: Designer, Hercules Powder Co., Dallons Labs, etc. A.I.D.D.; A.A.S.; B.S.; T & I.

ENGLISH, Wendy (1974) — **General Education - Skills Center**
Experience: Instructor, Jordan School District, Brigham Young University, University of Utah, Salt Lake Skills Center. B.S.; M.S.

ERICKSON, Ann (1968) — **General Education**
Experience: Secretarial; Instructor, Murray Schools. B.S.; M. Ed.; T & I.

ERICKSON, Ree (1972) — **Automotive**
Experience: Service Instructor Representative, Ford Motor Co.; Service Manager, Bennett Truckland; Service Manager, Cline Auto Sales. B.S.; T & I.

FOULKS, Ruth (1964) — **Health Occupations**
Experience: Head Nurse, St. Mark's Hospital, etc. St. Mark's Hospital Certificate. R.N. (Utah); B.S.; T & I.

FULLMER, Jerry H. (1969) — **General Education**
Experience: Electronic Systems Repairman, Tooele Army Depot. UTC Certificate; B.A.; M.I.E.; T & I.

GAILLARD, Donald (1972) — **General Education — Skills Center**
Experience: Speech Therapist, Job Corps; Instructor, VIP; Assistant Director, Salt Lake Skills Center. A.S.; B.S.

GILES, Gerald L. (1972) — **Pre-Tech**
Experience: Assistant Manager, Bowman's Market; Instructor, Granite Schools. B.A.; M.A.

GOODFELLOW, Brent H. (1972) — **Business — Skills Center**
Experience: General Manager, Holiday Oil.

GRANT, Gwendolyn F. (1973) — **Business — Skills Center**
Assistant to the Registrar, Southeastern Massachusetts University; Teacher, Rodman and Clearfield Job Corps, and New Bedford and Brockton High Schools. B.S.

GRAVES, Joseph T. (1968) — **General Education**
Experience: Instructor, Salt Lake City Schools. B.S.; M.S.; T & I.

GREGG, Mary Anne (1969) — **General Education**
Experience: Instructor, Salt Lake City and Granite Schools. B.A.; M.A.

GROVER, Neal D. (1964) — **Auto Body Repair**
Experience: Owner-Operator, Grover's Body & Fender Shop, etc. UTC Certificate; A.A.S.; T & I.

HALL, Ken (1968) — **Architectural Drafting**
Experience: Chief Designer and Draftsman, various architectural firms; Registered Practicing Architect; Registered Landscape Architect; A.I.A.; A.A.S.; T & I.

HANSEN, Dorthy H. (1964) — **Practical Nursing**
Experience: Supervisor, Dee Memorial Hospital, Hill Air Force Base Hospital, etc. L.D.S. Hospital Certificate; R.N. (Utah); T & I.

HANSEN, Levern (1949) — **Auto Body Repair**
Experience: Auto Body Repairman, Fisher Pontiac, etc. Weber State College Certificate; T & I.

HARPER, Frank M. (1974) ..... **Electricity**
Experience L.D.O. U.S. Navy engineer and Damage Control Officer; Navy Advanced Electrical School; Licensed Journeyman Electrician.

HIGGINS, Raymond E. (1974) ..... **Commercial Art**
Experience: Commercial Artist, Gold Bond Stamp Company; Whitman Candy Company; Nash Publications; Instructor, St. Cloud College; University of Wisconsin. B.S.

HITE, Thamer S. (1962) ..... **Barbering - Men's Hairstyling**
Experience: Barber and Cosmetologist; UTC Certificate; Carel's Institute of Beauty Culture Certificate; Barber's License; Barber Teacher's License, Cosmetologist License; Cosmetology Teacher's License; T & I.

HOLT, Rex B. (1969) ..... **Accounting**
Experience: Instructor, Granite Schools; Vice President and Accountant, American Crane Inc.; Estimator and Office Manager, Jarman Steel Erectors. B.S.; M.S.; Business Administration Certificate.

HOMER, Michael M. (1972) ..... **Marketing**
Experience: Supervision, Litton G.C.S.; Instructor, Jordan Schools; Management Consultant. B.S.; M.B.A.

HUDDLESTONE, Ralph (1971) ..... **Commercial Art**
Experience: Production Artist, Ross Jurney Advertising; Product Designer for Wallace Barrie Company, Van Nuys and for American Greeting Card Company; Production Manager, Circuit and Eddington, Inc.; B.Y.U. Graphic Arts Department; Instructor, B.Y.U. B.S.

HULET, Grant M. (1968) ..... **Commercial Art**
Experience: Art Director, Jarman & Skaggs Advertising, Ross Jurney & Associates. B.S.; M.A.; T & I.

INGRAM, William Wayne (1973) ..... **Electronics**
Experience: Optronics Lab, Hill Air Force Base; Journeyman Marine Electrician, Wilamette Iron & Steel and Lockheed; Tech. Rep., RCA. F.C.C. License.

IVERSON, Ann K. (1969) ..... **Operating Room Technician**
Experience: Staff Nurse, St. Mark's and Cottonwood Hospitals; Assistant Nursing Supervisor of Surgery, S. L. County Hospital; Instructor, University of Utah School of Nursing and S. L. County Hospital. R.N. (Utah); B.S.

ITALASANO, Joe (1974) ..... **Barbering - Men's Hairstyling**
Experience: Barber, Bob's Barber Shop; Owner-Manager, Joe's Barber Shop. Utah Barber Instructor's License.

JANSEN, Lawrence C. (1974) ..... **Architectural Drafting**
Experience Chief Draftsman and Designer in various Architectural Offices. Registered Architect in private practice. A.I.A.; B. Arch.

JENSEN, L. Carl (1972) ..... **General Education**
Experience: Building Construction, MAC Construction Inc.; Owner, Temple Valley Construction; Instructor, Dixie College. B.S.; M.S.

JOHNSON, Anna Lee O. (1966) ..... **Steno**
Experience: Secretarial, Allen & Garcia Co., etc. A.S.; B.S.; T & I.

JOHNSON, George Henry (1972) ..... **Architectural Drafting**
Experience: Designer-Draftsman, LDS Church and various Architectural Offices, Registered Architect in private practice. A.I.A.; B.F.A.; B. Arch.

JOHNSON, W. Keith (1966) ..... **Heavy Duty Mechanics**
Experience: Heavy Duty Mechanic, Sumsion Construction, Ford Construction, etc. B.S.; M.I.E.; U.S.N. Training School Certificate; T & I.

JORDAN, I. Douglas (1971) ..... **Commercial Art**
Experience: Evans Advertising, Freelance Artist; Art Director for J.U.S.T. Advertising. UTC Commercial Art; Los Angeles Art Center; B.A., T & I.

JULANDER, Hal D. (1966) ..... **Automotive**
Experience: Line Mechanic, Hinckley Dodge, Chrysler and Ford Training Schools. B.S.; T & I.

KRANENDONK, Daniel (1967) ..... **Heavy Duty Mechanics**
Experience: Shop Foreman, Archer Tractor Co.; Service Manager, Heiner Equipment Supply Co. T & I.

LABRUM, Orren (1972) ..... **Small Industrial Engines & Recreational Vehicle Maintenance**
Experience: Recreational Vehicle Mechanic, Boyd Martin Co.; Owner, Orren's Repair Shop. T & I.

LARSEN, Milton (1974)) ..... **Printing**
Printer, Utah State University; Instructor, Bridgerland Area Vocational Center.

LARSON, John A. (1969) ..... **Heavy Duty Mechanics**
Experience: Heavy Duty Mechanic, Wheeler Machinery, Nevada Rock and Sand, Industrial Construction, and Cashman Equipment. B.S.; M.I.E.; T & I.

LEMA, Joseph Jr. (1972) — **Commercial Art**
Experience: Instructor, Layton School of Art, Wisconsin; Artist-Designer, Frank Mayer & Associates, Inc., Wisconsin. B.A.

LOOMIS, William H. (1971) — **Pre-Tech**
Experience: Air Force Weather Station Chief, Railroad Labor-Carpenter-Agent, Cattle Rancher, Cat Skinner-Mechanic, Contract Truck-Owner, Diesel Line Driver, Teacher in SLC Schools. B.S. 1 yr. Math N.S.F.

LUNT, Judith Lee (1969) — **General Education**
Experience: Instructor, Davis Schools and California; Secretary, Harrison and Johnson. A.A.; B.S.

MAGNUSSON, Kjartan T. (1972) — **General Education**
Experience: Clerk Stenographer, U.S. Army; Building Construction; Instructor, University of Nebraska, Dickinson State College, Utah State Prison. B.A.

MARTIN, Jerome E. (1971) — **Automotive**
Experience: Auto Mechanic, Bennett Ford, Streator Chevrolet. UTC Certificate.

MATTHEWS, Donald E. (1974) — **General Education**
Experience: Electrical and Building Construction; Science Teacher and High School Principal; Academic Dean, Stevens Henager College. B.A.; M.A.

MATTHEWS, Tommie G. (1971) — **Pre-Tech**
Experience: Instructor, Utah and Arizona Schools; Clearfield Job Corps Center; The Church College of Western Samoa. B.S.; M. Ed.

MIYATAKE, George (1972) — **Diesel — Skills Center**
Experience: Mechanic. Eimco, Wheeler Machinery; Instructor, Salt Lake Skills Center.

MORAWETZ, Gayle C. (1972) — **Business — Skills Center**
Experience: Bookkeeping, Albertson's Inc.; Secretarial, Utah State University and various freight lines; Instructor, Granite School District and Salt Lake Skills Center. B.S.; T & I.

MOSS, N. Wayne (1970) — **Accounting**
Experience: Walker Bank and Trust Co., J. C. Penney Co. UTC Certificate.

MOULTON, Heber (1972) — **Transportation Management**
Experience: Utah Motor Transport Association; Petroleum distribution and transportation companies. B.S.

NELSON, Margaret Ann (1969) — **Practical Nursing**
Experience: Staff Nurse, Head Nurse and Supervisor, S. L. County General Hospital; Head Nurse, V. A. Hospital. A.S; B.S.

NELSON, Victor J. (1972) — **Building Construction**
Experience: Contractor, Carpenter, Kramer Construction Co.; Foreman, J. J. Construction Co.; Instructor for Home Builders Association. B.S.

NIELSON, Joseph F. (1973) — **Brickmasonry Training**
Experience: Supervisor and Counselor, Salt Lake County NYC Program; Brickmason, Child's Construction, Fred Hales, Reed S. Miner, and F&S Construction.

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: Designer, Draftsman, Construction Supervisor, Alberta, Canada. Head Draftsman in local Architect's Office. Cape Technical College Certificate; A.A.S.; T & I; Associate Member A.I.A.

OLSEN, James R. (1970) — **Printing**
Experience: Four color pressman, Paragon Press, Rocky Mountain Bank Note; Technical Trade School. B.S.

ONTIVEROS, Seth (1972) — **Welding — Skills Center**
Experience: Welder, Eimco, Eaton Metal, Allen Steel; Instructor, Salt Lake Skills Center.

OSBORNE, Thomas G. (1968) — **General Education**
Experience: Instructor, S. L. City Schools; Tabulating Equipment and Computer Operator, Souvall Brothers. A.S.; B.S.; M.S.; T & I.

OVERSON, L. Eugene (1971) — **Building Construction**
Experience: Carpenter; Instructor, Murray City Schools. AA.S.; B.S.; M.A.; T & I.

PARKER, Pam (1974) — **Business - Skills Center**
Experience: Instructor, State of Washington, Kinman Business University, Stevens Henager College. B.S.; T & I.

PARR, A. Reed (1967) — **General Education**
Experience: Instructor, Granite Schools, etc. B.S.; T & I.

PARRISH, Martha (1955) — **Nurse Aide**
Experience: Staff Nurse, LDS Hospital, U. S. Navy, etc. B.S.; R.N. (Utah); T & I.

PAULSEN, Don Wayne (1971) — **Building Construction**
Experience: Carpenter, Skyline Builders, Horsley Lumber, L.D.S. Church, Bach Construction, Hammon Cabinet & Fixture. T & I.

PIDCOCK, Gerald B. (1974) **Drafting & Design**
Experience: Draftsman Designer, Eimco, University Mobility, Hercules Powder Co.; Commercial Consultants, Dolphyn Engineering.

POWELL, John (1972) **Pre-Tech**
Experience: Salesman, Arthur Frank. B.A.; M.A.

POULSEN, Violet N. (1957) **Practical Nursing**
Experience: House Supervisor, Cottonwood Hospital; General Staff Duty, S. L. General County Hospital, etc. S.L. General County Hospital Certificate. R.N. (Utah); B.S.; T & I.

REESE, Lorraine (1972) **Business — Skills Center**
Experience: Secretary, Chevrolet Motor; Instructor, Granite Schools, Salt Lake City Schools. B.S.

REINHOLD, Allen K. (1969) **Commercial Art**
Experience: Instructor, BYU, Granite and Emery County Schools; Artist, BYU Audio Visual Department and Utah Division of Social Services; Freelance Artist. B.A.; M.A.; T & I.

REISNER, Reed H. (1968) **Electronics**
Experience: Electronics Instructor, RCA Institute, Inc. B.V.E.; M.I.E.; T & I.

RICHARDS, Marlene K. (1968) **Practical Nursing**
Experience: Gen. Duty Head Nurse and Supervisor, S. L. Co. Hospital; Gen. Duty, Valley West Hospital; Head Nurse, Hercules, Inc. R.N. (Utah); T & I.

RODI, J. Rita (1966) **General Office Clerk Typist**
Experience: Secretary, Cornwall General Hospital; Office Manager, Morton-Parker Ltd. A.A.S., B.A.; T & I. Secondary Teaching Certificate, Ontario, Canada.

SALMOND, J. Lowell (1963) **General Education**
Experience: Electronics Technician, Thiokol Chemical Corporation; Instructor, Weber State College, Ogden Business College Certificate, B.S.; M.I.E.; T & I.

SEAMAN, Karl (1968) **Drafting & Design**
Experience: Designer, Checker, and Draftsman, Thiokol, Hercules, Eimco, etc. T & T; A.A.S.; B.S.; M.S.; Certified Engineering Technician, I.C.E.T.; A.I.D.D.; T & I.

SHAW, Merrill A. (1972) **Electricity**
Experience: USAAF Tech. Schools, USAAF Certificate A. & E., Estimator, Shop Supt., Service Dept., Mgr. Lindbergh, Peterson & Northwest Electric Co., Seattle, Wash.

SHULTS, C. Smithey (1957) **Drafting and Design**
Experience: Instructor, Kansas, Wyoming, Utah. B.S.; M.S.; T & I.

SHUMAN, Genalee May (1969) **Apparel Manufacturing Training**
Experience: Training Supervisor, Beehive Clothing. T & I.

SILVA, Daniel (1972) **Automotive — Skills Center**
Experience: Mechanic, Wheeler Machinery, Hertz Rental; Shop Manager, Seidner Silva Co.; Instructor, Salt Lake Skills Center. UTC, Ford and General Motors Certificates.

SMITH, Don J. (1973) **General Education**
Experience: Internal Auditor, Salt Lake County; Auditor, Peat Marwick (CPA), Ernst & Ernst (CPA); Business Manager, B.S.

SMITH, Hyrum M. (1971) **Heavy Duty Mechanics**
Experience: Mechanic, I.M.L., Cummins Diesel, Lindner & Wood, Barton Truck Line, Ireco Chemical, Kiewit, Ringsby, Diamond T Utah, Provstgaard Constr., Newman Constr., Zion Motors, Butterfield Trucking.

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, Rick Warner Ford, etc. B.S.; M.I.E.; General Motors Institute Certificate; T & I.

SPAINHOWER, Charles S. (1973) **Auto Body Repair**
Experience: Paint Shop Foreman, By's Body and Paint; Painter, Town and Country Rambler, and Less Jenson Collision Repair.

STANSFIELD, Russell N. (1971) **General Education**
Experience: Court Reporter, Warehouseman, Purchasing Agent & Statistical Clerk, U.S. Engineers, U.S. Army; Professor BYU, Weber College; Supt. of Schools, Nebo School District; Author. B.S. & M.S.; Professional Counselor's Certificate; Administrator's Certificate; T & I.

STEARNS, Donald R. (1968) **Data Processing**
Experience: Chief Data Processor, U.S. Navy. U.S. Navy Instructor Certificate; T & I.

STEPHENS, Lewis P. (1974) **Marketing**
Experience: Store Manager, W. T. Grant and Company, and R. C. Willey and Son; Director of Migrant Affairs, OEO; Placement Director, Instructor, Department Head, Enrollment Counselor, Stevens Henager College. B.S.; M.S.; NASD, Insurance.

STEVENS, Del Mar W. (1971) **Building Construction**
Experience: Carpenter, Whitesides Construction, James Redford Construction, Sprinter Construction, and Packard Brothers Construction. Contractor's License; T & I.

STEWART, Calvin B. (1961) **General Education**
Experience: Carpenter, Project Director, Modern Home Builders, etc. U.S. Army Certificate; Contractor's License; B.S.; M.S.; T & I.

TAYLOR, Frankie Lynn (1973) **Marketing**
Experience: Management Training, United Air Lines; Marketing and Secretarial Assignments, Kelly Girl; Analyst Assistant and Sales Secretary, Stone and Webster Securities. B.S.; M.S.

THOMSON, A. Clair (1957) **Automotive**
Experience: Instructor, South Sanpete, Logan and Nebo School Districts and U.T.C.; Supervisor of Evening School, Supervisor of Instruction, U.T.C.; Carpenter. B.S., M.I.E.; T & I.

THORPE, Allan (1974) **Electricity**
Experience: Journeyman Electrician; Manager, J. C. Plucknet Electrical Contractor; Marine Electrician on destroyers and merchant ships; Sterring A.S.D.I.C.; Heriott-Watt Certificate.

TINNIN, Claude Patrick (1969) **Printing**
Experience: Linotype Operator and Makeup Man, Union City, Tenn.; Makeup Man, Plough, Inc., Memphis, Tenn.; Press Operator, Thrower Printing Co., Kenneth, Mo.; Proofreader, Salt Lake Tribune. B.S.

UDY, John A. (1968) **Welding**
Experience: Maintenance and Machine Shop Welder, Research and Production Foreman, Thiokol Chemical Corp.; Journeyman Welder, Bish's Sheet Metal Co. A.A.S.; B.S.; T & I.

VAN DYKE, Merrill (1972) **Automotive — Skills Center**
Experience: Mechanic, Fred A. Carleson, Pearson's Pontiac, Laury Miller Pontiac; Instructor, Wayne High School, VIP, HRC and Salt Lake Skills Center.

VAN OS, Hulbert (1965) **Machine Shop**
Experience: Machinist, Eimco Corporation. Eimco Corporation Certificate; T & I.

WALKER, Loretta A. (1974) **General Education**
Experience: Secretary, Knight Adjustment; Recreation Leader, Salt Lake County Recreation Department and Salt Lake Kiwanis-Felt Girls Club; Teacher, Salt Lake City School District and Granite School District. B.A.

WALKER, Dwayne (1962) **Mechanical Drafting**
Experience: Quality Control, Douglas Aircraft; Dept. Head Drafting & Design; Tulsa Technical College; Engineer, Sperry Univac.

WALKER, William C., Jr. (1968) **Electronics**
Experience: Instructor, Virginia Schools, Salt Lake Schools; Medical Electronics Engineering, Thomas Dee Hospital. B.S.; T & I.

WALL, Shirlene W. (1973) **Steno**
Experience: Secretary, Boyd Bunnell Law Office, Eastern Utah Electric, and USU; Teacher, Carbon County and San Juan School Districts. A.S.; B.S.

WEAVER, Richard (1972) **Auto Body — Skills Center**
Experience: Mechanic and Body & Fender, Kenly, Meloin Jaqus, Openshaws; Instructor, Job Corps, Salt Lake Skills Center.

WEBB, Lois Marie (1973) **Operating Room Technician**
Experience: Staff Nurse, Kane County and Holy Cross Hospitals. Holy Cross Hospital Certificate; R.N.

WEIR, J. Harold (1971) **Electricity**
Experience: Licensed Master Electrician; Senior Engineer, LTV Electrosystems, Hercules; Western Mobile Depot, Engine Rebuilders, Weir Motor Supply. B.S.; T & I.

WESTON, David F. (1972) **Small Industrial Engines & Recreational Vehicle Maintenance**
Experience: Owner-Operator, Weston's Automotive; Mechanic, Streator Chevrolet, Sessions Texaco. Certificates from General Aviation School, Recip. Engine School, G. M. Schools.

WHITE, Walter L. (1967) **Printing**
Experience: Lithographer, Paragon Press, Mercury Publishing; Photographer, The Daily Sentinel; Photoengraver. B.S.; Colorado Certificate of Apprenticeship; T & I.

WISAN, Richard C. (1971) **General Education**
Experience: Technical Writer, Sperry Rand Corp., Free Lance Writer, Instructor BYU, Instructor S.L.C. and Granite Districts. B.S.; M.S.

WITT, Joseph W. (1971) **Automotive**
Experience: Service Supervisor, Freed Chrysler-Plymouth Inc.; Auto Instructor, Jordan and Hillcrest, Human Resource Center; Mechanic, Moulton Mfg. Co., Witt Bros. Excavating. B.S.

WOOD, James (1972) **General Education**
Experience: Civil Engineer & Surveyor, Maxwell M. Hart, Manchester, England; Job Shop Welder; Vocational Welding Instructor, Granite School District. British Technical Teachers Certificate. B.S.; T & I.

WOOD, Neal F. (1974) ..... **Welding**
Experience: Certified Welder, Thiokol Chemical Corporation and Lang Company. USU Welding Certificate.

YENCHIK, Joseph V. (1968) ..... **Drafting & Design**
Experience: Chief Designer, Edo Western Corporation; Designer, Sperry.

ZEISLER, Ulrich E. (1971) ..... **Electronics**
Experience: Instructor, Radio Institute, Technical Institute U. of Utah; Master Control Engineer, KALL, ABC, IMN. A.A.S.; B.S.; T & I; FCC 1st class & radar endorsement.

ZITO, Verlaine S. (1969) ..... **General Education**
Experience: Instructor, Salt Lake City and Murray Schools. B.S.; M. Ed.; T & I.

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