Catalog 71

Lane Community College

Academic Calendar 1971-72

FALL TERM 1971

July 14 - Sept. 24 ..... Registration
September 27 ..... Classes begin
October 25 ..... Veterans Day holiday
November 25-28 ..... Thanksgiving Day holiday
December 18 ..... Fall Term ends

WINTER TERM 1971-72

December 14-29 ..... Registration
January 3 ..... Classes begin
March 18 ..... Winter Term ends

SPRING TERM 1972

March 13-24 ..... Registration
March 27 ..... Classes begin
May 29 ..... Memorial Day
June 10 ..... Spring Term ends

SUMMER TERM 1972

June 5-16 ..... Registration
June 19 ..... Classes begin
July 4 ..... Independence Day holiday
July 14 ..... Four-week session ends
August 11 ..... Eight-week session ends
September 8 ..... Twelve-week session ends

FALL TERM 1972

July 12 - Sept. 22 ..... Registration
September 25 ..... Classes begin
October 23 ..... Veterans Day holiday
November 23-26 ..... Thanksgiving Day holiday
December 16 ..... Fall Term ends

Catalog
Volume 1, No. 7
May 1971

Lane Community College is a two-year, co-educational institution built to serve the 210,000 residents of Lane County and small parts of adjacent Linn, Benton, and Douglas Counties. Founded on October 19, 1964, it offers a comprehensive array of programs in a wide variety of fields. Its 155 acre campus — an ultra-modern $21 million complex at Eugene, Oregon — was dedicated in 1969. The College is accredited by the Northwest Association of Secondary and Higher Schools.

As an open door institution, Lane strives to help its students achieve a greater degree of personal development. The primary emphasis is on providing post high school programs designed to meet individual needs. In addition to programs in occupational training and the liberal arts fields, the College provides credit and noncredit opportunities in general and remedial education, counseling and guidance in vocational and educational planning, in Adult Education and Apprenticeship. The College also makes available its facilities and sponsors activities to meet cultural needs of the community.

Acclaimed for its highly individualized approach to education, its innovative teaching, its low student/counselor and student/instructor ratios and its modern equipment and facilities, Lane maintains a year round program for more than 17,000 full and part-time students, and employs a full and part-time staff of more than 600.

Lane's 1970-71 operating budget of $6.5 million was underwritten in the main by tuition and state and federal funds. Approximately one-fourth of the operating expense was raised through local property taxes.

The College is directed by a local, elected Board of Education, and is assisted in its planning for the future by 24 advisory committees, made up of more than 250 of the area's community leaders.

General Information

Admission Procedures

Applications for admission will be accepted after January 1 for the following Fall Term. Admission and registration for Fall Term can be accomplished as late as several days after classes begin, but many programs have limited enrollment and students are admitted on the basis of the date they complete admissions requirements.

Application forms are available each Spring at counseling offices in each of the high schools in the College District and year round at the LCC Admissions Office.

Students entering college transfer programs must be high school graduates, have a high school equivalency certificate, or be admitted by petition. The high school equivalency may be earned by receiving a qualifying score on the General Educational Development Test, which may be taken at the Counseling Center. Students entering occupational programs ordinarily must be 18 years of age or older and must, in the judgment of the Administration, be able to profit from instruction. Students less than 18 years of age may be admitted with the mutual approval of their high school principal and the College.

Admission requirements include: completed application for admission and verification of Social Security number, high school transcripts, if any, or evidence of receipt of high school equivalency certificate, when appropriate. Applicants who have taken post-high school training at other institutions must file transcripts regarding that work. A completed physical examination is required of all students enrolled in Flight Technology, Nursing, the Paramedical and Paradental programs, and credit physical education classes. Forms for this exam are available at the Admissions Office; they must be signed by a physician and returned to the Admissions Office before acceptance to the College is possible. All students enrolled in credit classes must present proof of freedom from active TB. A non-refundable $10 tuition deposit is required. The deposit is credited toward tuition if the student enrolls at LCC the following term.

A counseling interview is required of all new part-time and full-time students. The interviews will be conducted from August 2, 1971, to September 10, 1971. Students will be notified of the week for their counseling interview and should call the counseling department for the day and time of the interview.

Part-time student admission requirements: (9 credits or less)

1. The completed application for admission
2. A non-refundable $10 tuition deposit
3. A counseling interview
4. A completed physical examination, when appropriate or a self-reporting health form

Full-time student admission requirements: (10 credits or more)

1. The completed application for admission
2. The high school transcript, or GED certificate, or any post high school training transcript.
3. A completed physical examination, when appropriate or a self-reporting health form
4. A non-refundable $10 tuition deposit
5. A counseling interview

Verification of Social Security number is required

Students who have completed their requirements for admission to the College will receive a letter of acceptance.

Special Requirements

Out-of-district and out-of-state students

Admission to the College is limited to residents of the College District until September 13, after which time admission of all applicants is considered in order of the date that their admission requirements have been completed.

The following programs are open to out-of-district and out-of-state students prior to the September 13 date, and all special requirements should be followed: Dental Hygiene, Dental Assistant, Associate Degree Nursing, Practical Nursing and Inhalation Therapy.

Special Admission Procedures for Selected Programs

The Dental Hygiene, Dental Assistant, Associate Degree Nursing, Practical Nursing, Inhalation Therapy, Electronic Engineering Technician, and Civil and Structural Engineering Technician programs have special procedures for admission. It is the student's responsibility to correspond with each department for information concerning requirements.

International Students

Foreign students are admitted to Lane Community College in a limited number. Before an I-20 Form is issued tuition for one term must be on deposit at the Business Office. After acceptance the student must arrange for health and accident insurance, take one term of English as a Second Language, earn at least 10 credit hours per term and maintain a minimum 2.00 (C) grade point average. Failure to do so may result in suspension.

No scholarship assistance is available to foreign students, and immigration authorities rarely give work permits the first year in the United States. Students should have adequate funds available.

For further information, address inquiries to the Coordinator of Foreign Students.

Costs

Tuition

Tuition and special fees must be paid in full at the time of registration unless other arrangements have been made. Payment of such fees entitles the student to a student body card, the use of all college facilities and other student privileges.

In-District Tuition*	Ten credit hours or more . .	$80.00/term
	50 miles or more from school	50.00/term
	40-49 miles from school . . .	55.00/term
	30-39 miles from school . . .	65.00/term
	Nine credit hours or less . .	8.00/credit hour
Out-of-District but In-State Tuition	Ten credit hours or more . .	170.00/term
	Nine credit hours or less . .	17.00/credit hour
Out-of-State-Tuition	Ten credit hours or more . .	469.00/term
	Nine credit hours or less . .	47.00/credit hour
International Student Tuition	Ten credit hours or more . .	485.00/term
	Nine credit hours or less . .	49.00/credit hour

*The District includes Lane County, the Monroe Elementary District, and the Harrisburg Union High School District.

Determination of Residence
In-District

An in-District student is one who meets at least one of the following conditions:

1. Married and a resident of the College District at least six months prior to first registration. (Time spent as a full-time student in a collegiate institution does not count towards meeting the six-month residence requirement.)

2. Over age 21 and a resident of the College District at least six months prior to first registration. (Time spent as a full-time student in a collegiate institution does not count towards meeting the six-month residence requirement.)

3. A minor whose parents or legal guardians are bona fide residents of the College District. The mere establishment of a legal guardianship by a guardian who resides within the district may not be sufficient to give a student in-District status unless such legal guardian is actually acting in loco parentis, i.e., has physical custody and control over the minor student, supplies the minor with food, clothing, shelter, and necessary incidentals, is obligated in law and in fact to provide the child with care, education discipline and to provide medical care therefor.

4. A minor whose domicile is independent of his legal guardian. Such a person qualifies for the in-District enrollment fee on presentation of an affidavit stating that he established his domicile in the College District six months prior to his first registration and that he was not a full-time student at a collegiate institution during that period.

Out-of-District

Those whose homes or permanent addresses are outside of the Lane Area Education District, regardless of temporary residences established in the District, are classed as out-of-District students.

Out-of-State

Any student whose permanent address is outside Oregon is classed as an out-of-state student.

International

A student who is not a citizen of the United States is classified as an International student.

Special Fees

Courses such as welding and science labs require the use of special materials and/or fragile equipment. They are made available to the student at a rate of $5 to $10 per term, payable at registration. There is a basic Physical Education fee of $3 per term; instruction in some sports such as skiing, swimming, and golf require the payment of an additional fee.

Miscellaneous Fees

Audit fee ..... $ 5/credit hour
Credit by examination ..... 4/credit hour

Insurance
Group insurance is available through the College at the time of registration.
Information is available at the Business Office.

Late Registration
Students are assessed a late fee of $1 per day for each class day after classes begin to a maximum of $10. There is no admittance after the seventh calendar day without permission of the Dean of Students.

Student activities fee ..... $2/term for full-time students
1/term for part-time students

Transcript charge
No charge for reasonable requests. Order in person or by written request through the Registrar's Office.

Tuition Deposit
A $10 non-refundable tuition deposit is required and will apply toward tuition. The Administration may waive this requirement for hardship cases.

Books, Supplies, and Tool Kits

Students can expect to pay from $5 to $10 for books for each course. In addition, many vocational programs require $50 to $150 tool kits. Specific information regarding costs in various programs is available through the Counseling Center.

Typical average yearly expenses, excluding room and board, transportation and personal expenses:

Tuition	$ 240
Books	150
Special and Miscellaneous Fees	25
	$ 415

Refunds

Those withdrawing from the College prior to the end of the fifth week receive a full refund of tuition, less the $10 registration fee. Those withdrawing after that date receive no refund.

Activities

Clubs and Organizations
Clubs and campus organizations include the Fellowship of Christian University Students (FOCUS), the Flying Titans, Campus Crusade for Christ, ESP Club, the Outdoor Club, Black Student Union, Water Ski Club, American Society of Certified Engineering Technicians (ASCET), Baha'i Fellowship, Desert, Student Nurse Association (SNA), Student Oregon Education Association (SOEA), Archery Club, Circle K, Forestry Club, Knights and Castles, American Dental Hygienists Association, Zero Population Growth, Americans for a Peaceful World (APW), and Phi Theta Kappa. Students are encouraged to organize new clubs and special interest groups compatible with the aims of the College.

Athletics
As a member of the Oregon Community College Athletic Association, LCC conducts a number of intercollegiate activities for men, including cross-country, soccer, basketball, baseball, gymnastics, wrestling, track and tennis. Basketball competition for women is conducted on an extramural basis. Through a separate program of intramural sports, LCC provides an opportunity for every student to participate in sports as frequently as his or her interests, abilities and time will permit. The intramural program provides a full schedule of individual and team sports, utilizing the College's two gymnasiums and more than 30 acres of playing fields, baseball diamonds, archery ranges and tennis courts.

Publications
The College newspaper, The Torch, offers articles about the student body and campus events, in addition to the usual newspaper features. Distributed free, it is a major link between the student body and student government. The College yearbook is The Titan.

Campus Events
Each year the student/staff committee on Convocations and Public Events schedules six all-College convocations. Speakers and entertainers of general interest appear without cost to the students, offering a variety of programs. The Performing Arts Department produces three plays annually, and the College's various departments often sponsor special speakers and activities in conjunction with their own programs.

Student Government
A student senate of elected officers and representatives meets regularly to plan LCC student activities and to coordinate student programs with other Oregon community colleges. In addition, student/staff committees assume an active and definite role in virtually every area of the College's operation.

Radio
The College operates station KLCC-FM, which provides students and people of the district with modern music programs, talk shows, specials, and information and notices pertinent to campus life.

Facilities

The Center Building, around which much of the campus activity centers, houses the majority of student service facilities, including the Bookstore, the Library-Learning Resource Center, the Study Skills Center, and the restaurant and cafeteria. Also located there are the Admissions Office, counselors' offices, classrooms, study areas and faculty offices.

Bookstore
Students will find the majority of materials needed for class work in the College Bookstore, including texts, tool kits for occupational programs, paperback books and a variety of school supplies.

Restaurant
The restaurant, cafeteria and snack bars offer an extensive menu of nourishing, well-prepared foods in pleasant, open surroundings. Facilities are available for a quick snack or for formal dining.

Library-Learning Resource Center
The College's Library-Learning Resource Center subscribes to more than 500 periodicals and newspapers and has holdings in excess of 30,000 volumes. Its Information Retrieval System makes available programmed instruction in a number of courses and video and audio taped replays of various College functions and activities, and selected state and national events. As a center for many types of instructional material, the LRC centrally locates books, magazines, newspapers, pamphlets, motion pictures, phonograph records, tapes, filmstrips, illustrations, maps, charts, prints and models. Important reference works, time-saving indexes, files of vocational guidance materials, and a collection of catalogs from universities and colleges throughout the nation further complement a total information center which serves both students and faculty.

In addition, the LRC maintains an audiovisual department which supplies faculty members with graphics, audio and video tapes, photographs, printed materials and other teaching aids for instructional support.

The continued expansion and development of library and learning resource materials forms an integral part of the College's instructional program. The Center itself offers an inviting, convenient, quiet place for reading, studying and research.

Study Skills Center
The Study Skills Center offers programmed course work and tutorial assistance to help students overcome academic weaknesses and improve learning techniques and study habits in an informal atmosphere.

Services

Counseling
One of LCC's greatest assets is its large staff of counselors. These experienced men and women are constantly available to help students plan toward maximum self development. Counselors help students plan their academic programs, register and withdraw from classes, locate jobs and housing, secure financial assistance, and make personal adjustments. They are always ready to assist with answers to any of the major and minor questions arising in the daily pursuit of an education. Counselors, too, will provide students with information regarding military service and help international students to get settled at the College.

Financial Assistance
The College maintains a number of financial aid programs to help students eliminate, reduce or defer the cost of their college education. Scholarships are awarded by the Board of Education, private individuals and service clubs. The Federal Government makes both loans and grants available, and work study programs are available through the College. In addition, various departments within the College occasionally hire students. Students with questions about these programs should contact the Financial Aids Counselor.

Health Services
The Health Services is available to everyone on campus (Room 217, Health Building). A registered nurse is in attendance and part-time physician and psychiatrist consultation is available. Services offered are first aid for accident or illness, cots for temporary indisposition, referral to private or community resources and counseling regarding health problems or needs. Students are urged to carry accident and health insurance. A low-cost plan is available at the Business Office.

Housing
There are no resident facilities at the College. A list of student housing available is on file in the Admissions Office. The College assumes no responsibility in negotiating housing agreements; these arrangements are the student's responsibility.

Testing
The College does not require general entrance testing for most of its programs. Many types of tests, however, are available upon request.

Academic Information

Department Abbreviations

Department	Abbreviation
Adult Education	AEd
Aerospace	Aer
Art & Applied Design	AD
Business	Bus
Data Processing	DP
Electronics	Elc
Food Technology	FdT
Health & Physical Education	PE
Home Economics	HEc
Industrial Technology	IT
Language Arts	LA
Mass Communications	MC
Mathematics	Mth
Mechanics	Mch
Nursing	Nur
Paradental-Paramedical	PDM
Performing Arts	PfA
Science	Sc
Social Science	SSc
Special Training Programs	STP
Study Skills Center	SS

Transfer Curricula

For those who are planning to transfer to a four-year institution in any of the programs listed below, you should discuss your program with a Lane Community College counselor and consult the catalog of the appropriate institution.

Agriculture
American Studies
Anthropology
Applied Science
Architecture and Interior Architecture
Art *(UO, OSU, PSU)*, Applied Design *(SOC)*
Art Education
Art History
Biology *(UO, PSU, EOC, SOC)*, Botany, Entomology, Microbiology, Zoology, Biology *(General Science) (OSU)*
Business Administration *(UO, OSU, PSU, SOC)*, General Studies -Business *(EOC)*
Business Education
Chemistry
Community Service and Public Affairs
Dentistry *(Preprofessional Program)*
Dental Hygiene
Economics
Education *(Elementary)*
Education *(Secondary)*
Engineering
English
Foreign Languages
Forestry

General Arts and Letters *(UO)*, General Studies in Arts and Letters *(PSU)*, General Studies in Humanities *(EOC, OCE, SOC)*, Liberal Studies *(OSU)* General Science *(UO, OSU)*, General Studies in Science *(PSU, EOC, OCE, SOC)*

General Social Science
Geography
Geology
History
Home Economics
Journalism
Landscape Architecture
Law *(Preprofessional Program)*
Law Enforcement
Mathematics
Medical Technology *(Preprofessional Program)*
Medicine *(Preprofessional Program)*
Music
Nursing *(Preprofessional Program)*
Pharmacy *(Preprofessional Program)*
Philosophy
Physical Education, Health and Physical Education
Physics
Political Science
Psychology
Religious Studies
Secretarial Science
Sociology
Speech
Technical Journalism
Theater
Veterinary Medicine *(Preprofessional Program)*

Glossary of Terms

Familiarity with these few basic terms will enhance understanding of the material to follow.

Auditing refers to non-credit, non-graded participation in a class.

Credits are granted in recognition of work successfully completed in specific courses. For lecture courses, one hour credit is granted for one hour attendance in class per week. A student can expect to spend two or three hours in a laboratory class for one unit credit.

Credit Load refers to the number of credits for which a student registers. The average load for a full-time student is 12-15 credits. Part-time students carry fewer than 10.

A **Course** is any class or subject (e.g. English, Biology, Drafting) for which a student may register. All courses which accrue credit toward a vocational degree have four numbers. Those which are transferable to four year colleges are identified with letters and three digits.

A **Full-time Student** is anyone carrying ten or more credit hours of work. It is important to note that the definition of a full-time student varies with different institutions. The Selective Service Board and the Social Security Administration, for example, define a full-time student as one carrying 12 credit hours of study.

Laboratories are classes in which most of the work is done during the class session.

A **Program** is a group of courses arranged to provide vocational or professional training leading toward a degree or certificate of completion.

A **Sequence** is a series of courses which are closely related to each other. They are usually numbered consecutively.

A **Term**, or quarter, is, approximately, an eleven week period of study. Fall Term begins toward the end of September and lasts until mid-December. Winter Term begins around the first of January and lasts until roughly March 15. Spring Term begins at the end of March and lasts until the middle of June. Summer Term begins in the middle of June and lasts until about the first of September.

Examinations
Students are responsible for taking final examinations as they are listed in the exam schedule issued at the beginning of each term. Midterm examinations are given at the discretion of the instructor.

Grading
Grades are earned in credit courses and are recorded in each student's permanent record.

A — indicates superior work, initiative, and originality
B — indicates highly satisfactory performance of assigned work
C — indicates adequate or average performance of assigned work
D — indicates barely passing work

F — indicates course failure
P — indicates "pass"
NP—indicates "no pass"
I — indicates "incomplete." This is given when a student does not complete all requirements of a course within a term or to replace the lower grade when a student elects to repeat a course.
W —indicates approved withdrawal from a course
U — indicates a course taken for audit

GPA
The grade point average (GPA) is based on the assignment of points to course grades. An *A* earns four points, *B* three points, *C* two points, *D* one point, *F* no points. The points allowed for the grade are multiplied by the number of credit hours earned in that course. The total points earned for all courses are added and then divided by the total number of credit hours to get the GPA. Incomplete, pass-no pass and audit grades have no points and are not computed in the GPA.

Pass-no pass — The pass (P) no pass (NP) option may be elected by students for up to 16 hours in a non-major field. These grades will be entered on the transcript and counted toward credits earned but will not be computed by LCC in the GPA. The student must notify the instructor before the end of the seventh week of the term with the appropriate form available in the Registrar's office.

Withdrawal — A withdrawal (W) may continue to be initiated by students through the seventh week. There is no record on the transcript of the student's attempt if he withdraws (drops) prior to the end of the seventh week. After the seventh week, a *W* may be assigned by mutual agreement of the student and the instructor. In this case, a *W* will appear on the transcript.

Incomplete — Incomplete (I) is used for the following:
1. To replace the lower grade when a student elects to repeat a course — in order to implement this option the student must initiate a petition in the Registrar's office requesting the change.
2. When an unavoidable absence occurs near the end of the end of the term and arrangements have been made with the instructor to complete the work during a pre-determined period of time not to exceed one year. Incompletes that are not made up in the time and manner prescribed by the instructor remain on the transcript as an I.

Audit — The audit (U) symbol is used for any interest course a student may wish to take without the pressure of a grade, or as a trial run before attempting a course for credit. A student may switch from credit to audit at any time with the instructor's consent and upon completion of the proper form from the Registrar's office. There will be no reduction in tuition fees in these cases. Students may switch from audit to credit during the first 13 calendar days of the term. This is not recommended for veterans when the change would affect their financial eligibility status. The VA will not reimburse a veteran for audit courses, but will reimburse for withdrawals up to the date of withdrawal.

Auditing
Students may request enrollment in classes as auditors if space is available. An audit request may be made at any time during the term, but must be officially requested at the Registrar's office.

Honors Lists
Honors lists are released at the end of each term. Full-time students completing ten hours or more of courses carrying letter grades and receiving GPA's of 3.50 and above are named to the President's List. Those earning 3.00 to 3.49 are named to the Dean's List.

Attendance
Faculty members usually announce an attendance policy for each class. Those enrolling late should obtain attendance rules from each instructor. Students are required to be in attendance during the first week of the term unless they have contacted the instructor and received permission for the absence. A student's registration in a class will be dropped after the fifth day of the term if the student has not been in attendance.

Late Enrollment
Students may enroll for a course as late as seven calendar days after the term begins. Late enrollment is arranged through a counselor. Enrollment after the seventh day is possible but consent of the instructor and the Dean of Students is necessary.

Credit By Examination
Students who believe themselves masters of material to be covered in a given course, by virtue of previous training or work experience, should initiate the procedure for securing credit through a counselor.

Advanced Placement
Some students complete college-level work in high school under the Advanced Placement Program sponsored by the College Entrance Board. Those who receive satisfactory grades in examinations administered by the Board may, on admission to the College, be granted credit toward an Associate Degree.

Non-credit Courses
About 200 non-credit courses are offered to help students prepare for college work or simply to enrich their backgrounds. These courses are offered through the Study Skills Center and the Department of Adult Education. Check the course lists under those departments.

Transfer Credits
Work satisfactorily completed at other Oregon public colleges is normally accepted for credit toward degrees at LCC. Likewise, credit earned at LCC is transferable to other state colleges and universities. Recommended programs for transfer students appear in department descriptions.

Academic Probation
A student receiving less than a 2.00 GPA any term may be placed on academic probation. If a student receives less than a 2.00 GPA for two consecutive terms, he is asked to work with a counselor to develop a program in which he will be more apt to succeed. Probation is lifted when one's grades for the past term and the cumulative GPA are 2.00 or above.

Schedule of Classes
A Schedule of Classes is distributed prior to the beginning of each term. It contains the calendar for the term, information on registration and testing, a list of classes offered, and the time and places where classes will be held.

Degrees, Certificates and Diplomas
Associate of Arts Degree
the A.A.Degree is awarded to students who satisfy the following requirements:
1. Complete a minimum of 93 term hours of college transfer courses with a cumulative grade point average of not less than 2.00.
2. Include in the program the following: English Composition, 6 credits; Physical Education (unless excused by the Academic Council), 5 credits; Health, 2 credits; and a year sequence in Science and/or Math, Social Science and Language or Literature.
3. Establish a major by taking a second-year sequence in either the Liberal Arts or in a Science.
4. Attend at least two terms, including the last term, and earn at least 24 credits at LCC.
5. Meet any special departmental requirements.

Associate of Science Degree
The A.S. Degree is awarded to students who satisfy the following requirements:
1. Complete the required courses and credit hours prescribed for any structured occupational program of at least 93 term hours.
2. Attend at least two terms, including the last term, and earn at least 24 credits at LCC.
3. Earn a cumulative grade point average of not less than 2.00.
4. Receive approval of the Academic Council for minor deviations from specific course requirements.

Certificates and Diplomas
A diploma is awarded to the student who does not meet the requirements for the A.A. or A.S. Degree but who has completed any 93 hours of credit courses with a cumulative GPA of not less than 2.00 and who has attended LCC at least two terms, including the last term, and who has earned at least 24 credits at LCC.

The satisfactory completion of a course, courses, or prescribed program is recognized by the Administration through the awarding of a transcript, letter of referral, competency certificate, completion or other evidence. Specific awards are dependent upon the nature of the programs and the decision of the Administration and Faculty.

Academic Council
The Academic Council is a committee of staff and students appointed by the President. It has the responsibility of interpreting or waiving academic regulations and of considering appeals by students. The Council handles such matters as permission to take early examinations, change recorded grades or carrying excess units. Petitions for such privileges are submitted through a counselor or the Dean of Students.

Programs

Aerospace

HEAD: Ron Byers

FACULTY: Ronald Kluth

Flight Technolgogy

TWO YEAR ASSOCIATE OF SCIENCE DEGREE PROGRAM. APPROVED BY VETERANS' ADMINISTRATION.

In order that flight students might be more employable upon completion of their training, revisions are being made in the 1971-72 course offerings. These revisions are reflected in the current catalog, but are subject to approval by the State Board of Education, the Federal Aviation Administration and the Veterans' Administration.

Students prepare for employment as business pilots, airline pilots, flight and ground instructors, air traffic controllers and related fields. Students are encouraged to pursue other areas of instruction along with flight technology.

The exacting nature of the course is such that applicants must comply with all Federal Aviation Agency (FAA) requirements for each rating sought. Applicants must be counseled prior to acceptance and only those who can reasonably be expected to succeed will be accepted. Students must have FAA Class II Medical Certificate.

Fee costs for this program are $500 per term in addition to tuition. Students will fly a total of 200 hours in various aircraft and graduate with a Commercial license and Instrument rating.

CURRICULUM

First Year

			F H-C*	W H-C	S H-C
Aer	6.401	Flight Orientation	3-3		
Aer	6.431	Introductory and Basic Flight	8-4		
Aer	6.405	Flight Theory, Private Pilot	3-3		
Aer	6.413	Aerodynamics	3-3		
Mth	4.202	Mathematics 2 or	5-3		
Mth	Mth 95	Intermediate Algebra	(5-4)		
Aer	6.409	Air Navigation		3-3	
Aer	6.411	Aviation Meteorology		3-3	
Aer	6.433, 6.435	Flight Intermediate 1, 2		7-3	7-3
Aer	6.403	Aircraft Development		3-3	
Mth	4.204	Mathematics 3 or courses subsequent to Mth 95		5-3	
PE	PE 190	Physical Education		3-1	
Aer	6.415	Aircraft Structure & Systems			3-3
Aer	6.425	Advanced Commercial Pilot Ground School			3-3
PE	1.605	Health Education			2-2
LA	1.100	Communication Skills 1			3-3
Aer	6.421	General Aviation Safety			3-3
			22-16	24-16	21-17

Second Year

			F H-C*	W H-C	S
Aer	6.439, 6.441	Flight Intermediate 3, 4	7-3	7-3	
Aer	6.417	Radio Aids and Communication	3-3		
LA	1.102	Communication Skills 2	3-3		
SSc	1.601	Self and Society (9 weeks) or	3-3		
SSc	PS 201	American Government	(3-3)		
Bus	BA 101	Introduction to Business	4-4		
Aer	6.444	**The Professional Instructor		3-3	
Aer	6.427	Airline Management		3-3	
Aer		**Job Opportunity Survey		1-1	
		Electives		4-4	
Aer	6.443	Flight Advanced			6-3
DP	2.601	Survey of Data Processing			4-3
Bus	BA 226	Business Law			3-3
MC	Sp 111	Fundamentals of Speech			3-3
Bus	2.316	Salesmanship			3-3
			20-16	18-14	19-15

*H-hours, C-credits
**Pending Approval

COURSES

6.401 Flight Orientation (3 class hrs/wk) 3 credits
Introductory aviation technology: Basic applications of aerophysics, theory of flight, aircraft standards and specifications, use of technical manuals, basic airframe construction, hydraulic systems, and weight and balance fundamentals.

6.403 Aircraft Development (3 class hrs/wk) 3 credits
Historical survey of manned flight. Emphasis on socioeconomic impact and the Federal Government's role in flight and transportation regulations. Though this course is primarily for the flight student enrollment by others, with instructor approval, will be permitted.

6.405 Flight Theory, Private Pilot (3 class hrs/wk) 3 credits
Principles of flight, basics of air traffic control, weather facts, navigational procedures, and airplane operation pertinent for the private pilot. Upon completion of this course the student should have sufficient knowledge to take the FAA Written Examination for the Private Pilot Certificate. This constitutes the final examination.

6.409 Air Navigation (3 class hrs/wk) 3 credits
A study of aerial charts, approach plates, radio navigation, radar service and radio communication in preparation for meeting the requirements for a commercially rated pilot. This course will be available to those who possess a private pilot rating or the equivalent in time and experience.

6.411 Aviation Meteorology (3 class hrs/wk) 3 credits
Meteorological phenomena affecting aircraft flight; basic concepts of aviation meteorology; analysis and use of weather data for flight planning and safe flying; interpretation of U.S. Weather Bureau maps, reports, and forecasts.

6.413 Aerodynamics (3 class hrs/wk) 3 credits
An introductory course for the beginning pilot. Analysis of the physics of flight. Effects of altitude, air pressure, weight and balance on aircraft performance.

6.415 Aircraft Structures and Systems (3 class hrs/wk) 3 credits
Designed to give the student pilot a basic understanding of all the systems found in most present day aircraft.

6.417 Radio Aids and Communication (3 class hrs/wk) 3 credits
Prerequisite: Air Navigation (6.409). Basic radio fundamentals as used by the pilot. A description and practical use of various radio aids to safe aerial navigation.

6.421 General Aviation Safety (3 class hrs/wk) 3 credits
Prerequisite: Flight Theory, Private Pilot (6.405). Fundamentals essential to safe flight; instruments used and the evaluation and the interpretation of their indications. Weight and balance problems are given consideration; also the Federal Aviation Regulations pertaining to safe flight.

6.425 Advanced Commercial Pilot Ground School 3 credits
(3 class hrs/wk)
Prerequisite: All the flight theory classes offered in terms 1 through 3 or approval of the Flight Technology Program Chairman. Preparation for the FAA Commercial Pilot examination and Instrument Rating examination by bringing into focus all the previous areas of instruction; emphasizes newest methods and procedures in flight.

6.427 Airline Management (3 class hrs/wk) 3 credits
Prerequisite: Aircraft Development (6.403). The functions of management in airline operation, air carrier familiarization effects of federal regulations, organization, accounts; industrial, financial, and economic implications relative to decision making.

6.431 Introductory and Basic Flight (3 class, 5 lab hrs/wk) 4 credits
25 Dual — 25 Solo hours. An introduction to flight through actual flying experience in modern, safe, fully-equipped aircraft. 25 hours dual flight instruction and 25 solo flight with 20 hours in oral instruction and debriefing. This program exceeds the FAA minimum to qualify for Private Pilot rating; required first phase for students in the two-year associate degree program terminating with Commercial Pilot and Instrument Pilot with multi-engine or flight instructor.

6.433 Flight Intermediate 1 (2 class, 5 lab hrs/wk) 3 credits
10 Dual — 25 Solo hours. Prerequisite: Introductory and Basic Flight (6.431) or Private Pilot certificate, and permission of Flight Technology Program Chairman. First of four phases of flight training in preparation for the FAA Commercial Pilot Certificate. A total of 70 hours of instruction; 10 hours dual flight, 25 hours solo flight, and 35 hours of oral instruction and debriefing.

6.435 Flight Intermediate 2 (2 class, 5 lab hrs/wk) 3 credits
10 Dual — 30 Solo hours. Prerequisite: Flight Intermediate 1 (6.433) or equivalent flight experience as determined by the Flight Technology Program Chairman. Second phase of flight training, continuation of Flight Intermediate 1. Total of 70 hours of instruction: 10 hours dual flight, 30 hours solo flight, and 30 hours of oral instruction and debriefing. Instrument flight training is emphasized.

6.439 Flight Intermediate 3 (2 class, 5 lab hrs/wk) 3 credits
10 Dual — 25 Solo hours. Prerequisite: Flight Intermediate 2 (6.435) or equivalent flight experience as determined by the Flight Technology Program Chairman. Continuation of training for Commercial Pilot Certificate.

6.441 Flight Intermediate 4 (2 class, 5 lab hrs/wk) 3 credits
10 Dual — 30 Solo hours. Prerequisite: Flight Intermediate 3 (6.439). Final phase of Flight Training in preparation for Commercial Pilot with Instrument rating.

6.443 Flight Advanced (2 class, 4 lab hrs/wk) 3 credits
10 Dual hours. Prerequisite: Valid Commercial Pilot with Instrument Rating Certificate. Students have the option of selecting Multi-engine, Flight Instructor, or Instrument Flight Instructor training to complete the flight program. Each course provides 60 hours instruction, 10 dual flight hours, and 50 hours of oral preparation and debriefing.

***6.444 The Professional Instructor** (3 class hrs/wk) 3 credits
Prepares the commercially rated pilot for employment as flight/ground instructor; must have completed the first year of flight technology and also must have the instructor's consent. At the conclusion of the term the student will be expected to pass tests for Advanced Ground Instructor and the written portion of the Certified Flight Instructor ratings.

* **Job Opportunity Survey** (1 class hr/wk) 1 credit
This course is in the process of being developed. Contact the Flight Technology Department for further information.

*Pending approval

Art and Applied Design

CHAIRMAN: Rosco Wright

FACULTY: Weltzin Blix, Thomas Blodgett, Terry Conrad, Bruce Dean, Morgan Hall, John Haugse, Ron Tore Janson, Edwin Koch, Alda Vinson, Bruce Wild

Art and Applied Design

COURSES

***4.400 Art Education for Young Children** 3 credits
(3 class, 3 lab hrs/wk)
A course designed to acquaint prospective teachers and parents with a basic awareness of various tools, processes, and methods for teaching art to young children.

AA 195, 196, 197 Basic Design (2 class, 4 lab hrs/wk) 3 credits each
Studio exercises in basic principles in design. Registration permitted any term.

AA 204, 205, 206 History of Western Art 3 credits each
(3 class hrs/wk)
Historical survey of visual arts from pre-historic to modern times with emphasis on the western world. Designed for both majors and non-majors. Registration permitted any term, however, sequential order is preferred.

AA 255 Ceramics (2 class, 4 lab hrs/wk) 3 credits
Ceramic techniques and materials. Throwing, glazing, molding, hand-building, stacking, firing, and drawing kilns. Registration permitted any term.

AA 290 Painting (2 class, 4 lab hrs/wk) 3 credits
Instruction in the use of acrylics, oils or other media. Registration permitted any term.

AA 291 Drawing (2 class, 4 lab hrs/wk) 3 credits
Training in observation in selection of significant elements. Registration permitted any term.

AA 293 Elementary Sculpture (2 class, 4 lab hrs/wk) 3 credits
Introduction to materials, elementary consideration of forms, technical and compositional exercises in a variety of materials. Registration permitted any term.

*Pending approval

Business

CHAIRMAN: John Kreitz

FACULTY: Richard D. Arnold, Maurine Bayes, Barbara Bruner, James W. Cox, Richard H. Eno, James D. Evans, Millie Hartstrom, Marilyn Haugan, Dorothy Hornsby, Betty James, Robert Johnson, Edith A. Jones, Gary O. Rholl, Ruth Thygesen, Sue W. Trautwein, Gordon Wehner

Accounting/Clerical

ONE YEAR CERTIFICATE OF COMPLETION PROGRAM AND TWO YEAR ASSOCIATE OF SCIENCE DEGREE PROGRAM. APPROVED BY VETERANS' ADMINISTRATION.

This curriculum prepares the student to record the day-to-day financial business transactions to include summary statements of business conditions. Students will be able to understand and accomplish the full cycle accounting requirements of a small business. The forecast supply of newly trained accountants will be less than the demands.

CURRICULUM

First Year

		F H-C*	W H-C	S H-C
Bus SS121, 122	Typing or			
Bus 2.101, 2.102	Typing 1, 2	5-3	5-3	
Bus 2.110, 2.111, 2.112	Accounting 1, 2, 3	4-3	4-3	4-3
Bus 1.120, 1.122	Business English 1, 2	3-3	3-3	
Bus 2.206	Business Mathematics	3-3		
Bus 2.508	Filing and Records Management	3-3		
Bus 2.519	Business Machines 1		3-3	
Bus BA111/1.111	Introduction to Management of Information Systems		3-3	
Bus 2.518	Office Management			3-3
Bus BA214	Business Communications			3-3
Bus 2.116	Personal Development/Dynamics			3-3
	Elective			3-3
		18-15	18-15	16-15

Second Year

		F H-C*	W H-C	S H-C
Bus 2.214	Tax Accounting	3-3		
SSc Soc204, 205	General Sociology	3-3	3-3	
PE PE180, 190	Physical Education	3-1	3-1	3-1
Bus 1.506	Applied Economics	3-3		
	Elective	3-3	3-3	3-3
	Elective	3-3		3-3
Bus 2.215	Basic Cost Accounting		3-3	
Bus BA218/2.114	Personal Finance		3-3	
Bus BA226	Business Law		3-3	
Bus BA213/2.213	Principles of Accounting			3-3
Bus 2.580	Small Business Management			3-3
	Elective			3-3
		18-16	18-16	18-16

*H-hours, C-credits

Business Management

TWO YEAR ASSOCIATE OF SCIENCE DEGREE PROGRAM. APPROVED BY VETERANS' ADMINISTRATION.

The business management program is a two-year training program culminating with the Associate of Science degree. The student takes a series of core courses, then earns the balance of his credit by choosing among a variety of available electives, to earn a total of 95 credit hours. The program will prepare students for first-level management positions in areas of their choosing. This program is revised and is pending approval by the Lane Community College Board of Directors and the Oregon Board of Education.

CURRICULUM

First Year

		F H-C*	W H-C	S H-C
LA Wr111	English Composition	3-3		
Bus BA211, 212, BA213/2.213	Principles of Accounting	3-3	3-3	3-3
Bus BA125/2.125	Business Environment	3-3		

continued

Mth	Mth 95	Intermediate Algebra (or equivalent) ...	5-4		
SSc	Soc204, 205	General Sociology	3-3	3-3	
PE	PE 180, 190	Physical Education	3-1	3-1	3-1
MC	Sp 111	Fundamentals of Speech		3-3	
Bus	BA111/1.111	Introduction to Management of Information Systems		3-3	
Mth	Mth 101	College Algebra		4-4	
Bus	BA214	Business Communications			3-3
Bus	2.224	Manpower Management			3-3
Bus	BA232	Introduction to Business Statistics			3-3
		Elective			3-3
			20-17	19-17	18-16

Second Year

			F H-C*	W H-C	S H-C
SSc	Ec 201, 202, 203	Principles of Economics	3-3	3-3	3-3
Bus	BA221/2.221	Production	3-3		
Bus	BA223/2.223	Marketing	3-3		
		Elective	3-3	3-3	3-3
PE	HE 250	Personal Health	3-3		
Bus	BA222/2.222	Finance		3-3	
Bus	BA226	Business Law		3-3	
		Elective		3-3	3-3
Bus	2.509	Seminar in Occupational Development .			3-3
		Elective			3-3
			15-15	15-15	15-15

*H-hours, C-credits

Clerk/Typist

ONE YEAR CERTIFICATE OF COMPLETION PROGRAM. APPROVED BY VETERANS' ADMINISTRATION.

Is designed to prepare the student for employment of a general nature in typical office activities. The courses provided may also serve to prepare the student for civil service examinations in various clerical fields. A certificate of training is issued upon completion of at least 45 term credits. This program is revised and is pending approval by the Lane Community College Board of Directors and the Oregon Board of Education.

CURRICULUM

			F H-C*	W H-C	S H-C
Bus	SS121, 122, 123	Typing or			
Bus	2.101, 2.102, 2.103	Typing 1, 2, 3	5-3	5-3	5-3
Bus	1.120, 1.122, 1.124	Business English 1, 2, 3	3-3	3-3	3-3
Bus	2.206	Business Mathematics	3-3		
Bus	2.508	Filing & Records Management	3-3		
Bus	2.116	Personal Development/Dynamics	3-3		
Bus	2.519, 2.521	Business Machines 1, 2		3-3	3-3
Bus	2.512	Office Procedures 1		3-3	
Bus	2.516	**The Office			3-3
		Elective		3-3	3-3
			17-15	17-15	17-15

*H-hours, C-credits
**Pending Approval

Keypunch

If a person wishes to take only a keypunch sequence he is not required to take the other courses listed but they are highly recommended.

CURRICULUM

	First Term	
Bus 1.120	Business English 1	3-3
Bus 2.110	Accounting 1	4-3
Bus 2.519	Business Machines 1	3-3
Bus 2.101/SS121	Typing 1	5-3
Bus 2.607	Keypunch Operation 1	5-3
	Second Term	
Bus 1.122	Business English 2	3-3
Bus 2.111	Accounting 2	4-3
Bus 2.508	Filing & Records Management	3-3
DP 2.601	Survey of Data Processing	4-3
Bus 2.608	Keypunch Operation 2	5-3
		20-15 19-15

Sales and Marketing

ONE YEAR CERTIFICATE OF COMPLETION PROGRAM. APPROVED BY VETERANS' ADMINISTRATION.

This curriculum provides a general and semi-professional background for individuals to enter a business sales position. It is adaptable to the needs of individuals who want a fundamental knowledge of the techniques of merchandising. This knowledge may be applied to a number of merchandising pursuits in retail, service, or specialty selling. There is a predicted shortage in the local area for business sales positions.

CURRICULUM

		F H-C*	W H-C	S H-C
Bus 1.120, 1.122	Business English 1, 2	3-3	3-3	
Bus 2.110, 2.111	Accounting 1, 2	4-3	4-3	
Bus 2.206	Business Mathematics	3-3		
Bus 2.101/SS121	Typing 1	5-3		
Bus 2.315	Retailing	3-3		
Bus 2.210	Business Mathematics/Statistics		3-3	
Bus 2.519	Business Machines 1		3-3	
Bus 2.314	Advertising		3-3	
Bus BA214	Business Communications			3-3
Bus 2.116	Personal Development/Dynamics			3-3
MC Sp111	Fundamentals of Speech			3-3
Bus BA238/2.238	Salesmanship			3-3
	Elective			3-3
		18-15	16-15	15-15

*H-hours, C-credits

Secretarial

ONE YEAR CERTIFICATE OF COMPLETION PROGRAM AND TWO YEAR ASSOCIATE OF SCIENCE DEGREE PROGRAM. APPROVED BY VETERANS' ADMINISTRATION.

This curriculum provides a general and semi-professional background for individuals to enter secretarial positions. It is adaptable to the needs of individuals who want a fundamental knowledge of office practices and who want to learn the techniques of secretarial work. This knowledge and these skills may be applied in different kinds of office work such as stenography and transcription and general office work.

Applicants should have had courses in typing and other secretarial and business subjects in high school, along with English. This program is revised and is pending approval by the Lane Community College Board of Directors and the Oregon Board of Education.

CURRICULUM

First Year

		F H-C*	W H-C	S H-C
	+Elective	3-3		
Bus 1.120, 1.122, 1.124	Business English 1, 2, 3	3-3	3-3	3-3
Bus 2.206	Business Mathematics	3-3		
Bus 2.116	Personal Development/Dynamics	3-3		
Bus 2.105, 2.106, 2.107 or SS 111, 112, 113	Shorthand & Transcription 1, 2, 3 or Stenography	5-3	5-3	5-3
Bus 2.519, 2.521	Business Machines 1, 2		3-3	3-3
Bus 2.508	Filing & Records Management		3-3	
Bus 2.102, 2.103 SS122, 123	Typing 2, 3 or Typing		5-3	(5-2) 6-3
Bus 2.516	**The Office			
		17-15	19-15	22-15

Second Year

		F H-C*	W H-C	S H-C
Bus 2.502, 2.504, 2.506 or SS 211, 212, 213	Advanced Transcription 1, 2, 3 or Applied Stenography	4-3	4-3	4-3
Bus 2.526,2.527/ BA256, 257	**Professional Secretarial Procedures 1, 2	3-3	3-3	
Bus 2.530	**Secretarial Accounting	4-3		
SSc 1.601	Self and Society (9 weeks)	3-3		
PE PE 180, 190	Physical Education	3-1	3-1	3-1
	Elective	3-3	3-3	3-3
Bus BA 226	Business Law		3-3	
Bus BA111/1.111	Introduction to Management of Information Systems		3-3	
Bus 2.528/ BA 258	**Effective Work Management			6-3
Bus BA 214	Business Communications			3-3
Bus 1.506	Applied Economics			3-3
		20-16	19-16	22-16

*H-hours, C-credits
**Pending Approval
+Typing 1 should be substituted for the elective if student does not have equivalent proficiency.

COURSES

1.111 Introduction to Management of Information Systems 3 credits (3 class hrs/wk)
Contemporary and projected future business information processing systems. Overview of the hardware; i.e., unit records and digital computer equipment. The artificial languages used in solving problems in business data processing systems. Emphasis on the involvement in management decision making in a job definition, equipment solution, and systems design.

1.120 Business English 1 (3 class hrs/wk) 3 credits
A practical approach to effective expression in business and in industry, which includes a complete grammar review and provides training in vocabulary expansion, spelling improvement, and development of desirable attitudes and techniques.

1.122 Business English 2 (3 class hrs/wk) 3 credits
Continuation of training in the grammar of business communications, vocabulary development and spelling improvement. Correct usage of punctuation, capitalization, abbreviations, and figures is included in this unit, as well as an introduction to writing craftsmanship and skill.

1.124 Business English 3 (3 class hrs/wk) 3 credits
Continuation of the study of writing craftsmanship and skill, with emphasis on effective business letters, memorandums, reports, and other written communications. Speech and informal personal communications are also studied.

1.300 Supervised Field Experience (3-45 hrs/wk) 1-15 credits
Prerequisite: Department chairman's approval. Supervised, on-the-job experience through the Cooperative Work Experience Program is offered for students working in off-campus occupations closely paralleling the student's college program. Entry is by petition if working or placement by CWE Program.

1.506 Applied Economics (3 class hrs/wk) 3 credits
Principles involved in the operation of the American economic system. Role of business and industry in the total economy. Basic economic principles are applied to the relationship of employer and employees. Topics considered include historic trends, business organization, price and competition, imperfect competition, and monopoly, price levels, business cycles, taxation, labor unions, management association, labor-management relations, labor legislation, and social and private security.

2.101 Typing 1 (2 class, 3 lab hrs/wk) 3 credits
Introduction to typewriter and operation; mastery of keyboard through alphabet typing exercises and the development of the touch system.

2.102 Typing 2 (1 class, 4 lab hrs/wk) 3 credits
Prerequisite: Typing 1 (2.101) or 30 wpm. Development of speed and accuracy; introduction to various styles of business letter, and the typing of envelopes, tabulated material, manuscripts and business forms.

2.103 Typing 3 (1 class, 4 lab hrs/wk) 3 credits
Prerequisite: Typing 2 (2.102) or 45 wpm. Preparation of business reports, legal forms and advanced materials. Intensive speed and review drills to increase speed and accuracy to employment level.

2.104 Personal Typing (2 class, 3 lab hrs/wk) 3 credits
Prerequisite: Knowledge of keyboard. For students desiring to extend their present typing abilities for personal or occupational needs, and for those desiring to remedy typing deficiencies, with an end result of improvement in degree of typing skills according to individual interest. The course includes projects in correspondence, themes, outlines, tabulations, reports, and speed and accuracy development.

2.105 Shorthand and Transcription 1 (3 class, 2 lab hrs/wk) 3 credits
Introduction of theory of Gregg Diamond Jubilee Shorthand, including the alphabet, brief forms, phrasing and abbreviating principles.

2.106 Shorthand and Transcription 2 (5* class hrs/wk) 3 credits
Prerequisite: Shorthand and Transcription 1 (2.105) or 40 wpm. Completion of shorthand theory and review of all principles. Development of ability to construct new outlines rapidly from dictation and to lay solid foundations for further development of dictation and transcription skill. Ability to produce mailable letters is developed.

2.107 Shorthand and Transcription 3 (5* class hrs/wk) 3 credits
Prerequisite: Shorthand and Transcription 2 (2.106) or 60 wpm. Further development of speed and accuracy in dictation and transcription. Intensive practice in refining shorthand skills and in producing mailable letters. Personal qualifications covered.

2.110 Accounting 1 (3 class, 1 lab hrs/wk) 3 credits
Fundamental principles of double-entry bookkeeping; general journals, ledgers, business forms and the preparation of basic financial statements.

2.111 Accounting 2 (3 class, 1 lab hrs/wk) 3 credits
Prerequisite: Accounting 1 (2.110). Continuation of Accounting 1 with emphasis on special journals, ledgers and business forms. The use of the voucher system is covered and basic principles are applied to the study of departmental and partnership accounting.

2.112 Accounting 3 (3 class, 1 lab hrs/wk) 3 credits
Prerequisite: Accounting 2 (2.111). Continuation of Accounting 1 and 2. Basic accounting for corporations and manufacturing operations is covered. Financial reports and statements are prepared and analyzed by applying principles learned in Accounting 1 and 2.

2.114 Personal Finance (3 class hrs/wk) 3 credits
Savings and investment opportunities available to the American consumer. Emphasis on personal budgets, real estate ownership, wise use of consumer credit, credit institutions, social security, stock market, mutual funds, and individual tax and estate planning. The course designed for non-business, voca-

tional, and college transfer students and for business students wishing an additional course beyond beginning finance.

2.116 Personal Development/Dynamics (3 class hrs/wk) 3 credits
A course involving the individual in self-appraisal, and developing her assets for business and social activity. Individual instruction in figure and weight control, skin care and makeup, posture, plus all phases of personal grooming. Information for developing a versatile, stylish yet economical wardrobe. Individual hairstyling by guest artists. Technique for job applications and interviews, money and home management. General development of poise and self confidence.

2.125 Business Environment (3 class hrs/wk) 3 credits
(No credit if credit is received for Introduction to Business, BA 101.) The business organization's role and responsibility in society. The interrelationships of major functional areas of business. The study of the systems approach to management process with the intention of orienting the student in the field of business and to help him determine his field of major concentration.

2.206 Business Mathematics (3 class hrs/wk) 3 credits
A comprehensive review of basic mathematics with special emphasis on fundamental processes, fractions, percentages, and interest. Business applications include banking records, inventories, discounts, commissions, markup, depreciation, and promissory notes.

2.210 Business Mathematics/Statistics (3 class hrs/wk) 3 credits
Prerequisite: Business Mathematics (2.206) or equivalent. Solution of business problems requires a knowledge of a range of quantitative methods. This course expands 2.206 by presenting the student with business problem quantitative techniques in algebra and statistics. The following topics are typical of the course content: Algebra — grouping, factoring, linear equations in one and two unknowns, ratio/proportion, progressions, logarithms. Statistics — collection of data, averages, dispersions, probability, various distributions.

2.213 Principles of Accounting (3 class hrs/wk) 3 credits
Introduction to field of accounting; technique of account construction; preparation of financial statements; application of accounting principles to practical business problems; proprietorship studies from standpoint of single owner, partnership, and corporation.

2.214 Tax Accounting (3 class hrs/wk) 3 credits
This course is designed for personal and vocational value. The various tax forms and accounting methods are studied. Emphasis is placed upon studying and preparing income taxes for individuals with some discussion of business problems.

2.215 Basic Cost Accounting (3 class hrs/wk) 3 credits
This course is designed to analyze methods of detailed and specific identification of cost elements within the business enterprise. Of particular concern are job order, process, and standard cost accounting systems and their related theory. The major emphasis is on principles, techniques, and managerial use of cost accounting data, and the use of budgets and performance reports, as they relate to cost accounting.

2.221 Production (3 class hrs/wk) 3 credits
Prerequisite: Principles of Accounting (BA 213) and Introduction to Business Statistics (BA 232) or equivalent. An introductory analysis as to allocation of productive resources, i.e., capacity, control, authority and productivity. A survey of the development of modern industry and scientific management, and introduction to the operating principles of production. Production techniques as related to many types of industries including service organizations such as hospitals.

2.222 Finance (3 class hrs/wk) 3 credits
Prerequisite: Principles of Accounting (BA 212). Problems encountered in the financial management of the business organization. The emphasis is on the decision making area of managerial finance. The student is initially exposed to the finance function and elements of financial analysis and control. Planning and forecasting of future needs and directions are stressed. Units on budgeting; short-, intermediate-, and long-term financing; debt vs. equity financing for optimal capital structure; sources, uses, and the flow of funds.

2.223 Marketing (3 class hrs/wk) 3 credits
Prerequisite: Business Environment (BA 125) or Introduction to Business (BA 101). Role of Marketing in our socio-economic system. Emphasis upon market problem solving and decision making required by Management. Sales promotion critically analyzed and promotional methods evaluated. The course is designed as a background course for those students specializing in marketing and for those students in business and other divisions that will be taking only one course in the field. Both groups are provided with comprehensive treatment of Marketing as it operates in American industry today.

2.224 Manpower Management (3 class hrs/wk) 3 credits
Analysis of selected personnel problems. Special attention is given to human behavior, employment, employee development, performance appraisal, wage and salary administration, deployment and job rights, discipline and due process, and labor-management relations.

2.230 Creative Decision Making in Business 3 credits
(3 class hrs/wk)
The course is designed to study the creative process as it applies to business decision-making, and the techniques available for generating and improving ideas. Materials cover the process of technological innovation and the problems involved in supervising and encouraging creative individuals. The program is primarily a workshop, designed to develop and extend new solutions to business problems. Practice is provided in improving skills in creative thinking and innovating those ideas that appear useful.

2.232 Techniques of Business Decisions (3 class hrs/wk) 3 credits
Prerequisite: Business Mathematics/Statistics (2.210) (Algebra and Statistics) or equivalent. Concepts of probability expected value, and utility theory; basic sampling techniques, random variables, and probability distributions; basic concepts of opportunity loss and costs of uncertainty determined by incremental analysis and subjective probability; basic concepts

of binomial sampling, conditional, joint, and marginal probability, statistical decision rules and their error characteristics. Methods of evaluating decision in terms of expected loss and remission of probabilities in light of new information.

2.238 Salesmanship (3 class hrs/wk) 3 credits
Role of sales as an integral part of the total marketing function. The application of selling to the behavioral science is included with special emphasis on sales psychology, sales techniques and the fundamental principles of sales communications.

2.314 Advertising (3 class hrs/wk) 3 credits
Prerequisite: Marketing (BA 223, 2.223) or Retailing (2.315) or equivalent. Detailed examination of the purposes, preparation, placement and analysis of the various types of advertisements within each of the media such as television, radio and the newspaper. The relative merits of several media are then explored. The course involves practice in the planning and analysis of complete advertising campaigns and their coordination with other marketing strategies.

2.315 Retailing (3 class hrs/wk) 3 credits
This course is designed to be a study of retail strategy and structure. A management approach is utilized on the subject matter with emphasis on the role of the supervisor involved with day-in and day-out tasks of getting retail work done. Special emphasis is placed upon details of the job and how to prepare for any eventuality.

2.316 Salesmanship (3 class hrs/wk) 3 credits
Human relations, characteristics of the customer, buying motives, approach, presentation, demonstration, overcoming objections and excuses, closing the sale, and objective selling. Each student is given the opportunity to develop a sales approach for presentation and analysis in class.

2.318 Market Analysis and Segmentation (3 class hrs/wk) 3 credits
Prerequisite: Marketing (BA 223, 2.223). Examination of the different types of markets that exist in our economy, how these markets may be identified, the analysis and preparation of products for presentation, and the analysis of projected and perceived product and brand images.

2.320 Real Estate (3 class hrs/wk) 3 credits
Introduction to real estate. Includes the economic, social and legal basis of real estate transactions, factors of property rights, taxation, real estate instruments, finance and property ownership.

2.402 Financial Institutions (3 class hrs/wk) 3 credits
Prerequisite: Finance (BA 222, 2.222). Financial institutions operating in the American economy. History and analysis of the economic significance of the major financial institutions that serve the consumer, the government, and the business community.

2.410 Risk and Insurance (3 class hrs/wk) 3 credits
Concepts of risk, probability, and insurance; role of insurance in the management of risk. An examination of the underlying legal principles and common elements of most insurance contracts. Special emphasis on the role of insurance from the viewpoint of the consumer; business and personal applications of the major types of property and liability insurance, and life and health insurance with emphasis on the underlying economic need each is designed to meet.

2.412 Investments (3 class hrs/wk) 3 credits
Investment alternatives available to the private investor. Units covered include the determination of investment objectives and the establishment of a sound individual program and portfolio, the selection and analysis of corporate securities, the securities markets and their operation.

2.500 Business Records and Reports (3 class hrs/wk) 3 credits
Business reports needed for pricing, accounting records, profit and loss statements, reports for local, state, and federal governments in such matters as Social Security, withholding taxes, industrial accident, and licensing requirements. Information is also included on salary records, employee records, procedures for making out orders, charges, billings, inventory control, and other administrative details.

2.502 Advanced Transcription 1 (4 class hrs/wk) 3 credits
Prerequisite: Shorthand and Transcription 3 (2.107) or Stenography (SS 113) or 80 wpm. Stenographic work on a production basis with emphasis on comprehensive reading of notes in thought sequence and sustained transcription practice. Aims at coordinating skills and speed of typing, shorthand, and English essentials.

2.504 Advanced Transcription 2 (4 class hrs/wk) 3 credits
Prerequisite: Advanced Transcription 1 (2.502) or 90 wpm. Dictation of unfamiliar material at levels accepted by business. Study of terminology in special areas such as legal, medical, and other specified areas.

2.506 Advanced Transcription 3 (4 class hrs/wk) 3 credits
Prerequisite: Advanced Transcription 2, (2.504) or 100 wpm. Designed to train students for production work while allowing specialization in professional and industrial fields such as legal, engineering, medical, etc. Transcription of material dictated from these special areas.

2.508 Filing and Records Management (3 class hrs/wk) 3 credits
Rules and principles of indexing, filing, establishing and maintaining filing systems, and training in the various methods of filing such as alphabetical, numerical, subject, geographic and chronological.

2.509 Seminar in Occupational Development (3 class hrs/wk) 3 credits
Prerequisite: Sixth-quarter standing. Operations of local business firms, the occupations therein, practical experience in working with management. It is each student's responsibility to meet independently with the management of a specific organization, prepare a detailed report and personally conduct his class on a tour through the vital parts of the organization.

2.512 Office Procedures 1 (3 class hrs/wk) 3 credits
Prerequisite: Typing 1 (2.101). Introduction to the secretarial profession; secretarial communications responsibilities including mail and telephone. Public relations, reference tools, appointments, receptionist duties and study of business forms.

2.514 Office Procedures 2 (3 class hrs/wk) 3 credits
Prerequisites: Office Procedures 1 (2.512) and Typing 2 (2.102). Application of office procedures to problems ranging from simple to complex duties requiring increasing levels of decision making. Preparation of reports, letters, business forms, and other projects required of an executive typist.

***2.516 The Office** (1 class, 5 lab/wk) 3 credits
Prerequisites: Completion of two terms of clerk-typist, secretarial, or accounting-clerical program. The Office is offered to students who are interested in bettering their business skills in a realistic office situation. Students who enroll in this course have the desire and opportunity to gain occupational competency. Integrated areas covered during this one-term course include production typewriting, machine transcription, oral and written communications, recordkeeping, business mathematics, filing and records management, data processing, office management, business machines, postage and mail handling, telephone etiquette, banking procedures, various resource materials, transportation and travel, reception duties and human relations.

2.517 Office Training for Insurance Adjusters 3 credits
(3 class hrs/wk)
The objective of this course is to provide insurance adjusters with a basic understanding of office equipment capabilities and limitations. It will combine basic mathematics with application on calculating machines to accounting and appraisal problems. The general function of the business machine and an understanding of their application will be stressed. The student will become familiar with the use of transcribing equipment for dictation. Practice in planning layout and the duplication of materials on various machines, such as the offset printer, ditto and mimeograph machines, will be presented. The rules and principles of indexing, filing, establishing and maintaining a filing system will be presented.

2.518 Office Management (3 class hrs/wk) 3 credits
Analysis of problems familiar to office managers. Systematic study of systems, staffing, training, deployment, work standards, layout, supervision, working conditions, jobs, and salary administration.

2.519 Business Machines 1 (2 class, 1 lab hrs/wk) 3 credits
Prerequisite: Business Mathematics 1 (2.206). Opportunity for intensive practice on the basic functions of the ten-key adding machine, the printing calculator, the electronic calculator, and the rotary calculator. The business math principles learned in Business Math 1 are applied and solved through the use of the machines. The student can compare and better understand the capacities of each of the machines and can acquire job-entry level skills in their use.

2.521 Business Machines 2 (2 class, 1 lab hrs/wk) 3 credits
Prerequisite: Typing 1 (2.101). Particular attention is given to stenographic dictating and transcribing machines. Practice in planning layouts, cutting stencils and masters for use in duplicating copy and the use of photographic and electronic reproductive devices is covered. Students study the use of letter guides, screen plates, and correction and patching devices.

***2.526 Professional Secretarial Procedures 1** (3 class hrs/wk) 3 credits
Prerequisite: Completion of first-year office procedures sequence or equivalent work experience. The first of a two-term practicum course in which the student becomes involved in all the basic policies and procedures applicable to all the operations of the business firm. Projects are practically oriented to provide secretarial techniques and general guidance needed in order to analyze the problem situation, determine facts, establish priorities, make decisions, and arrive at the solutions ultimately recommended in actual job situations.

***2.527 Professional Secretarial Procedures 2** 3 credits
(3 class hrs/wk)
Prerequisite: Professional Secretarial Procedures 1 (2.526) or equivalent work experience. The second of a two-term practicum course in which the student is involved in all the basic policies and procedures applicable to all the operations of the business firm. Projects are practically oriented to provide secretarial techniques and general guidance needed in order to analyze the problem situation, determine facts, establish priorities, make decisions, and arrive at the solutions ultimately recommended in actual job situations.

***2.528 Effective Work Management** (3 class, 3 lab hrs/wk) 3 credits
Prerequisite: Professional Secretarial Procedures 1 and 2 (2.526, 2.527) or equivalent. Office Management (2.518). A program for the individual secretary who wants to take active responsibility for her own professional growth and development by application of professional secretarial procedures in supervising and assisting students working in The Office, with opportunities for employee evaluation. Maintenance of smooth work flow, disposition of personnel problems, and the acceptance of responsibility for the work of supervised personnel will be required.

***2.530 Secretarial Accounting** (3 class, 1 lab hr/wk) 3 credits
Secretarial Accounting is to be used as an introduction to the field of accounting for the secretarial student; a familiarization with the entire accounting cycle from the original journal entries to the preparation of the financial statements and the closing of the books at the end of the accounting period. The purpose of this course is to acquaint the secretarial student with the various tools used by business enterprise to record and maintain proper and accurate business records. Emphasis would be placed on accounting for cash, which would include petty cash, and banking procedures, and payroll accounting, which would include payroll taxes.

***2.540 Civil Service Preparation — Clerical** (3 class hrs/wk) 3 credits
Prerequisite: Completion of one or more terms of clerical

work. Necessary typing and shorthand speeds for the classification of the job title. A course designed to prepare the student in the methods of taking the Federal, and/or State Civil Service test, or Lane County tests in the areas of clerical, clerk-typist, and/or secretary.

2.550 Supervisory Management (Non-business) 3 credits
(3 class hrs/wk)
Analysis of problems common to the first-line supervisor. Intensive study of selected issues including the employment function, motivation, training, control, leadership, labor unions, compensation, discipline, and organization structure.

2.580 Small Business Management (3 class hrs/wk) 3 credits
Role, organization and operation of small business in the American Society. Emphasis upon the spirit of free enterprise and problems of the small merchant in meeting competition.

2.606 Management Data Processing (3 class hrs/wk) 3 credits
Overview of the equipment used in punched card (unit record) and computer data processing. Major areas of data processing that involve management decision making: job definition — the determination of whether or not an organization would benefit by a data evaluation of available systems with respect to present and future organizational requirements; and systems design — the development and evaluation of master plans for the implementation of equipment.

2.607 Keypunch Operation 1 (5 class hrs/wk) 3 credits
Prerequisite: 25 wpm. Familiarization with the IBM card and interpretation of punched holes in card. Introduction of the 026 and 029 card punch learning the keyboard of both numeric and alphabetic and operational functions such as: purpose and use of functional keys, methods of duplication and error correction, program drum card, multiple punch key, left zero print and alternate program feature purposes. Introduction and operation of verifier.

2.608 Keypunch Operation 2 (5 class hrs/wk) 3 credits
Prerequisite: Keypunch Operation 1 (2.607). Familiarization of actual program written in various programming languages and the necessary keys they punch. Building of keypunch speed and accuracy to employment level.

BA 101 Introduction to Business (3 class, 1 lab hrs/wk) 4 credits
(No credit if BA 125 has been completed.) Business organization, operation and management intended to orient the student in the field of business and to help him determine his field of major concentration.

BA 111 Introduction to Management of Information Systems 3 credits
(3 class hrs/wk)
Refer to 1.111 above.

BA 125 Business Environment (3 class hrs/wk) 3 credits
Refer to 2.125 above.

BA 207 Creative Decision Making in Business 3 credits
(3 class hrs/wk)
Refer to 2.230 above.

BA 211, 212 213 Principles of Accounting 3 credits each
(3 class hrs/wk)
Refer to 2.213 above.

BA 214 Business Communications (3 class hrs/wk) 3 credits
Extensive practice in writing effective letters and reports. A study of mechanics, principles, tone, and effectiveness will enable him to achieve desired results. The planning, organizing and writing of reports presented so that the student may advance progressively from simple problems to the more complex reports required in the business world.

BA 218 Personal Finance (3 class hrs/wk) 3 credits
Refer to 2.114 above.

BA 221 Production (3 class hrs/wk) 3 credits
Refer to 2.221 above.

BA 222 Finance (3 class hrs/wk) 3 credits
Refer to 2.222 above.

BA 223 Marketing (3 class hrs/wk) 3 credits
Refer to 2.223 above.

BA 226 Business Law (3 class hrs/wk) 3 credits
The framework of the law as it affects the businessman; how the law operates and is enforced in business. Course would be valuable to both the business and non-business student because of its emphasis on practical aspects of the framework of the law and its relation to society and business.

BA 232 Introduction to Business Statistics (3 class hrs/wk) 3 credits
Prerequisite: Elementary Calculus (Mth 106) or equivalent. Elementary statistics techniques to aid decision making in the business environment. Emphasis is on statistical inference, probability, sampling, estimation, and hypothesis testing. Problem solution by electronic digital computer is featured. Other topics such as operations research may be introduced.

BA 238 Salesmanship (3 class hrs/wk) 3 credits
Refer to 2.238 above.

***BA 256 Professional Secretarial Procedures 1** 3 credits
(3 class hrs/wk)
Refer to 2.526 above.

***BA 257 Professional Secretarial Procedures 2** 3 credits
(3 class hrs/wk)
Refer to 2.527 above.

***BA 258 Effective Work Management** (3 class, 3 lab hrs/wk) 3 credits
Refer to 2.528 above.

FE 207 Supervised Field Experience (3-45 hrs/wk) 1-15 credits
Refer to 1.300 above.

SS 111, 112, 113 Stenography (5 class hrs/wk) 3 credits each
Refer to 2.105, 2.106, 2.107 above.

SS 121, 122, 123 Typing (1 class, 4 lab hrs/wk) 2 credits each
Refer to 2.101, 2.102, 2.103 above.

SS 211, 212, 213 Applied Stenography 3 credits each
(4* class hrs/wk)

Prerequisite: Stenography (SS 113) and Typing (SS 123) or equivalent. Advanced principles and phases; dictation and transcripts covering vocabularies of representative business; legal forms, newspaper and magazine articles.

*Pending approval.

Data Processing

DIRECTOR: Floyd A. Wilkes

FACULTY: James Cox, Adrienne Dare, James Keizur, Charles Lamb, William Madill, Jerry Nehring

The Data Processing Department serves a dual role in the college. A two-year training program is provided leading to two Associate of Science Degrees. The course work is designed to prepare students for jobs as computer programmers or as data processing machine operators. In addition to this instructional program, the department provides computer services for the administrative departments and the other instructional departments of the college. Because of this, the student is exposed to an operational data processing facility while having the opportunity to learn the field for himself. The department uses an IBM System 360 computer and various types of peripheral machines in performing both the instructional and administrative functions. Students have an opportunity to work directly on the computer to gain a first hand knowledge of both program writing and machine operation.

Data Processing Computer Programming/Operations

TWO YEAR ASSOCIATE OF SCIENCE DEGREE PROGRAM IN PROGRAMMING or
TWO YEAR ASSOCIATE OF SCIENCE DEGREE PROGRAM IN OPERATIONS
APPROVED BY VETERANS' ADMINISTRATION

PROGRAMMING OPTION

Instruction in the data processing department is designed to prepare a person entry level position as a computer programmer. The courses taken are designed to provide the student with the specific data processing skills he will need as well as a general knowledge of the types of problems which he may be called on to solve.

To accomplish this approximately one-third of the student program will be in data processing courses covering such subjects as programming languages, programming techniques, computer operating systems, and systems design techniques. The programming languages studied will include IBM 360 Assembler Language, COBOL, and PL/1. The remainder of

the students program will be selected from other departments in the College and will include courses in Business, Mathematics, Language Arts, and the Social Sciences. These courses will provide the student with a knowledge of the areas in which he will apply his understanding of the computer.

OPERATIONS OPTION

The Data Processing Operations curriculum is designed for students who desire to pursue an educational program which will prepare them for employment as computer operators, control clerks, and data processing librarians.

The student will be able to operate digital computing equipment with a console device or auxiliary control panel under the direction of a staff operator. Under the direction of the staff operator he will also learn to prepare the computer for program processing and operate the equipment for the completion of scheduled programs.

The student will perform a quality control function for input/output and will examine, approve, and dispatch reports based on quality criteria defined by operations control. The student will also store and circulate program documentation, material, and data files kept on cards, disks, and tapes. He will also collate and bind all verified reports.

		Programming A.S. Degree		Operations A.S. Degree	
		HRS.	CR.	HRS.	CR.
A. MAJOR REQUIREMENTS (33 credits)					
FIRST YEAR					
DP 2.601	Survey of Data Processing ...	4	3	4	3
DP 2.612	Computer Concepts	6	4	6	4
DP 2.614	Elements of Computer Programming	6	4	6	4
SECOND YEAR (Programming Option)					
DP 2.611	Computer Programming 1 ...	9	5		
DP 2.613	Computer Programming 2 ...	9	5	9	5
DP 2.605	Computer Programming 3	9	5		
DP 2.623	Automated Systems and Procedures	3	3	3	3
DP 2.625	Operating System Concepts and Facilities	5	4	5	4
SECOND YEAR (Operations Option)					
DP 2.613	Computer Programming 2	9	5	9	5
DP 2.617	Data Processing Computer Operations 1			9	5
DP 2.618	Data Processing Computer Operations 2			9	5
DP 2.623	Automated Systems and Procedures	3	3	3	3
DP 2.625	Operating System Concepts and Facilities	5	4	5	4
OPTIONAL					
DP	Supervised Field Experience (4 to 10 credits)				

B. SUPPORTING REQUIREMENTS (51 to 52 credits)

1. Accounting (9 credits)

BU	2.110, 2.111, 2.112	Accounting 1, 2, 3	12	9	12	9
BU	BA 211, 212 213	Principles of Accounting	9	9	9	9

2. Business and Economics (9 credits)

BU	2.125 (BA 125)	Business Environment	3	3	3	3
BU	BA 226	Business Law	3	3	3	3
BU	2.222 (BA222)	Finance	3	3	3	3
BU	2.412	Investments	3	3	3	3
BU	BA 101	Introduction to Business	4	4	4	4
BU	2.223 (BA223)	Marketing	3	3	3	3
BU	2.221 (BA221)	Production	3	3	3	3
SSc	Ec 201	Principles of Economics	3	3	3	3
BU	1.506	Applied Economics	3	3	3	3

3. Health (3 credits)

PE	HE 250	Personal Health	3	3	3	3

4. Communications (6 credits)

LA	1.100	Communication Skills 1	3	3	3	3
LA	1.102	Communication Skills 2	3	3	3	3
LA	Wr 111	English Composition	3	3	3	3
LA	Wr 112	English Composition	3	3	3	3
MC	Sp 111	Fundamentals of Speech	3	3	3	3
MC	Sp 112	Fundamentals of Speech	3	3	3	3

5. Mathematics (12 credits)

Mth	4.306	Elementary Algebra	5	4	5	4
Mth	4.307	Mathematics for Data Processing	4	4	4	4
Mth	4.308	Algebra for Data Processing	4	4	4	4
Mth		Mathematics, 12 transfer hours at the Mth 95 level and/or higher	12	12	12	12

6. Human Behavior (9 credits)

SSc	1.601	Self and Society (9 weeks)	3	3	3	3
SSc	1.608	Human Relations 1	3	3	3	3
SSc	1.609	Human Relations 2	3	3	3	3
SSc	Psy 201	General Psychology	3	3	3	3
SSc	Psy 202	General Psychology	3	3	3	3
SSc	Psy 203	General Psychology	3	3	3	3
SSc	Soc 204	General Sociology	3	3	3	3
SSc	Soc 205	General Sociology	3	3	3	3
SSc	Soc 206	General Sociology	3	3	3	3
SSc	Phl 201	Problems of Philosophy	3	3	3	3
SSc	Phl 202	Problems of Philosophy	3	3	3	3
SSc	Phl 203	Problems of Philosophy	3	3	3	3
SSc	Anth 101	General Anthropology	3	3	3	3
SSc	Anth 102	General Anthropology	3	3	3	3
SSc	Anth 103	General Anthropology	3	3	3	3
SSc	Psy 215	Social Psychology	3	3	3	3

7. Statistics (3 or 4 credits)

BU	2.232	Techniques of Business Decisions	3	3		
BU	BA232	Introduction to Business Statistics	3	3		
Mth	Mth 103	Introduction to Probability and Statistics	4	4		
		Open Elective			3	3

C. ELECTIVES (8 or 9 credits)
Selection may be made from the offerings of any department in the College to fill this requirements.

COURSES

1.300 Supervised Field Experience 3-15 credits
(minimum of 9 hrs/wk)
Prerequisite: Second year standing in Data Processing curriculum and permission of instructor. Supervised, on-the-job experience through the Cooperative Work Experience Program is offered for students working in off-campus occupations closely paralleling the student's college program. Entry is by petition if working or placement by CWE Program.

2.601 Survey of Data Processing (2 class, 2 lab hrs/wk) 3 credits
An orientation course designed to introduce terminology and concepts of automated data processing. Topics include: punched card equipment, digital computers, auxiliary storage devices, flow charting, numbering systems, problem solving and introduction to programming concepts.

2.605 Computer Programming 3 (3 class, 6 lab hrs/wk) 5 credits
Prerequisite: Computer Programming 1 (2.611) or consent of instructor. Programming in PL/1 with essentially the same topics as Computer Programming 2. Additional topics will include the use of the special features of PL/1, program linkage, dynamic storage allocation, and block structure. Program problems will generally be business oriented.

2.611 Computer Programming 1 (3 class, 6 lab hrs/wk) 5 credits
Prerequisite: Elements of Computer Programming (2.614) or consent of instructor. Advanced concepts assembly language programming. Heavy stress is placed on input-output operations through use of macro instructions, for the processing of multiple input and/or output files located on magnetic storage devices. The coding of macro instructions will be covered.

2.612 Computer Concepts (3 class, 3 lab hrs/wk) 4 credits
Prerequisite: Survey of Data Processing (2.601) or equivalent experience. Study of the functional characteristics of central processing unit, input/output devices and auxiliary storage devices; role of hardware and software in systems operation. Programming, flow charting and number systems will be covered.

2.613 Computer Programming 2 (3 class, 6 lab hrs/wk) 5 credits
Prerequisite: Elements of Computer Programming (2.614) or consent of instructor. Programming for business applications using COBOL and a Report Program Generator. Topics will include: arithmetic and data manipulation operations, computer decision making and branching, handling of groups and

subgroups of data, and concepts of arrays in up to 3 dimensions. Business reports will be generated as part of the lab exercises. Use of magnetic storage devices will be featured.

2.614 Elements of Computer Programming 4 credits
(2 class, 4 lab hrs/wk)
Prerequisite: Computer Concepts (2.612). Introductory course in computer programming using an assembler language. Topics will include: arithmetic operations, data manipulation, branching instructions, editing of data into report format, interpretation of object code and debugging techniques will be emphasized.

2.617 Data Processing Computer Operations 1 5 credits
(3 class, 6 lab hrs/wk)
Prerequisite: Survey of Data Processing (2.601), Computer Concepts (2.612), Elements of Computer Programming (2.614). Students will operate digital computing equipment with a console device or auxiliary control panel. They will learn to prepare the computer for program processing and operate the equipment for the completion of scheduled programs.

2.618 Data Processing Computer Operations 2 5 credits
(3 class, 6 lab hrs/wk)
Prerequisite: Survey of Data Processing (2.601), Computer Concepts (2.612), Elements of Computer Programming (2.614). Students will perform quality control functions for input/output and will examine, approve, and dispatch reports based on quality criteria defined by operations control. They will store and circulate program documentation, materials, and data files kept on cards, disks, and tapes, and collate and bind all verified reports.

2.623 Automated Systems and Procedures (3 class hrs/wk) 3 credits
Prerequisite: Second year standing in Data Processing Curriculum. Techniques and principles of automated systems are taught through flow charting, forms design and control, design record layouts, decision tables, file organization and management, control techniques, and procedure documentation.

2.625 Operating Systems Concepts & Facilities 4 credits
(3 class, 2 lab hrs/wk)
Prerequisite: Second year standing in Data Processing and assembly language programming or equivalent experience. Study of the functions of supervisors, compilers and utility programs as used by application programmers. The creation and maintenance of program and data libraries and the basic concepts of programming systems generation will be covered.

Electronics

CHAIRMAN: Darwin McCarroll

FACULTY: Larry R. Hart, James R. Huntington, Ray Nott, L.C. Raynes, Richard Romanek

Appliance Service

TWO YEAR ASSOCIATE OF SCIENCE DEGREE PROGRAM. APPROVED BY VETERANS' ADMINISTRATION.

An Associate of Science Degree in Appliance Service is awarded after completion of the two years, as outlined below and 29 credit hours of electives; of this 29 hours, a minimum of 18 credits should be chosen from the list of general education courses. Training for employment in the home appliance field is a combination of classroom study of theoretical principles and daily shop experience working with such domestic appliances as automatic washers, dishwashers, dryers, hot water heaters, electric stoves and refrigerators.

The opportunity for employment in the appliance-refrigeration field covers several areas. The fields needing qualified people are, appliance retail stores, general service shops, distributor (factory service), automotive service (air-conditioning), large apartment buildings and motels requiring their own service people, laundromats and trailer-house sales and service companies.

Suggested General Education Courses:

Bus 1.506	Applied Economics (3 class hrs/wk — 3 credits)
LA 1.100, 1.102	Communication Skills 1, 2 (3 class hrs/wk — 3 credits each)
PE 1.605	Health Education (2 class hrs/wk — 2 credits)
Bus 2.316	Salesmanship (3 class hrs/wk — 3 credits)
SSc 1.601	Self & Society (3 class hrs/wk — 1-7 credits)
SSc	Social Science Elective

The following related courses must be taken the first year:

IT 4.150	Welding 1A (1 class, 4 lab hrs/wk — 2 credits)
Mch 3.392 3.393	Machine Shop Orientation (2 class, 3 lab hrs/wk — 2 credits)
Mch 4.202	Machine Tool Operation (2 class, 3 lab hrs/wk — 3 credits)
Mth 4.202	Mathematics 2 (5 class hrs/wk — 3 credits)

The following related courses may be taken at any time during the two year program:

IT 4.103	Electrical Drafting (4 lab hrs/wk — 2 credits)
Sc 4.300	Science of Properties of Materials (3 class, 2 lab hrs/wk — 4 credits)
Sc 4.302	Science of Mechanics (3 class, 2 lab hrs/wk — 4 credits)

CURRICULUM

	First Year	F H-C*	W H-C	S H-C
Elc 3.600, 3.602, 3.604	Home Appliance Service 1, 2, 3	5-5	3-3	3-3
Elc 3.601, 3.603, 3.605	Home Appliance Service 1, 2, 3 Lab	15-5	17-6	17-6
Elc 4.920, 4.922	Electronics 1, 2	5-4	5-4	
		25-14	25-13	20-9

Second Year

			F H-C*	W H-C	S H-C
Elc	3.606, 3.608, 3.610	Domestic Refrigeration Service 1, 2, 3 ..	5-5	3-3	3-3
Elc	3.607, 3.609, 3.611	Domestic Refrigeration Service 1, 2, 3 Lab	15-5	17-6	17-6
			20-10	20-9	20-9

Electronic Engineering Technician

TWO YEAR ASSOCIATE OF SCIENCE DEGREE PROGRAM. APPROVED BY VETERANS' ADMINISTRATION.

This program provides the basic principles of theory and lab work in the practical phases of electronics. This training is such as to prepare the beginning technician for understanding and knowledge of a highly skilled aspect of electronics, so that he can work under the supervision of an engineer or the engineering departments where technical competency is needed.

Satisfactory completion of the two-year program qualifies the person for employment as an electronic engineering technician, electronic instrument technician, electronic lab technician, guided missile technician, industrial electronic technician, microwave radio technician, and radio technician. Applicants must have completed high school or the equivalent and should have successfully completed a course in Algebra. An entrance test must be passed.

CURRICULUM

First Year

			F H-C*	W H-C	S H-C
Elc	6.200, 6.202	Electrical Theory (DC) 1, (AC) 2	5-4	5-4	
Elc	6.204	Electrical Circuits			3-3
Elc	6.205	Electrical Circuits Lab			6-2
Elc	6.210	Transistor and Vacuum Tube Analysis ..			3-3
Elc	6.211	Transistor and Vacuum Tube Analysis Lab			3-1
Mth	6.135, 6.136	Engineering Problems 1, 2	2-2	2-2	
Mth	6.261, 6.262, 6.266	Technical Mathematics 1, 2, 3	4-4	4-4	4-4
Sc	6.370, 6.371	Applied Physics 1, 2	5-4	5-4	
LA	1.100, 1.102	Communication Skills 1, 2	3-3	3-3	
IT	4.101	Drafting 1	4-2		
IT	4.103	Electrical Drafting		4-2	
IT	6.127	Practical Descriptive Geometry			4-2
			23-19	23-19	23-15

Second Year

			F H-C*	W H-C	S H-C
Elc	6.212	Oscillator Circuits and Design		2-2	
Elc	6.213	Oscillator Circuits and Design Lab		6-2	
Elc	6.236	Servo Systems	4-2		
Elc	6.234	Wave Generation and Shaping	5-3		
Elc	6.228, 6.235	Television Circuits 1, 2		5-3	3-1
Elc	6.218, 6.220	Industrial Electronics 1, 2		5-3	6-4
Elc	6.214	Amplifier Circuits and Design	3-3		
Elc	6.215	Amplifier Circuits and Design Lab	6-2		
Elc	6.240	Electronic Data Processing		3-3	

continued

Elc	6.216	Advanced Electronic Circuits			5-3
Elc	6.244	Automation Systems			3-3
Elc	6.242	Microwaves			5-3
Mth	6.115	Electrical Mathematics	4-4		
Bus	1.506	Applied Economics	3-3		
PE	1.605	Health Education		2-2	
			25-17	23-15	22-14

*H-hours, C-credits

Electronics Technology (Communication)

TWO YEAR ASSOCIATE OF SCIENCE DEGREE PROGRAM. APPROVED BY VETERANS' ADMINISTRATION.

CURRICULUM

First Year

			F H-C*	W H-C	S H-C
Elc	6.200, 6.202	Electrical Theory (DC) 1, (AC) 2	5-4	5-4	
Elc	6.210	Transistor and Vacuum Tube Analysis			3-3
Elc	6.211	Transistor and Vacuum Tube Analysis Lab			3-1
Elc	6.204	Electrical Circuits			3-3
Elc	6.205	Electrical Circuits Lab			6-2
Mth	6.135, 6.136	Engineering Problems 1, 2	2-2	2-2	
Mth	6.261, 6.262, 6.266	Technical Mathematics 1, 2, 3	4-4	4-4	4-4
LA	1.100, 1.102	Communication Skills 1, 2	3-3	3-3	
IT	4.101	Drafting 1	4-2		
IT	4.103	Electrical Drafting		4-2	
Sc	6.370	Applied Physics 1			5-4
		Electives (General Education)	3-3	3-3	
			21-18	21-18	24-17

Second Year

			F H-C*	W H-C	S H-C
Elc	6.214	Amplifier Circuits & Design	3-3		
Elc	6.215	Amplifier Circuits & Design Lab	6-2		
Elc	6.221	Transmission & Propagation of Waves	5-4		
Elc	6.222	Basic Control Room Practice	4-2		
Elc	6.212, 6.213	Oscillator Circuits and Design & Lab		8-4	
Elc	6.228, 6.235	Television Circuits 1, 2		5-3	3-1
Elc	6.223, 6.224	Transmitter Circuits 1, 2		5-3	6-4
Elc	6.225	Elementary Troubleshooting		5-3	
Elc	6.242	Microwaves			5-3
Elc	6.226	Control Room Equipment			5-3
Elc	6.227	Typical Receiver Circuits			4-3
Bus	1.506	Applied Economics	3-3		
Mth	6.115	Electrical Mathematics	4-4		
PE	HE 250	Personal Health		3-3	
			25-18	26-16	23-14

*H-hours, C-credits

Radio and Television Service

TWO YEAR ASSOCIATE OF SCIENCE DEGREE PROGRAM. APPROVED BY VETERANS' ADMINISTRATION.

Fundamentals of trouble shooting, repair, alignment and adjustment of electronic devices are taught. Training is aimed at preparing a person for entry jobs in electronic repair, with strong emphasis on television. Opportunities for employment in this field are offered in electronic repair shops, sales and service companies, electronic equipment installers, and related electronic industries.

CURRICULUM

First Year

			F H-C*	W H-C	S H-C
Elc	3.378, 3.490, 3.492	Radio Service 1, 2, 3	3-3	3-3	3-3
Elc	3.379, 3.491, 3.493	Radio Service 1, 2, 3 Lab	12-4	12-4	12-4
Elc	4.920, 4.922, 4.924	Electronics 1, 2, 3	5-4	5-4	5-4
IT	4.103	Electrical Drafting	4-2		
Mth	4.202, 4.204	Mathematics 2, 3	5-3	5-3	
Mth	4.208	Slide Rule	2-1		
			31-17	25-14	20-11

Second Year

			F H-C*	W H-C	S H-C
Elc	3.494, 3.496, 6.914	Television Service 1, 2, 3	3-3	3-3	5-5
Elc	3.495, 3.497, 6.915	Television Service 1, 2, 3 Lab	12-4	12-4	10-3
Elc	4.912	Audio Systems		5-3	
Sc	4.300	Science of Properties of Materials	5-4		
Sc	4.302	Science of Mechanics		5-4	
			20-11	25-14	15-8

*H-hours, C-credits
Eighteen additional hours of approved general education electives are required to qualify for an associate degree.

SUGGESTED ELECTIVES

Communication Skills 1, 2 (LA 1.100, 1.102); Applied Economics (Bu 1.506); Salesmanship (Bu 2.316); Self & Society (SSc 1.601); Radiotelephone Operators Preparation 1, 2, 3 (Elc 4.915, 4.917, 4.919); Business Records and Reports (Bu 2.500); Social Science Elective; Health Education (PE 1.605).

COURSES

1.300 Supervised Field Experience (3-45 hrs/wk) 1-15 credits
Prerequisite: Department chairman's approval. Supervised, on-the-job experience through the Cooperative Work Experience Program is offered for students working in off-campus occupations closely paralleling the student's college program. Entry is by petition if working or placement by CWE Program.

3.378 Radio Service 1 (3 class hrs/wk) 3 credits

3.379 Radio Service 1 Lab (12 lab hrs/wk) 4 credits
Prerequisite: Mathematics 2, Electrical Theory 1, and Electrical Drafting to be taken concurrently. Various types of chassis and component parts; use of service manuals; supply sources. Instruction in use of vacuum tube volt-meters and tube-checkers. Basic hand tools and uses. Soldering and chassis sheet metal work.

3.490 Radio Service 2 (3 class hrs/wk) 3 credits

3.491 Radio Service 2 Lab (12 lab hrs/wk) 4 credits
Prerequisite: Radio Service 1, Electrical Theory 2 and Mathematics 3 to be taken concurrently. Tube types and construction, AC/DC power supplies, loudspeakers, audio output and amplifier stages, I-F and R-F amplifier, automatic volume controls, converters, mixers and oscillator stages, and radio antennas.

3.492 Radio Service 3 (3 class hrs/wk) 3 credits

3.493 Radio Service 3 Lab (12 lab hrs/wk) 4 credits
Prerequisite: Radio Service 2, Electronic Circuits taken concurrently. Various types of receivers, service procedures and problems. Transistors and other semiconductor devices.

3.494 Television Service 1 (3 class hrs/wk) 3 credits

3.495 Television Service 1 Lab (12 lab hrs/wk) 4 credits
Prerequisite: Fourth-term standing or equivalent. Emphasis on actual servicing of television receivers. Substitution of parts; field servicing; voltage and power supplies; circuits.

3.496 Television Service 2 (3 class hrs/wk) 3 credits

3.497 Television Service 2 Lab (12 lab hrs/wk) 4 credits
Prerequisite: Television Service 1. Continuation of Television Service covering: Video-amplifiers, picture tube circuits, construction and replacement; tuners, sound section and antenna types, installation and service notes.

3.600 Home Appliance Service 1 (5 class hrs/wk) 5 credits

3.601 Home Appliance Service 1 Lab (15 lab hrs/wk) 5 credits
Use of hand and machine tools and their maintenance, electrical meters and mechanical test equipment. Operation of basic electrical components used in modern appliances. Shop safety.

3.602 Home Appliance Service 2 (3 class hrs/wk) 3 credits

3.603 Home Appliance Service 2 Lab (17 lab hrs/wk) 6 credits
Prerequisite: Home Appliance Service 1. Work with mock-ups of appliance components to gain familiarity with their characteristics and operation. Trouble-shooting, repairing components. Introduction to modern home appliances.

3.604 Home Appliance Service 3 (3 class hrs/wk) 3 credits

3.605 Home Appliance Service 3 Lab (17 lab hrs/wk) 6 credits
Prerequisite: Home Appliance Service 2. Diagnosis of both mechanical and electrical faults in such modern domestic

appliances as washers, dryers, ranges, dishwashers, and waste disposals. Development of ability to locate cause of equipment malfunction by deduction and reasoning ability. Performing service operations on modern home appliances.

3.606 Domestic Refrigeration 1 (5 class hrs/wk) 5 credits

3.607 Domestic Refrigeration 1 Lab (15 lab hrs/wk) 5 credits
Principles of refrigeration. Use of hand tools and their care, bending and flaring of copper tubing, silver soldering, theory of compressors, use of gauges and manifold assemblies.

3.608 Domestic Refrigeration 2 (3 class hrs/wk) 3 credits

3.609 Domestic Refrigeration 2 Lab (17 lab hrs/wk) 6 credits
Prerequisite: Domestic Refrigeration 1. Effect of temperature and pressure on gasses and liquids; theoretical operation of expansion valves; floats and receivers, and condensers; purging systems of air and moisture; charging refrigeration systems; lubrication problems; testing the refrigeration system after repairs have been made.

3.610 Domestic Refrigeration 3 (3 class hrs/wk) 3 credits

3.611 Domestic Refrigeration 3 Lab (17 lab hrs/wk) 6 credits
Prerequisite: Domestic Refrigeration 2. Types of compressors used in mechanical refrigeration systems, non-mechanical refrigeration systems, metering devices, supplementary system controls, electrical circuits in typical modern refrigeration units. Shop experience in repairing and servicing modern domestic refrigeration units.

4.912 Audio Systems (2 class, 3 lab hrs/wk) 3 credits
Prerequisite: Electronics 3. High fidelity systems, components, amplifiers, pickups and loudspeakers, AM and FM tuners, record players, tape recorders, inter-communication systems. Servicing audio systems.

4.915 Radiotelephone Operators Preparation 1 4 credits
(3 class, 2 lab hrs/wk)
Prerequisite: Electronics 1 & 2 or equivalent or approval of instructor. This course, together with Radiotelephone Operators Preparation 2, is designed to prepare the student for the FCC Second Class Radiotelephone Operators License. It includes: Review of basic electrical theory and practice relating to transmitter operation, types and typical operating conditions of vacuum tubes and transistors, power supplies, indicating instruments, oscillators and study of questions similar to those used in FCC examinations.

4.917 Radiotelephone Operators Preparation 2 4 credits
(3 class, 2 lab hrs/wk)
Prerequisite: Radiotelephone Operators Preparation 1 or approval of instructor. This course, together with Radiotelephone Operators Preparation 1 is designed to prepare the student for the FCC Second Class Radiotelephone Operators License. It includes: Radio frequency amplifiers, transmitters and receivers, antenna systems, microwave equipment, troubleshooting techniques and study of questions similar to those used in FCC examinations.

4.919 Radiotelephone Operators Preparation 3 4 credits
(3 class, 2 lab hrs/wk)
Prerequisite: Radiotelephone Operators Preparation 2, Second Class Radiotelephone License or approval of instructor. This course is designed to prepare the student for the FCC First Class Radiotelephone Operators License. It includes: Advanced circuit theory, microphones, typical circuits, television techniques and standards, regulations governing the operation of broadcast transmitters and study of questions similar to those used in FCC examinations.

4.920 Electronics 1 (3 class, 2 lab hrs/wk) 4 credits
Prerequisite: High school algebra or Mathematics 2, 4.202. Electron theory of matter, electron movement, voltage and current relationships. Analysis of series, parallel, and series parallel circuits.

4.922 Electronics 2 (3 class, 2 lab hrs/wk) 4 credits
Prerequisite: Electronics 1. Use of meters for measurement of voltage, current, power and resistance; alternating current. Relationship of AC to radio and audio frequency voltages and currents.

4.924 Electronics 3 (3 class, 2 lab hrs/wk) 4 credits
Prerequisite: Electronics 2. Introduction to solid state devices; diodes, triodes, tetrodes, pentodes, vacuum tubes and multi-element types; typical power circuits.

6.200 Electrical Theory (DC) 1 (3 class, 2 lab hrs/wk) 4 credits
Prerequisite: High school algebra or equivalent. Electronics on the basis of direct currents with an emphasis on contemporary techniques as a supplement to basic concepts. Principles of electron physics, currents, and factors affecting its magnitude, circuit analysis, phenomena of magnetism and electromagnetism, inductance, capacitance, and electrical measurement instruments.

6.202 Electrical Theory (AC) 2 (3 class, 2 lab hrs/wk) 4 credits
Prerequisite: Second term standing or approval of instructor. A continuation of electrical theory on the basis of alternating currents with an emphasis on contemporary techniques as a supplement to basic concepts. Analysis of the sine wave input, and resonance.

6.204 Electrical Circuits (3 class hrs/wk) 3 credits

6.205 Electrical Circuits Lab (6 lab hrs/wk) 2 credits
Prerequisite: Third term standing or approval of instructor. Electrical theory with an emphasis on the analysis of the characteristics of complex waveform circuits.

6.210 Transistor and Vacuum Tube Analysis (3 class hrs/wk) 3 credits
6.211 Transistor and Vacuum Tube Analysis Lab 1 credit
(3 lab hrs/wk)
Prerequisite: Third term standing or approval of instructor. Electrical characteristics of transistors and vacuum tubes; electron physics with emphasis on electron emission and fundamental transistor theory.

6.212 Oscillator Circuits and Design (2 class hrs/wk) 2 credits

6.213 Oscillator Circuits and Design Lab (6 lab hrs/wk) 2 credits
Single-phase rectifier circuits and filters with calculation of the ripple-factor. Introduces the fundamental feedback equation and covers positive and negative feedback.

6.214 Amplifier Circuits and Design (3 class hrs/wk) 3 credits

6.215 Amplifier Circuits and Design Lab (6 lab hrs/wk) 2 credits
Prerequisite: Fourth term standing or approval of instructor. Application of vacuum tubes and transistors in amplifier circuits. Analyzes the vacuum-tube amplifier into its basic and equivalent circuit, load-lines and distortion. Analyzes transistor amplifiers in various circuit configurations and covers biasing methods. Transformer analysis, transformer-coupled, amplifiers and R-C coupled amplifiers.

6.216 Advanced Electronic Circuits (2 class, 3 lab hrs/wk) 3 credits
Prerequisite: Sixth term standing or approval of instructor. Current problems and opportunities with computers, communications, industrial controls, electronics, microwaves, and radar. Simulated problems of industry.

6.218 Industrial Electronics 1 (2 class, 3 lab hrs/wk) 3 credits
Prerequisite: Fifth term standing or approval of instructor. Principles and applications of motors in industry; review of the principles of D-C motors and generators. A-C motors and generators, synchronous motors, 3 phase systems, circuit protective and switching equipment.

6.220 Industrial Electronics 2 (3 class, 3 lab hrs/wk) 4 credits
Prerequisite: Sixth term standing or approval of instructor. Continuation of Industrial Electronics I with emphasis on the control of motors and power with electronic circuits and devices.

6.221 Transmission and Propagation of Waves 4 credits
(3 class, 2 lab hrs/wk)
Principles involved in the transmission and propagation of electromagnetic radiation: application of these principles to practical problems; use of such instruments as the shielded bridge and field strength meter.

6.222 Basic Control Room Practice (1 class, 3 lab hrs/wk) 2 credits
Operation of typical control room equipment and similar equipment used in two way communications; regulations concerning station identification, emergency messages and logs.

6.223 Transmitter Circuits 1 (2 class, 3 lab hrs/wk) 3 credits
Circuits, theory, construction and practical operation of amplitude modulated transmitters; Master Oscillators, buffers, power amplifiers, amplitude modulation.

6.224 Transmitter Circuits 2 (3 class, 3 lab hrs/wk) 4 credits
Circuits, theory, construction and practical operation of transmitters using other than amplitude modulation. F.M., single sideband, multiplex systems, color TV transmitters. Typical communications transmitters.

6.225 Elementary Troubleshooting (2 class, 3 lab hrs/wk) 3 credits
Theoretical and practical aspects in location and repairing defects in electronic equipment. Techniques for sectionalizing equipment, analysis of symptoms, location and replacement of faulty components.

6.226 Control Room Equipment (2 class, 3 lab hrs/wk) 3 credits
Study of the circuits and theory used in broadcast control room equipment and in similar equipment employed in two-way communications. Practical work in adjusting and testing such equipment. Construction and testing of subsection of such equipment.

6.227 Typical Receiver Circuits (2 class, 2 lab hrs/wk) 3 credits
An introduction to typical circuits, principles of operation, and technical adjustments of radio receivers employed for the reception of audio, video, pulse or other forms of intelligence.

6.228 Television Circuits 1 (2 class, 3 lab hrs/wk) 3 credits
Prerequisite: Fifth term standing or approval of instructor. Television systems, scanning and synchronization, composite video signal, frequency-modulation, television receivers and monitors, picture tubes, power supplies, video amplification, and deflection oscillator and amplifier circuits.

6.234 Wave Generation and Shaping (2 class, 3 lab hrs/wk) 3 credits
Prerequisite: Fourth term standing or approval of instructor. Introduction to pulse techniques; historical development, typical applications, nomenclature, importance of pulse shapes, and responses of frequency-selective circuits to pulses.

6.235 Television Circuits 2 (1 class, 2 lab hrs/wk) 1 credit
Prerequisite: Sixth term standing or approval of instructor. Closed circuit television systems, picture transmission, scanning process and the composite signal, camera tubes and circuits, camera video amplifier systems, camera sync and deflection generators.

6.236 Servo Systems (1 class, 3 lab hrs/wk) 2 credits
Prerequisite: Fourth term standing or approval of instructor. Principles of servo and data transmission systems with emphasis on fundamentals. Elementary forms of control systems.

6.240 Electronic Data Processing (3 class hrs/wk) 3 credits
Prerequisite: Fifth term standing or approval of instructor. Principles of electronic digital computers, application and programming of computers in business, industrial, and scientific organizations.

6.242 Microwaves (2 class, 3 lab hrs/wk) 3 credits
Prerequisite: Sixth term standing or approval of instructor. Super ultra-high frequencies to develop a good foundation for the development of wave-guides and microwave circuitry.

6.244 Automation Systems (3 class hrs/wk) 3 credits
Techniques of automation. Basic concepts of automation and covers automatic controls, pneumatic control devices, hydraulic control devices, and electronic and electric control devices.

6.914 Television Service 3 (5 class hrs/wk) 5 credits

6.915 Television Service 3 Lab (10 lab hrs/wk) 3 credits
Prerequisite: Television Service 2. Modern television systems with emphasis on color fundamentals, the color picture tube, the deflection and convergence circuits. Receiver analyzed for troubles, alignment, and servicing. Use of color test equipment, and the setup and convergence of the set.

Food Technology

FACULTY: Merlin Ames, Penney Burtraw, Peggy Hanson, Lon Humphries, Henning Melvej, Audrey Parker, Horace Pendergrass, Melvin Pfel

Food Management

ONE YEAR CERTIFICATE OF COMPLETION PROGRAM

A program in food preparation designed to prepare individuals for entry into three specialized food service occupations. Students completing course offerings in these areas will have the necessary background and work experience to qualify for immediate job assignment within food service trades. Currently, consideration is being given to developing a two-year program in this area. If this should occur, the one-year Food Management program will be integrated into the proposed two-year program.

The College would then continue to offer a one-year Certificate of Completion as well as the Associate of Science degree in recognition for completion of the program. If this proposed two-year program is adopted, a supplement will be prepared.

CURRICULUM

		F H-C*	W H-C	S H-C
FdT 3.500	Short-Order Training	40-20		
FdT 3.501	Restaurant Kitchen Training		40-20	
FdT 3.502	Institutional Food Preparation			40-20
		40-20	40-20	40-20

*H-hours, C-credits

COURSES

3.500 Short-Order Training 20 credits
(10 class, 30 lab hrs/wk)
This course will prepare a student for employment in a short-order establishment; teaching him safety and sanitation; care and operation of kitchen equipment; menu planning; functions of work stations; storage of meats, vegetables and staple foods; and actual work experience in the college snack bar.

3.501 Restaurant Kitchen Training 20 credits
(10 class, 30 lab hrs/wk)
Prerequisite: Short-Order Training (3.500) or equivalent. Occupational preparation for employment in a restaurant. Student will be taught: care and operation of kitchen equipment; a la carte menu planning; functions of work stations, and preservation of foods. The student will have actual experience in the college restaurant dealing with preparation of breakfast and luncheon meals.

3.502 Institutional Food Preparation 20 credits
(10 class, 30 lab hrs/wk)
Prerequisite: Restaurant Kitchen Training (3.501) or equivalent. Prepares a student for institutional food service employment. Student will be taught nutrition and menu planning; pertinent instruction in pantry operations; cold meat; acquire proficiency in steam cooking; fry cook; roast cook; broiler cook and vegetable cook; and actual experience in the college cafeteria.

Health and Physical Education

FACULTY: Carole Brubaker, Sharon Cochran, Dan Cole, Bob Creed, Delpha Daggett, George Gyorgyfalvy, Forence Goulding, M. Cecil Hodges, Richard Newell, Robert Radcliff, Irvin Roth, Fred Sackett, Irv Silver, Allen Tarpenning, Frances Thomas, Thomas Young

Health and Physical Education

Health and Physical Education Department offers programs and courses in health education, physical education, recreational activities, intramural sports and intercollegiate athletics. The health education program attempts to develop student attitudes and behavior relating to individual and community health. Instructors seek out meaningful parts of medicine, psychology, physiology, sociology, economics and philosophy and integrate this knowledge to stimulate practical behavioral patterns designed to effect optimum efficiency and well-being. In the physical education programs a variety of activities are taught for physiological and recreational values. Courses include individual, dual and team sports and other activities designed to improve fitness, movement, and creative expression. Activities are scheduled for the skilled, unskilled and handicapped. To meet College requirements for an Associate of Arts degree, five terms of physical education are required. Some programs related to the Associate of Science degree also have physical education requirements.

Majors in health, physical education and recreation must begin course work in professional activities (PE 194 and PE 195 Professional Activities) during the freshman year if they are to complete a baccalaureate program in four years. Service course work in physical education (PE 170, 180, 190 Physical

Education) cannot be substituted for professional activity courses. Students who plan to transfer to a four-year institution as a Health, Physical Education or Recreation major should complete freshman and sophomore requirements as set forth by the institution to which they plan to transfer. Information may be obtained from the Lane Community College counseling staff or the catalog of the four-year institution.

Intramural and intercollegiate athletics are an integral part of the physical education program. Both men and women students of all levels of ability are urged to participate. The broad aim of the intramural program is to provide an opportunity for every student to participate in some type of competitive sports activity as frequently as his interests, ability and time will permit. The intramural program provides a full schedule of individual and team sports leading to school championships.

Intercollegiate athletics provide competitive opportunities for highly skilled students in selected sports with teams from other colleges. LCC is a member of the Oregon Community College Athletic Conference and the National Junior College Athletic Association. Men's teams compete in cross country, track, basketball, gymnastics, wrestling, soccer, tennis, baseball and volleyball. Women participate on an extramural basis and compete in field hockey, basketball, track and tennis.

COURSES

1.300 Supervised Field Experience (3-45 hrs/wk) 1-15 credits
Prerequisite: Department chairman's approval. Supervised, on-the-job experience through the Cooperative Work Experience Program is offered for students working in off-campus occupations closely paralleling the student's college program. Entry is by petition if working or placement by CWE Program.

1.605 Health Education (2 class hrs/wk) 2 credits
Desirable mental and physical health practices as they relate to the individual and the community.

5.212 First Aid (2 class hrs/wk) 1 credit
Standard first aid procedures and techniques. Upon successful completion of the course, a standard First Aid card may be secured.

5.213 First Aid (2 class hrs/wk) 1 credit
Prerequisite: First Aid (5.212) or current Standard First Aid Card. Advanced first aid procedures and techniques; meets needs of special interest groups which have opportunity to give first aid care frequently in the course of daily routines. Upon successful completion of the course an American Red Cross Advanced First Aid card may be secured.

5.214 First Aid (Emergency Care & Rescue) (2 class hrs/wk) 1 credit
Prerequisite: First Aid (5.213) or current Advanced First Aid card. Medical self help training to help prepare for survival in time of disaster when the services of a physician or other allied health personnel are not available. Includes methods of first aid instruction and meets the certification standards of the American Red Cross for instructors.

FE 207 Supervised Field Experience (3-45 hrs/wk) 1-15 credits
Refer to 1.300 above.

HE 250 Personal Health (3 class hrs/wk) 3 credits
Personal health problems of men and women with emphasis on implications of family life, mental health, communicable diseases, degenerative diseases, nutrition.

HE 251 Community Health (3 class hrs/wk) 3 credits
Methods of handling health and sanitation problems in the community with special reference to water supply, food and milk sanitation, sewage disposal, insect and rodent control, air pollution, hospitals, nursing homes, and state and local officials and voluntary health agencies.

HE 252 First Aid (3 class hrs/wk) 3 credits
First aid and safety procedures — for individuals, schools, athletics, and civilian defense; meets certification standards of the American Red Cross for the standard and advanced First Aid card.

PE 131 Introduction to Health, Physical Education and Recreation (3 class hrs/wk) 3 credits
Professional orientation; basic philosophy and objectives; professional opportunities and qualifications in each of the areas and sub-areas.

***PE 170 Physical Education (Co-educational)**(3 class hrs/wk) 1 credit
A variety of co-educational activities taught for physiological and recreational values, designed to improve fitness, skills, movement and creative expression; as well as to create an awareness of the need for physical fitness throughout life. Activities are scheduled for the skilled, unskilled and handicapped.

Archery
Fundamental skills and techniques of target shooting, rules, care and selection of equipment.

Badminton — Beginning and Intermediate
Fundamental skills of serving, strategy, play, rules and tournament play.

Bowling — Beginning and Intermediate
Fundamental techniques, straight ball delivery, introduction of hook and curve ball delivery, rules and tournament play. (Additional fee)

Contemporary Dance — Beginning and Intermediate
Fundamentals of dance movement, conditioning techniques, experience in dance composition.

Exercise and Weight Control
Designed for students who are 10% overweight and who desire to lose weight, participate in exercise, and receive diet and nutrition counseling. Permission of the instructor required.

Fencing — Beginning and Intermediate
Initial positions, techniques, attacking movements, and defensive movements; competition.

Fitness — Beginning and Intermediate
Cardio-vascular development, exercise routines designed to develop and maintain fitness.

Folk Dance — Beginning, Intermediate and Advanced
Traditional dance steps and dances from many countries.

Golf — Beginning and Intermediate
Fundamentals, techniques, rules, social etiquette.
(Additional fee)

Jogging
Practice and technique of running, variations of interval work.

Skiing — Beginning and Intermediate
Selection and use of equipment, flat turning, walking, climbing, straight running position, open and closed skiing, traverse position, turning and side slipping. Student is guided to parallel skiing as rapidly as time permits. (Additional fee)

Swimming — Beginning
Orientation to water, introduction to prone and supine float, front crawl, back crawl, breast stroke, side stroke, and elementary diving.

Swimming — Intermediate
Prerequisite: Pass beginning swim test. Development of the front crawl, breast stroke, back stroke, survival swimming, turns and endurance.

Swimming — Advanced
Prerequisite: Pass advanced swim test or permission of instructor. Basic skills of lifesaving; leads to American Red Cross Certification in Senior Lifesaving.

Swimming — Water Safety Instructor
Prerequisite: Entry examination or permission of instructor. Methods of water safety instruction. Upon completion, an American Red Cross Instructors card may be secured.

Tennis — Beginning and Intermediate
Theory and practice in tennis skills, strategy, and application of rules, competition.

Volleyball — Beginning and Intermediate
Fundamental skills, techniques and strategy, rules and team play.

PE 180 Physical Education (Women Only) (3 class hrs/wk) 1 credit
A variety of activities taught for physiological and recreational values, designed to improve fitness, skills, movement and creative expression; as well as to create an awareness of the need for physical fitness throughout life. Activities are scheduled for the skilled, unskilled and handicapped.

Adaptive Activity
Students with physical limitations or deviations are assigned to programs of adapted physical activity by a physician or departmental staff. Special attention is given to restricted and corrective work. Permission of the instructor required.

Basketball — Beginning and Extramural Team
Fundamentals, techniques of offensive and defensive play, rules, team play and competition.

Conditioning
Exercises and activities designed to maintain fitness and increase knowledge and performance of body form and function.

Field Hockey — Beginning and Extramural Team
Fundamental skills and techniques, as well as rules and team play. Competition.

Gymnastics — Beginning and Advanced
The techniques involved in controlled muscular movement, using various types of gymnastic apparatus.

Personal Defense
Fundamentals and technique of skills of personal defense that offer every woman the chance to feel physically and psychologically secure in terms of her personal safety.

Softball
Fundamentals, rules and team play.

Tennis — Extramural Team
Theory and practice in tennis skills, strategy, and application of rules.

Track — Beginning, Advanced and Extramural Team
Fundamentals, rules, theories and training in track and field events. Competition.

Volleyball — Beginning and Intermediate
Fundamental skills, technique and strategy, rules and team play.

PE 190 Physical Education (Men Only) (3 class hrs/wk) 1 credit
A variety of activities taught for physiological and recreational values, designed to improve fitness, skills, movement and creative expression; as well as to create an awareness of the need for physical fitness throughout life. Activities are scheduled for the skilled, unskilled and handicapped.

Adaptive Activity
Students with physical limitations or deviations are assigned to programs of adapted physical activity by a physician or departmental staff. Special attention is given to restricted and corrective work. Permission of the instructor required.

Baseball — Varsity Team
Fundamentals, techniques of offensive and defensive play, rules, team play and competition.

Basketball — Beginning, Intermediate and Advanced
Fundamentals, techniques of offensive and defensive play, rules, team play and competition.

Body Building — Beginning and Intermediate
Use of weights and weight lifting equipment. A chart of progress and development is kept by each individual. Also, other conditioning methods are introduced.

Conditioning — Beginning and Intermediate
Primarily concerned with cardio-vascular development, variations in running, jogging, interval work and wind sprints. Special programs of exercise and activities for men.

Cross Country — Varsity Team
A study and practice of the techniques of running. Individual and group competition.

Flag Football
Fundamental skills, strategy, team play and competition.

Gymnastics — Beginning, Advanced and Varsity Teams
The techniques involved in controlled muscular movement, using various types of gymnastic apparatus.

Handball — Beginning and Intermediate
Fundamental techniques and rules; singles and doubles competition.

Personal Defense
Techniques and fundamentals.

Soccer — Beginning and Varsity Teams
Fundamentals, techniques of offensive and defensive play, strategy, rules and team play.

Softball
Fundamentals, rules and team play.

Tennis — Varsity Team
Theory and practice in tennis skills, strategy and application of rules.

Track — Beginning and Varsity Team
Fundamentals, rules, theories and training in track and field events. Competition.

Volleyball — Beginning, Intermediate and Varsity
Fundamental skills, technique and strategy, rules and team play.

Weight Lifting
Perfection of fundamental lifts, advanced conditioning and competition lifting. (Open only to students with previous experience in lifting barbells.)

Wrestling — Beginning and Varsity Team
Fundamentals, techniques, rules and competition.

PE 194 Professional Activities (Women) (6 class hrs/wk) 2 credits
Instruction and practice in specific teaching techniques and basic skills. Different activities each term. Fall: Field sports. Winter: Basketball, tumbling, basic movement. Spring: Track and Field.

PE 195 Professional Activities (Men) (6 class hrs/wk) 2 credits
Instruction and practice in specific teaching techniques and basic skills. Different activities each term. Fall: Fundamentals of movement and games. Winter: Elementary gymnastics. Spring: Track and field.

PE 294 Professional Activities (Women) (6 class hrs/wk) 2 credits
Instruction and practice in specific teaching techniques and basic skills. Different activities each term. Fall: Gymnastics. Winter: Contemporary dance and volleyball. Spring: Folk, square and social dance.

PE 295 Professional Activities (Men) (6 class hrs/wk) 2 credits
Instruction and practice in specific teaching techniques and basic skills. Different activities each term. Fall: Field sports. Winter: Swimming or volleyball and badminton. Spring: Folk, square and social dance.

*Pending Approval

Home Economics

CHAIRMAN: Gladys Belden

FACULTY: Jeanne Armstrong, Mary Carlisle, Frances Clark, Joann Ellingson, Lilian Heilpern, Marcia King, Eleanor Latterell, Gayle Smith

Early Childhood Education

ONE YEAR CERTIFICATE OF COMPLETION PROGRAM.
TWO YEAR ASSOCIATE OF SCIENCE DEGREE PROGRAM.
APPROVED BY VETERANS' ADMINISTRATION.

Two year program leading to an Associate of Science degree in Early Childhood Education. National trends indicate increasing employment opportunities as more subsidized day care and greater understanding of importance of early years development. Graduates may work in nursery schools, Head Start centers, day care centers, and as paraprofessional members of teams in public schools.

First year of the program may be taken for a certificate in Early Childhood Education. This training will prepare one to work as a teacher's aide or day care assistant. Most of the courses are excellent electives for parents or volunteers who work with children. Special one term program for day care mothers is available.

CURRICULUM

First Year

		F H-C*	W H-C	S H-C
HEc 7.104	Introduction to Early Childhood Education	2-2		
HEc 7.105	Development in Childhood 1	3-3		
HEc 7.102	Child Care and Guidance	3-3		
SSc	Social Science Elective	3-3		
HEc 1.300	xSupervised Field Experience	6/15-2/5		
HEc 7.115	Creative Activities for Children		3-3	
HEc 7.116	Personal and Home Management		3-3	
LA 1.100	Communication Skills 1 or Equivalent		3-3	
	Elective		3-3	
HEc 1.300	xSupervised Field Experience		6/15-2/5	
HEc 7.118	Child in the Family			3-2
HEc 7.117	Early Childhood Curriculum 1			3-3
HEc 7.107	Child Nutrition and Health			3-3
	Elective			3-3
HEc 1.300	xSupervised Field Experience			6/15-2/5
		17/26-13/16		
			18/27-14/17	
				18/27-13/16

Second Year

		F H-C*	W H-C	S H-C
HEc 7.106	Development in Childhood 2	3-3		
HEc 7.108	Outdoor Activities for Children	2-2		
PE HE 252	First Aid	3-3		
	Elective	3-3		
HEc 1.300	xSupervised Field Experience	6/15-2/5		
HEc 7.119	Early Childhood Curriculum 2		3-3	
AD 4.400	**Art Education for Young Children		6-3	
LA 1.112	Children's Literature		3-3	
HEc 7.120	Instructional Media		2-2	
HEc 1.300	xSupervised Field Experience		6/15-2/5	
HEc 7.122	Administration of Child Care Centers			3-3
HEc 7.123	Problems of the Deprived Child			3-3
HEc 7.124	Parent-School-Community Relations			3-3
	Elective			3-3
HEc 1.300	xSupervised Field Experience			6/15-2/5
		17/26-13/16		
			20/29-13/16	
				18/27-14/17

*H-hours, C-credits
**Pending Approval
xNote: A student would be eligible for the Associate of Science Degree *only* if he takes a minimum of 4 credits (12 hrs/wk) in the *Supervised Field Experience* courses.

Institutional Food Service Supervision

TWO YEAR ASSOCIATE OF SCIENCE DEGREE PROGRAM.
ONE YEAR CERTIFICATE OF COMPLETION PROGRAM.
APPROVED BY VETERANS' ADMINISTRATION.

Two year program of intensive full time study correlated with work experience in food service, leading to an Associate of Science degree in Institutional Food Service Supervision. Emphasis on fundamental principles of nutrition, food preparation, and management, related to the supervision of personnel in group care institutions.

Completion of this program makes one eligible for American Dietetic Association, Food Service Supervision certificate, and membership in HIEFS (Hospital Institution Educational Food Service).

Graduates may find employment as kitchen supervisor, assistant to dietitian or food service administrator, and head cook or assistant cook in a large kitchen.

CURRICULUM

First Year

		F H-C*	W H-C	S H-C
HEc 7.100	Introduction to Food Service Work	2-2		
HEc 7.150	Introductory Foods	4-3		
HEc 7.151	Introduction to Nutrition	3-3		
HEc 1.300	Supervised Field Experience	12-4		
LA 1.100	Communication Skills 1 or Equivalent	3-3		
HEc FN 218	Food Preparation		5-3	
HEc FN 225	Nutrition		3-3	
LA 1.102	Communication Skills 2 or Equivalent			3-3
HEc 1.300	Supervised Field Experience		12-4	
SSc	Social Science Elective		3-3	
HEc 7.152	Quantity Foods 1			3-3
	Elective			3-3
Sc Bi 102	General Biology		6-4	
HEc 1.300	Supervised Field Experience			12-4
	Elective			3-3
		24-15	29-17	24-16

Second Year

		F H-C*	W H-C	S H-C
HEc 7.155	Organization and Management	3-3		
HEc 7.153	Quantity Foods 2	3-3		
HEc 7.156	Diet Therapy	3-3		
SSc 1.606	Self & Society (9 Weeks)	3-3		
HEc 1.300	Supervised Field Experience	12-4		
HEc 7.157	Food Purchasing and Storage		3-3	
HEc 7.158	Planning Food Service Systems		6-4	
HEc 1.300	Supervised Field Experience		12-4	
Sc Bi 123	Elementary Microbiology	6-4		
HEc 7.159	Supervisory Food Management			3-3
HEc 1.300	Supervised Field Experience			12-4
Bus 2.206	Business Mathematics			3-3
	Elective (General Education)			3-3
	Elective (General Education)			3-3
	*H-hours, C-credits	30-20	21-11	24-16

COURSES

1.300 Supervised Field Experience
Institutional Food Service Supervision (12 lab hrs/wk) 4 credits
Early Childhood Education (6-15 hrs/wk) 2-5 credits
Prerequisite: Permission of the instructor. Supervised, on-the-job experience through the Cooperative Work Experience Program is offered for students working in off-campus occupations closely paralleling the student's program. Entry is by petition if working or placement by CWE Program.

7.100 Introduction to Food Service Work (2 class hrs/wk) 2 credits
Orientation course acquaints the student with the many facets of food service work; teaches some of the fundamental principles governing proper food handling.

7.102 Child Care and Guidance (3 class hrs/wk) 3 credits
Acquaints student with various aspects in child care and guidance of preschool age children — discipline and self control, normal and abnormal behavior patterns, daily routines. Learning to accurately observe and record behavior will be studied through lecture, discussions, and films. Recommended elective for non-majors.

7.104 Introduction to Early Childhood Education 2 credits
(2 class hrs/wk)
Beginning course in early childhood education focusing on facilities, staffing, and program content of various kinds of group care for young children. Organizations and agencies promoting or regulating education and care for children; characteristics of professional workers, employment opportunities, and trends explored.

7.105 Development in Childhood 1 (3 class hrs/wk) 3 credits
Emphasis on the total development of the child aged three to five. Introduction to basic child study approaches. Instruction and experience in observing and recording children's behavior. Some study of prenatal influences on development and developmental tasks. Study of adult-child differences and the effects of adult attitudes and behavior on preschool children. Recommended elective for non-majors.

7.106 Development in Childhood 2 (3 class hrs/wk) 3 credits
Prerequisite: Development in Childhood 1. Further the student's understanding of the principles of development and developmental tasks from birth through adolescence with emphasis on the infant and the older child. A survey of various approaches to the study of child development. Should increase the student's understanding of dynamics of behavior, including feelings, attitudes, values and knowledge of typical patterns of growth. Recommended elective for non-majors.

7.107 Child Nutrition and Health (3 class hrs/wk) 3 credits
Brief study of the primary nutrients, their major sources and effect on growth and development. Food habits, their meaning and development. Menu planning for children. Nutrition education in the nursery school. Cleanliness, sanitation, and dental hygiene. Characteristics of a healthy child. Common childhood diseases; recognizing signs of illness. Medical services for children. Techniques of coping with common childhood emergencies. This course would be helpful to the homemaker and mother.

7.108 Outdoor Activities for Children (2 class hrs/wk) 2 credits
Introduces student to methods and materials for guiding outdoor activities — games, field trips, science activities, types of playgrounds, value of play, playground supervision and safety. Designed specifically for workers with preschool and early primary age children.

7.115 Creative Activities for Children (3 class hrs/wk) 3 credits
Introduces student to creative activities suitable for preschool age children. Art, music, dramatics, rhythms, games, storytelling, fingerplays, nature studies, carpentry, and water play. Lectures and demonstrations are combined with laboratory experiences in the use of various media.

7.116 Personal and Home Management (3 class hrs/wk) 3 credits
Multiple-role of the working woman, including self-analysis in relation to employment opportunities; development of personal qualities which contribute to success on the job and in the home; the management of time, energy, money, and talents to reach personal and vocational goals. Self-analysis, guest speakers, and field trips will be major methods. Recommended elective for non-majors.

7.117 Early Childhood Curriculum 1 (3 class hrs/wk) 3 credits
Prerequisite: Third term students or permission of instructor. Instruction and practice in planning daily and weekly program activities for early childhood centers. Emphasis on stimulating learning through use of a variety of methods and materials.

7.118 Child in the Family (3 class hrs/wk) 2 credits
Importance to the child of family structure. Problems of working mothers in maintaining close relationship with child. Responsibility of school or center to strengthen child-family relationships.

7.119 Early Childhood Curriculum 2 (3 class hrs/wk) 3 credits
Prerequisite: Early Childhood Curriculum 1. Study and evaluation of various approaches to early childhood education including cognitive, language, early academic learning, and unit based programs. Observation in a variety of full-day and half-day programs for three-six year old children. Practice in planning and teaching, using a variety of theoretical methods.

7.120 Instructional Media (2 class hrs/wk) 2 credits
Review of audio-visual materials appropriate for use with preschool and early primary school children such as filmstrips, movies, photograph collections and tapes; planning and evaluating audio visual experiences including bulletin boards for both children and parents. Practical experience using audio visual equipment will be emphasized.

7.122 Administration of Child Care Centers (3 class hrs/wk) 3 credits
Problems involved in the operation of cooperative preschools, nursery schools, day care centers, private kindergartens, and Head Start centers. Overall program planning, organizational structure, budgeting, and personnel management are discussed and practiced through case study and role play. Operational codes, federal interagency requirements, and state licensing are included.

7.123 Problems of the Deprived Child (3 class hrs/wk) 3 credits
Study of sociological factors which contribute to deprivation in young children, through age six. How to identify the disadvantaged — culturally, economically, emotionally, intellectually, socially. Ways to compensate for deprivation in families and schools. Review of models in education which deal with deprivation.

7.124 Parent-School-Community Relations (3 class hrs/wk) 3 credits
Establishing and maintaining school and community programs for parent education. Learning skills for developing rapport and communication with parents. Conferences, meetings, and community resources as tools for fostering parent-child relationships. Practical experience with community groups.

7.150 Introductory Foods (4 class/lab hrs/wk) 3 credits
Practical course including all phases of meal preparation; menu planning; management of energy; time, and money; table service; sanitation and safety in food handling; use of kitchen equipment and appliances; basic food preparation. Excellent elective.

7.151 Introduction to Nutrition (3 class hrs/wk) 3 credits
"Practical" nutrition, applicable to everyday living. Basic nutrients, sources, and body utilization to promote optimum health. Excellent elective.

7.152 Quantity Foods 1 (3 class hrs/wk) 3 credits
Needs of kitchen planned for quantity food preparation. Fundamental aspects of quantity food preparation, including organization, units and staff requirements, standardization of recipes, portion control, principles of quantity food preparation and purchasing. Laboratory experience gained in Supervised Field Experience conducted in food service area.

7.153 Quantity Foods 2 (3 class hrs/wk) 3 credits
Prerequisite: FN 218 Food Preprartion and Quantity Foods 1. Efficient meal preparation in quantity, provides student with an understanding of production management, and the need for control systems and high quality standards. Supervised Field Experience provides the laboratory for quantity meal preparation.

7.155 Organization and Management (3 class hrs/wk) 3 credits
Gives students basic knowledge of the organizational structure of various group care institutions and the management of a food service department. Policies and procedures in respect to each function of the department. Cost analysis and budgets. Policy statements, procedures for implementing policies, and cost reports. Combining records to give essential information.

7.156 Diet Therapy (3 class hrs/wk) 3 credits
Prerequisite: FN 225 Nutrition. Brief review of basic nutrition and of the need for individualization of diets for cultural, emotional, and economic factors. Special emphasis upon use of modified diets in treatment of disease, and its practical application in group care institutions. Role of food service supervisor in team concept of nutritional care.

7.157 Food Purchasing and Storage (3 class hrs/wk) 3 credits
Purchasing procedures and methods used in institutional food service; standards established to indicate quality and protect consumer in purchasing; ethical standards and buying practices; basic factors such as policies, marketing system, needs, and selection. Selection of food by written specification. Receiving of food and supplies, storage and record keeping.

7.158 Planning Food Service Systems (6 class/lab hrs/wk) 4 credits
Work methods, space and equipment requirements, area and equipment arrangement to provide an efficient operation in institutional food service. Sanitation, maintenance, and record keeping. Laboratory practice and demonstration of work motions, flow of work, and planning floor layouts accompany classroom lectures and reading assignments. Practice in preparing equipment specifications according to needs.

7.159 Supervisory Food Management (3 class hrs/wk) 3 credits
Understanding people and the ability to work with them effectively. Techniques of human relations, communication, and inter-personal relationships. Factors involved in selection, orientation, and training of personnel.

CT 210 Clothing Construction (6 class hrs/wk) 3 credits
Basic course in college sequence. Principles of selection of pattern, fabrics, and notions; use of equipment and management of time: basic construction techniques including fabric preparation, marking, making and attaching collars, sleeves, facings, and waistbands, bound or piped buttonholes, zipper applications; and pattern alterations and basic fitting points of a dress and pants. Student will make two garments, one dress of cotton or synthetic fabric and a skirt or pants of wool fabric. Good for non-majors.

CT 211 Clothing Selection (3 class hrs/wk) 3 credits
How the fashion industry operates, and tips on selecting ready-made garments. Basic selection of clothing for individuals including line, texture, color, and their effect in relation to the basic figure types and face shapes. Good for non-majors.

CT 250 Textiles (4 class hrs/wk) 3 credits
Fibers, yarns, and fabrics of today, including their basic properties, identification, selection, fabric finishes, application of color, both woven and knitted fabrics. Students learn to evaluate fabrics and what to expect from them as well as how to care for them for maximum performance. Good for non-majors.

FL 222 Marriage Preparation (2 class hrs/wk) 2 credits
Reading and discussion organized around topics of personal concern selected by the students, including interpersonal relationships; changing sexual standards; love vs. infatuation; foods. Lab experiences apply theory from class lectures.

FL 223 Family Living (2 class hrs/wk) 2 credits
A functional course pertaining to the family in a changing society. Research and discussion on student-selected topics such as masculine-feminine roles in marriage, conflict and adjustment, in-law relationships, financial and household management, family planning, and parenthood. Suitable for majors and non-majors. May be taken separately or in combination with Marriage Preparation, FL 222.

FL 225 Child Development (3 class hrs/wk) 3 credits
Study of the physical, social-emotional, and intellectual development of the child, birth through six. Some emphasis on prenatal influences and modern scientific methods of treating the unborn. A survey of various child-study appraoches. Instruction and experience in observing and recording the behavior of young children. Study of adult-child differences, value of play, and discipline.

FN 218 Food Preparation (5 class/lab hrs/wk) 3 credits
Prerequisite: Introductory Foods or High School Home Economics. Based on the *science of food preparation* — how the physical and chemical composition of the food is affected by

cooking procedures and other environmental conditions. Principles governing recommended methods for preparing all foods. Lab experiences apply theory from class lectures.

FN 225 Nutrition (3 class hrs/wk) 3 credits
A study of the nutrients, their sources, assimilation, functions and requirements. Current national and international problems. Evaluation of nutrition information in the mass media. Greater detail and more scientifically oriented than Introduction to Nutrition.

Hec 101 Introduction to Home Economics (2 class hrs/wk) 1 credit
Survey of the professional and paraprofessional employment opportunities in the various areas of Home Economics. Includes some history of the profession. Guest speakers, field trips, and personal interviews.

Industrial Technology

CHAIRMAN: A. M. "Bud" Land

FACULTY: Robert T. Allen, Chester Aubrey, Carl Blood, Robert L. Gault, Gerald A. Meier, O. Jed Merrill, John N. Phillips, John W. Shuster.

The Department of Industrial Technology offers study in the areas of **construction, drafting, welding** and **forestry.** Course work may be taken independently or in organized curricula which lead to a certificate of completion, a diploma or the Associate of Science degree.

Programs in Industrial Supervision, Production Technology, Plastics Technology and Building Maintenance are in the process of development. Inquiry should be directed to the chairman of the department.

Construction Technology

The Department of Industrial Technology offers a one-term certificate, a one-year diploma and a two-year associate degree in Construction Technology. These programs are designed toward entry-level occupational proficiency in project management in the construction and allied industries. The programs depart from a typically structured list of courses to building flexible *group areas* of knowledge. Each student, in counsel with his faculty advisor, selects courses to satisfy (1) general institutional standards, (2) an industrial concentration and (3) personal curiousity and interest. Relevancy in the industry is maintained through direct involvement by advisory groups in course development, on-the-job experiences, teaching and placement on graduation.

GROUP REQUIREMENTS Group 1, General Requirements	One-Year Certificate Cr.	One-Year Diploma Cr.	Two-Yea Degree Cr.
Minimum General Education ..	—	9	18
Communicative Arts	—	3	6
Graphic Arts	2	4	6
Quantitative Sciences	3	6	12
Social Sciences & Business ...	—	3	6
Safety & First Aid*	—	3	3
Group 2, Industrial Concentration			
Technical	—	15	30
Skill	—	5	15
Minimum, Technical/Skill	10	20	45
Group 3, Unrestricted Electives	—	9	18
Minimum Total Credits	15	45	96

*Supervisory First Aid Card

EXPLANATION OF GROUP AREAS: CONSTRUCTION TECHNOLOGY

Group 1, General Requirements:

Communicative Arts:
Those courses leading to the understanding and transfer of knowledge by script or word. Examples: Communications, English Composition, Speech, Report Writing, Business Communications, Drama.

Graphic Arts:
Those courses leading to the understanding and transfer of knowledge by script or word. Examples: Selected Audio-visual, Drafting, Basic Design, Technical Illustration, Industrial Photography.

Quantitative Sciences:
Those courses leading to the understanding and transfer of knowledge through quantitative relationships. Examples: The Physical Sciences, Geometry, Construction Problems, Mathematics, Selected Data Processing, Statistics, Mechanics and Strength of Materials.

Social Sciences and Business:
Those courses leading to the understanding and transfer of knowledge related to people. Examples: Elements of Industrial Supervision, Political Science, Economics, Organization & Management, Business Law, Industrial Psychology.

Group 2, Industrial Concentration:

The prime objective of this group is to provide a concentration of occupational knowledge and skills which will provide the student with entry-level occupational competency. Specific balance is to be determined by the student with his industrial advisor. Courses, where they enhance the student selected concentration, may be drawn from departments other than Industrial Technology.

Group 3, Open Electives:
These are unrestricted elective courses selected by the student through personal curiousity, interest or as a possible allied field.

Forest Technician

TWO YEAR ASSOCIATE OF SCIENCE DEGREE PROGRAM. APPROVED BY VETERANS' ADMINISTRATION.

This curriculum provides education and training to qualify a person as a forest technician. A forest technician is competent to handle intermediate responsibilities between those appropriate to the skilled worker and those of the professional forester. He directs the former under the supervision of the latter; in other words, he sees that plans prepared by professional foresters are efficiently executed. Students completing the program with 100 credits or more are placed as Forest Technicians with the state and federal agencies, and private forest product and logging operations.

There are several electives included in this program and the student may take special work in his particular field of interest. Wildlife, recreation, log scaling, timber cruising, surveying, timber sale administration, reforestation, etc., are some examples of possible options in which the student may specialize by counseling with his major instructor. A high school graduate who completes this curriculum would be qualified to work for the U.S. Forest Service as a forestry aide, usually at the GS-4 level. The salaries for other employers would be comparable.

Previous forestry experience and completion of the two year technician program would qualify the graduate for a higher rating. Technician level work starts with the GS-5 rating. Applicants must have completed high school or the equivalent, and should have successfully completed courses in algebra and trigonometry. The applicant should have demonstrated an interest in outdoor camping or woods experience, and be capable of hard, vigorous, physical and mental activity. The present curriculum is under minor revision. The student should consult the department before registering.

CURRICULUM

First Year

			F H-C*	W H-C	S H-C
LA	1.100, 1.102, 6.126	Communication Skills 1, 2, 3 or	3-3	3-3	3-3
LA	Wr 111, 112, 113	English Composition	(3-3)	(3-3)	(3-3)
Mth	4.202, 4.204	Mathematics 2, 3	5-3	5-3	
SSc		Social Science Elective	3-3		
IT	6.601	General Forestry	3-3		
IT	4.101	Drafting 1	4-2		
IT	6.640	Fire Protection and Control	4-3		

continued

IT	6.621	Power Equipment and Safety		6-3	
IT	6.615	Silvicultural Practices		6-3	
IT	6.102	Elementary Surveying		6-4	
IT	6.645	Tree Identification			6-3
IT	6.656	Forest Recreation			6-3
		Elective-General			3-3
Mth	6.135	Engineering Problems 1			2-2
			22-17	26-16	20-14

Supervised Field Experience 1.300, during the summer between the first and second years requires 30 plus hours a week for five credits.

Second Year

			F H-C*	W H-C	S H-C
IT	6.625, 6.626	Forest Mensuration 1, 2	6-3	6-3	
IT	6.641	Forest Protection	3-3		
IT	6.605	Forest Products	4-2		
IT	6.628	Forest Surveying	6-3		
		Elective-General	3-3		
		Economics Elective	3-3		
		Supervisory or Business Elective		3-3	
IT	6.633	Forestry Records & Reports		3-3	
IT	6.635	Forest Contracts		6-3	
		Elective-General		3-3	
PE	1.605	Health Education		2-2	
IT	6.631	Logging Planning			12-6
IT	6.636	Forestry Specialized Studies			10-5
IT	6.650	Senior Projects			3-3
		Information Systems Elective			3-2
		*H-hours, C-credits	25-17	23-17	28-16

Technical Drafting

TWO YEAR ASSOCIATE OF SCIENCE DEGREE PROGRAM. APPROVED BY VETERANS' ADMINISTRATION.

Basic instruction and training in drafting techniques is offered, with additional specialized instruction on advanced techniques in such areas as machine drafting, electrical drafting, technical illustration, architectural drafting, and structural drafting. The program provides training for those planning to enter employment with industrial or business firms that need skilled technicians who can interpret engineering data and directions, and develop sketches, plans, working drawings and details for production work.

Opportunities for employment in this field are available in construction, industrial manufacturing plants, engineering firms, and city, county, state and federal agencies. The present curriculum is under revision. The student should consult with the department before registering.

CURRICULUM

First Year

			F H-C*	W H-C	S H-C
IT	4.101, 4.105	Drafting 1, 2	4-2	4-2	
Mth	4.202, 4.204	Mathematics 2, 3	5-3	5-3	
Sc	4.300	Science of Properties of Materials	5-4		
Sc	4.302	Science of Mechanics		5-4	
Sc	4.304	Electrical Science			5-4
IT	4.128, 4.129, 4.130	Introduction to Fabrication Practices 1, 2, 3	5-3	5-3	5-3

LA	1.100, 1.102, 6.126	Communication Skills 1, 2, 3	3-3	3-3	3-3
Bus	1.506	Applied Economics	3-3		
SSc		Social Science Elective		3-3	
IT	4.117	Advanced Machine Drafting 1			5-2
IT	4.103	Electrical Drafting			4-2
IT	4.115	Advanced Drafting Problems			3-3
			25-18	25-18	25-17

Second Year

			F H-C*	W H-C	S H-C
		General Ed Electives	2-2	2-2	2-2
IT	4.123, 4.125	Advanced Machine Drafting 2, 3	5-2	5-2	
Mth	6.261, 6.262, 6.266	Technical Mathematics 1, 2, 3	4-4	4-4	4-4
Mth	6.135, 6.136	Engineering Problems 1, 2	2-2	2-2	
IT	4.111	Structural Drafting	5-2		
IT	4.102	Introduction to Specifications	3-3		
IT	4.108	Industrial Safety	3-3		
IT	4.104	Production Planning & Practices		5-4	
PE	1.605	Health Education		2-2	
IT	4.107	Architectural Drafting		5-2	
IT	4.119	Project Drafting			10-4
IT	4.106	Metals Application Treatment Testing			5-3
IT	4.127	Technical Illustration			4-2
		*H-hours, C-credits	24-18	25-18	25-15

Welding Technology

TWO YEAR ASSOCIATE OF SCIENCE DEGREE PROGRAM. APPROVED BY VETERANS' ADMINISTRATION.

The student prepares for employment as a welder. Course material covers techniques needed for entry positions in the welding industry, along with background information helpful for those who seek advancement into management, sales and service, ownership and technician positions in production industries.

The present curriculum is under revision. The student should consult with the department before registering.

CURRICULUM

First Year

			F H-C*	W H-C	S H-C
IT	4.150, 4.151, 4.158	Welding 1A, 1B, 2B	5-2	5-2	5-2
LA	1.100, 1.102	Communication Skills 1, 2 or	3-3	3-3	
LA	Wr 111	English Composition *and*	(3-3)		
MC	Sp 111	Fundamentals of Speech		(3-3)	
LA	6.126	Communication Skills 3			3-3
Mth	4.202, 4.204	Mathematics 2, 3	5-3	5-3	
Sc	4.302	Science of Mechanics			5-4
IT	4.128, 4.128A	Introduction to Fabrication Practices 1, 1A	5-3	5-3	
IT	4.106	Metal Application Treatment & Testing			5-3
Mch	3.393	Machine Tool Operation		5-3	
IT	4.160	Drafting Fundamentals	5-2		
IT	4.109	Mechanical Drafting		5-2	
IT	3.910	Blueprint Reading for Construction 1			5-3
PE	1.605	Health Education			2-2
			23-13	28-16	25-17

Second Year

			F H-C*	W H-C	S H-C
IT	3.905, 3.906, 3.907	Welding 1, 2, 3	15-9	15-9	15-9
SSc		Social Science Electives		3-3	3-3
IT	3.911	Blueprint Reading for Construction 2	5-3		
IT	3.908, 3.909	Welding, Senior Projects 1, 2		8-4	8-4
		Electives	4-4		1-1
			24-16	26-16	27-17

*H-hours, C-credits

COURSES

1.300 Supervised Field Experience (minimum of 30 hrs/wk) 5 credits
Prerequisite: Consent of instructor. Supervised, on-the-job experience through the Cooperative Work Experience Program is offered for students working in off-campus occupations closely paralleling the student's college program. Entry is by petition if working or placement by CWE Program.

3.192, 3.193, 3.194 Production Millwork 1, 2, 3 5 credits each
(2 class, 6 lab hrs/wk)
Production methods, special machines, and standards of practices in cabinet, furniture, and millwork. Laboratory work in the design and construction of quantity and quality control devices.

3.195 Machine Woodwork (Millwork) (2 class, 4 lab hrs/wk) 3 credits
Design and construction of jigs and fixtures used on common woodworking machines for mass production of millwork products. Organization of the laboratory and personnel for production and different methods for facility control of items in limited production.

3.196 Millwork and Cabinet Design (2 class, 4 lab hrs/wk) 3 credits
Material used in designing and planning for the construction of millwork products. Single item design, grouping.

3.197 Wood and Metal Finishing (2 class, 4 lab hrs/wk) 3 credits
Preparation of new and used wood and metal surfaces for various types of finish materials: finishes and their application by brush and spray methods.

3.198 Woodworking Technology (2 class, 4 lab hrs/wk) 3 credits
Wood as a material, its structure and utilization in construction and fabrication, and wood identification.

3.905 Welding 1 (15 class hrs/wk) 9 credits
Use of inert gas welding of ferrous and non-ferrous metals. T.I.G. and M.I.G. process, and use of semi- and full automatic welding equipment. All position welding, layout, and joint preparation of materials toward State Welding Certification.

3.906 Welding 2 (15 class hrs/wk) 9 credits
Prerequisite: Welding 1 or approval of department chairman. Simulation, diagrams, and symbols of tests for graduation and State Certification. Advanced welding procedures with emphasis on welds of low hydrogen quality.

3.907 Welding 3 (15 class hrs/wk) 9 credits
Prerequisite: Welding 2 or approval of department chairman. Industrial level experiences in material scheduling and listing, reading of blueprints, engineering specification, data review, and supervisory training. Preparation for test specimens to be sent to the testing lab, certification papers will be required.

3.908 Welding, Senior Projects 1 (8 lab hrs/wk) 4 credits
Prerequisite: Approval of department chairman. A lab course in project development. Layout, cutting, and metal preparation from shop drawings, welding in journeyman-type procedures of industry; transfer of plans on paper to "all-dimensional" metal parts for fabrication and welding.

3.909 Welding, Senior Projects 2 (8 lab hrs/wk) 4 credits
Prerequisite: Senior Projects 1 or approval of department chairman. A lab course in continued, advanced, layout procedures, prefabrication, assembly processes, correct uses and routing of manpower and equipment.

3.910 Blueprint Reading for Construction 1 (5 class hrs/wk) 3 credits
Relationship of the various drawings in a set of plans to basic drawing principles; recognition of detail in job prints related to the construction industries; prints of construction jobs; free hand, large scale detailing of portions of construction; material take off.

3.911 Blueprint Reading for Construction 2 (5 class hrs/wk) 3 credits
Prerequisite: Blueprint Reading for Construction 1. Advanced study related to the needs of the individual in the interpretation of shop prints for special features of design, fabrication, construction, and assembly. Residences, commercial buildings, and bridge or dam construction prints typify the type of plans used for study.

4.050 Machine and Tool Maintenance (2 class, 3 lab hrs/wk) 3 credits
Background information and experience using machine tools common to construction practices. Relationship of use and maintenance of hand tools, portable power tools, and production machines to occupational practices in construction and fabrication industries.

4.051 Construction Practices 1 (3 class, 7 lab hrs/wk) 5 credits
Materials and methods common to structural form in construction industries: aggregate, stone, steel, glass, plastic, gypsum, and wood.

4.052 Construction Practices 2 (3 class, 7 lab hrs/wk) 5 credits
Use and methods of supplementary material common to construction practices; insulative, acoustical, finish, protective, decorative and hardware.

4.101 Drafting 1 (4 lab hrs/wk) 2 credits
Prerequisite: High school algebra or approval of department chairman. Mathematics 2, 4.202, may be taken concurrently. Basic drawing techniques with emphasis on the application of drafting instruments, standard orthographic projection, layout procedures, and ASA approved lettering techniques.

4.102 Introduction to Specifications (3 class hrs/wk) 3 credits
Common usage and practice in the preparation and interpretation of specifications. Examination of existing specifications covering current subjects with practical problems.

4.103 Electrical Drafting (4 lab hrs/wk) 2 credits
Prerequisite: Drafting 1 or equivalent. Techniques required for the electrical and electronic fields. Charts, graphs; schematic, wiring and routing diagrams; location drawings. Standard schematics such as motor starters, annunciators, AM and EEIA approved symbols will be used.

4.104 Production Planning and Practices 4 credits
(3 class, 2 lab hrs/wk)
Elements of production control and planning such as: Machine routing, steps of fabrication, efficient shop layout, materials handling, storage problems, and production records.

4.105 Drafting 2(4 lab hrs/wk) 2 credits
Prerequisite: Drafting 1, 4.101 or equivalent. Intermediate preperation for mechanical, structural, civil, and architectural drafting. Projection and perspective drawing. Concept technique of inking, and the development of working drawings as used in industry.

4.106 Metals Application Treatment And Testing 3 credits
(2 class, 3 lab hrs/wk)
Prerequisite: Welding 1A or 1B. Survey in metallurgy covering the common materials of fabrication, metals, coding systems, characteristics, methods of refining and alloying and methods of treating. Various types of and the working of metals used by industry.

4.107 Architectural Drafting (5 lab hrs/wk) 2 credits
Prerequisite: Drafting 2 or approval of department chairman. Architectural drawing techniques, methods and procedures; lettering, layout and design of the standard drawings (construction and display, and rendering the display drawings). Design principles, carpentry, masonry principles, construction drawing.

4.108 Industrial Safety (3 class hrs/wk) 3 credits
Principles of safety in industry, including safety codes, personnel considerations and safety practices relating to design work, materials handling, and equipment.

4.109 Mechanical Drafting (5 lab hrs/wk) 2 credits
Prerequisite: Drafting 2 or approval of department chairman. An advanced course emphasizing mechanical design. Includes sketching, cam and gear layout, isometric drawings, welding drawings, tolerances and allowances, tool jig drawings. Simplified drawing techniques will be applied to industrial drawing requirements.

4.111 Structural Drafting (5 lab hrs/wk) 2 credits
Prerequisite: Drafting 2 or approval of department chairman. Civil and structural drafting procedures. Function and design of plans, diagrams and drawings; structural shapes such as bridges, dams and earthwork constructions.

4.115 Advanced Drafting Problems (3 lab hrs/wk) 3 credits
Prerequisite: Drafting 2 or approval of department chairman. Application of principles to problems commonly encountered by draftsmen.

4.117 Advanced Machine Drafting 1 (5 lab hrs/wk) 2credits
Prerequisite: Drafting 2 or approval of department chairman. Technical sketching and shape description, multi-view projections, sectional views, and revolutions.

4.119 Project Drafting (1 class, 9 lab hrs/wk) 4 credits
Prerequisite: Drafting 2 which may be taken concurrently. Working conditions similar to industrial drafting room. Project drawings requiring skills previously acquired. Methods for detail layout, reading specifications, common materials of fabrication, checking and back-checking drawings, and material take-offs.

4.123 Advanced Machine Drafting 2 (5 lab hrs/wk) 2 credits
Prerequisite: Advanced Machine Drafting 1. Advanced studies in the major areas of machine drafting. The area covered will include threads and fasteners, assembly drawings, pictorial drawings, and engineering graphics.

4.125 Advanced Machine Drafting 3 (5 lab hrs/wk) 2 credits
Prerequisite: Advanced Machine Drafting 2. Practical drafting problems requiring the application of previously learned principles of machine drafting. Advanced work on cams, gears, and the relationship of drafting to shop processes.

4.127 Technical Illustration (4 lab hrs/wk) 2 credits
Prerequisite: Drafting 2 or approval of department chairman. Techniques required for modern technical illustrations and drawings in catalogs, published presentation, or exploded drawings: freehand drawing and template implements, pencils, brush and technique of light and shadow.

4.128 Introduction To Fabrication Practices 1 3 credits
(2 class, 3 lab hrs/wk)
Practices in the fabrication of metals and metal cutting, finishing, change of shape, change of physical characteristics, and joining of metals.

4.128A Introduction To Fabrication Practices 1A 3 credits
(1 class, 4 lab hrs/wk)
Study and application of fabricated metal technology. Recognition of pattern and jig material. Positioning of fabricated sections for rapid completion. Areas where automated equipment can be utilized. Elimination of distortion problems.

4.129 Introduction To Fabrication Practices 2 3 credits
(2 class, 3 lab hrs/wk)
Practices in the fabrication of woods supplemented by visits to various manufacturing companies and construction jobs using common practices. Woodcutting, finishing, shaping, joining and fastening. A study of building codes will be included.

4.130 Introduction To Fabrication Practices 3 3 credits
(2 class, 3 lab hrs/wk)
Fabrication practices in the general area of construction and related areas: Concrete structure, highway construction, bridge construction, electrical and electronic applications, and plastics.

4.150 Welding 1A (1 class, 4 lab hrs/wk) 2 credits
Set up and operation of oxyacetylene welding equipment. Practice in welding, brazing, and soldering ferrous and nonferrous metals and their alloys.

4.151 Welding 1B (1 class, 4 lab hrs/wk) 2 credits
Introductory instruction in arc welding. Demonstration and practice in welding by electric arc. Application to industrial use in construction, maintenance, and repair.

4.156 Welding 2A (1 class, 4 lab hrs/wk) 2 credits
Advanced application of oxyacetylene. Information and instruction on the manufacture of metals, advanced heat treating of metals, advanced cutting applications, technical information. Shop practice with reference to various trades and industrial applications.

4.158 Welding 2B (1 class, 4 lab hrs/wk) 2 credits
Advanced instruction and practice in electric arc welding. Information and instruction in manufacturing of metals, advanced heat treating, cutting applications, and technical information correlated with shop practice and application to various trades and industry.

4.160 Drafting Fundamentals (5 lab hrs/wk) 2 credits
Basic concepts and basic skills. Study of instruments used, layouts for drawings, lettering, freehand sketching, the alphabet of lines, geometric construction, three view drawings, isometric drawings, intersections and developments, and blueprint reading.

6.101 Plane Surveying 1 (1 class, 4 lab hrs/wk) 3 credits
Prerequisite: Mathematics 2 or consent of department chairman. Fundamentals of chaining and leveling, care and adjustment of surveying instruments, and office procedures; with appropriate field work.

6.102 Elementary Surveying (3 class, 3 lab hrs/wk) 4 credits
Prerequisite: Mathematics 2 or equivalent. Beginning course in surveying techniques; study of surveying fundamentals and care and use of equipment; basic measurement theory, field record keeping and computations. Emphasis on horizontal and vertical measurements.

6.103 Plane Surveying 2 (1 class, 4 lab hrs/wk) 3 credits
Prerequisite: Plane Surveying 1 or equivalent. Continuation of Plane Surveying 1 designed to familiarize the student with the engineer's transit.

6.107 Strength of Materials 1 (2 class, 3 lab hrs/wk) 3 credits
Prerequisite: Mathematics 2 or equivalent. Stresses and strains that occur in bodies when subjected to tensile, compressive and shearing forces, including the common theory of beams.

6.108 Materials of Construction (2 class hrs/wk) 2 credits
Comparisons of various materials, their source, method of manufacture, physical and chemical properties; grading under a variety of conditions as encountered in construction work.

6.109 Applied Mechanics 1 (2 class, 3 lab hrs/wk) 3 credits
Mechanics of solids, with emphasis on statistics.

6.110 Construction Estimating (2 class hrs/wk) 2 credits
Development of skills in estimating the amount and cost of materials required and labor cost involved in various types of construction.

6.111 Applied Mechanics 2 (2 class, 3 lab hrs/wk) 3 credits
Prerequisite: Fourth-term standing or approval of department head. Motion of rigid bodies and the forces that produce or change their motion.

6.118 Contracts and Specifications (3 class hrs/wk) 3 credits
Common usage and practice in the preparation of contracts and attendant specifications. Examination of existing contracts covering current jobs will be used whenever possible.

6.120 Foundations of Structures (3 class hrs/wk) 3 credits
Various materials, devices, and designs used in structural foundations such as footing, cofferdams, caissons, abutments, piers, and underpinnings.

6.122 Construction Codes (2 class hrs/wk) 2 credits
Various codes specifying the standards of construction and the installation of electrical and plumbing fixtures. Building codes and the function of government agencies (state and local) charged with the administration and inspection of building construction.

6.123 Concrete Construction and Design 3 credits
(2 class, 3 lab hrs/wk)
Prerequisite: Mathematics 2 or approval of department chairman. Concrete materials, shear and bending calculations, shear and bending stresses, and design calculations. Design of concrete mixes to specified compressive strengths; problem solving.

6.124 Soil Mechanics (2 class, 3 lab hrs/wk) 3 credits
Prerequisite: Mathematics 2 or approval of department chairman. A study of index of properties of soil, hydraulic and mechanical properties, soil drainages and plastic equilibrium.

6.125 Timber and Steel Construction (3 class, 3 lab hrs/wk) 4 credits
Prerequisite: Mathematics 2. Steel and wood fasteners and connections, timber beams and columns. Structural members analyzed for design features.

6.127 Practical Descriptive Geometry (4 lab hrs/wk) 2 credits
A brief review of advanced drafting problems taking the student further into the field of descriptive geometric principles.

6.128 Strength of Materials 2 (2 class, 3 lab hrs/wk) 3 credits
Prerequisite: Strength of Materials 1 or equivalent. Design and deflection of beams, and the combination of forces and their effect upon various structural members.

6.130 Structural Analysis & Design (1 class, 3 lab hrs/wk) 2 credits
Prerequisite: Mathematics 2. Determination of stresses induced by loads on structures: selections of appropriate structural members and suitable connections; practical design procedures relating to various structural members.

6.131 Mapping and Computing 1 (4 lab hrs/wk) 2 credits
Prerequisite: Mathematics 2 or approval of department chairman. Advance map plotting, earthwork computation, field surveying from maps, legal description, subdivision planning and simulated problems of construction.

6.133 Mapping and Computing 2 (6 lab hrs/wk) 3 credits
Prerequisite: Mapping and Computing 1 or equivalent. A study of surveying laws, public land survey procedures, professional surveyor practices, earthwork computations, and map projections.

6.150 Route Surveying 1 (1 class, 7 lab hrs/wk) 4 credits
Prerequisite: Plane Surveying 1 and 2 or approval of the department chairman. Laboratory includes circular curves, grades, profiles vertical curves and study of related areas of highway projects such as rest areas.

6.601 General Forestry (3 class hrs/wk) 3 credits
Total field of Forestry — a survey of the jobs and resources involved.

6.605 Forest Products (1 class, 3 lab hrs/wk) 2 credits
Forest products and how they are produced. Visits made to major wood-using industries, their materials and methods studied in class.

6.615 Silvicultural Practices (2 class, 4 lab hrs/wk) 3 credits
Basic theory of silviculture, a general understanding of the growth principles and cutting methods for commercial forest species. Laboratory work in determining of sample area, selection, marking and thinning operation. Coordinated with Power Equipment and Safety which must be taken concurrently.

6.621 Power Equipment and Safety (2 class, 4 lab hrs/wk) 3 credits
Basic first aid course and industrial safety as it applies to logging and forest products. Basic operation and maintenance of transportation, and small engine driven equipment. Coordinated with Silvicultural Practices, which must be taken concurrently.

6.625, 6.626 Forest Mensuration 1, 2 3 credits each
(2 class, 4 lab hrs/wk)
A general course in forest measurements starting with log scaling, log grading and cruising methods. Necessary theory and practical work in each field.

6.628 Forest Surveying (2 class, 4 lab hrs/wk) 3 credits
Prerequisite: Elementary Surveying (6.102). Forest surveying with emphasis on aerial photos and topographic surveying; and covering the public land surveys.

6.631 Logging Planning (4 class, 8 lab hrs/wk) 6 credits
Prerequisite: Senior standing or consent of department chairman. Field procedures necessary in logging planning. An undeveloped tract of land will be studied from acquisition to prepared road system and logging plan with road engineering practices.

6.632 Introduction to Information Systems 2 credits
(1 class, 2 lab hrs/wk)
Use of computers in the business world. Preparing raw data, methods of reporting computed data, and general use of machine records with application to forestry records.

6.633 Forestry Records and Reports (3 class hrs/wk) 3 credits
Prerequisite: Forest Contracts to be taken concurrently. Reports for appraisal, accounting records, profit and loss statements; for local, state, and federal governments in such matters as Social Security, withholding taxes, industrial accidents, licensing requirements, billings, inventory control, and other administrative details.

6.635 Forest Contracts (2 class, 4 lab hrs/wk) 3 credits
Basic principles of a forest contract, field trips to show how the contracts are enforced through regular in-the-forest inspection. Forestry Records and Reports taken concurrently.

6.636 Forestry Specialized Studies (2 class, 8 lab hrs/wk) 5 credits
Prerequisite: To be arranged with forestry instructor. Senior Projects concurrently. On-the-job training in whatever specialty the student is interested. It may be any subject in forestry conservation or environment. The student will spend two hours a week with the instructor and one full eight hour day in field work. This may be on a project in company with other students on the same specialty field, one day a week.

6.640 Fire Protection and Control (2 class, 2 lab hrs/wk) 3 credits
Forest fire behavior, ignition; spread of forest fires and factors by which they are influenced; methods of fire prevention and suppression; forest fire control organizations and equipment, transportation, communications, and the operation of forest fire equipment.

6.641 Forest Protection (3 class hrs/wk) 3 credits
Elementary forest diseases, natural weather damage, and animal damage. Systems discussed for identification purposes. Study of prevention and cure of damage.

6.645 Tree Identification (2 class, 4 lab hrs/wk) 3 credits
Ecology and identification of trees and shrubs, including Western commercial timber species and many of the native non-commercial types.

6.650 Senior Projects (3 class hrs/wk) 3 credits
Prerequisite: Permission of instructor. Special study of activity in field of Forest Technology or related subjects.

6.656 Forest Recreation (2 class, 4 lab hrs/wk) 3 credits
All phases of recreational forest usage from the aesthetic needs of man for wilderness to the business management needed in areas of high density usage such as a marina. The sociology of forest users and the methods used for planning and maintenance of recreational facilities.

GE 101, 102, 103 Engineering Orientation 2 credits each
(2 class hrs/wk)

Prerequisites: Mathematics 101, 102. Problem solving and math indoctrination; the overall viewpoint regarding problems of development in civilization, the objective questioning and critical approach to technological problems. Contemporary approach to solutions is made by the use of Fortran programming using the IBM 360 for solutions. Preferably, these courses should be consecutive, beginning with GE 101. The first term familiarizes the student with engineering terminology and mastery of the use of the slide rule. The emphasis shifts toward computer training in Fortran and the use of a data control computer and the OS3 console.

GE 115 Graphics (3 class hrs/wk) 3 credits
Fundamental principles of the language. Three two-hour laboratory periods.

Language Arts

CHAIRMAN: John E. Howard

FACULTY: Evan Alford, Catherine Anderson, Paul Armstrong, Maryan Arthur, Evelyn Avery, Samuel E. Blackwell, Ruth Bowman, Pauline Dixon, Britta Hansen, Sheila B. Juba, Thomas Kepner, Karen Lansdowne, Frank Miller, Virginia Nelson, Jack Powell, Antoinette Robinson, Theodore Romoser, Michael Rose, Delta Sanderson, Karla Shultz, W. Donald Smith, Cherry Taylor, Arthur Tegger, Ruby Vonderheit, Marilyn Waniek, Arden Woods

Language Arts

COURSES

0.510 English as a Second Language (3 class hrs/wk) 3 credits
Designed for students whose native language is not English. Consists of work in listening and reading comprehension, speaking and writing skills, with attention to individual problems.

1.100, 1.102, 6.126 Communication Skills 1, 2, 3 3 credits
(3 clinic hrs/wk)

Individualized learning package instruction involving TV tapes; audio-cassettes; writing, reading, and listening exercises; and frequent teacher contacts. Learning packages include: sentence construction, expository paragraph, summary, personal essay, outline, business letter, resume, letter of application, memorandums, process writing, technical reports, listening and note-taking.

Length of course — no maximum, no minimum. Determined by student's progress and proficiency in meeting curriculum requirements.

Hours credit determined by student's technical-vocational curriculum or personal choice. Initial enrollment is one course for 3 credits.

1.108 Accelerated Reading (3 class hrs/wk) (8 weeks) 2 credits
To develop a rapid, efficient, and flexible reader, reading technique to meet the demands of the reading situation. The course content encompasses vision training, word and phrase recognition, and vocabulary development. The reading techniques developed will be those used for main idea, study, exploratory, recreational, and speed reading.

1.109 Effective Study Skills (1 class hr/wk) 1 credit
Skills which facilitate the location, selection, organization, and retention of information, the comprehension and interpretation of graphic representations, the adjustment of reading models to purposes and materials, and the following of directions. Note-taking and exam-taking skills are included. The emphasis is on application of technique, using the student's own textbook.

1.112 Children's Literature (3 class hrs/wk) 3 credits
This course is designed to be a one-quarter course in children's literature. It will deal with many of the aspects of children's literature; such as history, traditions, criticism, reading problems, art in children's books, minority relations, science fiction for children, oral literature, plays and puppetry. The purpose of the course is in part an examination of the available materials in local libraries, from commercial sources, from private sources and from libraries throughout the country. It will also deal in part with methods of using such resources by child care specialists. Included will be techniques of setting up displays and bulletin boards and how to prepare and utilize related soft ware for a dial retrieval system.

Eng 101, 102, 103 Survey of English Literature 3 credits each
(3 class hrs/wk)
Readings in chronological order selected to represent great writers, literary forms, and significant currents of thought.

Eng 104, 105, 106 Introduction to Literature 3 credits each
(3 class hrs/wk)
Designed for students with minimum literature background; to improve comprehension and encourage appreciation. Readings range from contemporary to classical.

Eng 107, 108, 109 Survey of World Literature 3 credits each
(3 class hrs/wk)
Significant works of ancient, medieval and modern European writers and modern American writers. Recommended to be taken in sequence.

Eng 201, 202, 203 Shakespeare (3 class hrs/wk) 3 credits each
Selected tragedies, comedies, histories each quarter in chronological order; sonnets included. (200 number courses are sophomore level.)

Eng 210 The Negro in American Literature (3 class hrs/wk) 3 credits
Designed to provide a wide sampling of the Negro writings in America; also to allow the student considerable freedom in pursuing an independent program of reading.

***Eng 211 Minority Literature** (3 class hrs/wk) 3 credits
Selected readings from American writers who represent various ethnic groups. Students allowed considerable freedom in pursuing independent program of reading.

Eng 253, 254, 255 Survey of American Literature 3 credits each
(3 class hrs/wk)
American Literature from its beginning to present day.

GL 50, 51, 52 First Year German (4 class hrs/wk) 4 credits each
Introduction to German with emphasis on skills of listening, speaking, reading, writing. Must be taken in sequence.

GL 101, 102, 103 Second Year German 4 credits each
(4 class hrs/wk)
Prerequisite: GL 50, 51, 52 or equivalent. Review and expansion of grammatical principles; reading of selected texts with emphasis on discussion, conversation. Must be taken in sequence.

RL 50, 51, 52 First Year French (4 class hrs/wk) 4 credits each
Introduction to French, including emphasis on oral comprehension; some reading-writing practice; oriented toward students with no previous experience with French. Must be taken in sequence.

RL 60, 61, 62 First Year Spanish (4 class hrs/wk) 4 credits each
Introduction with emphasis on listening, speaking, reading, writing; limited vocabulary and uncomplicated material. Must be taken in sequence.

RL 101, 102, 103 Second Year French (4 class hrs/wk) 4 credits each
Prerequisite: RL 50, 51, 52 or equivalent. Review of grammatical principles, reading from representative authors, emphasis on oral use: conversation and pronunciation. Must be taken in sequence.

RL 107, 108, 109 Second Year Spanish (4 class hrs/wk) 4 credits each
Prerequisite: RL 60, 61, 62 or equivalent. Intermediate course with intensive review of structure and growth of vocabulary. Readings from Spanish and Latin-American authors. Must be taken in sequence.

Wr 10 Corrective English (3 class hrs/wk) non-credit
Review of fundamentals of English Composition.

Wr 111, 112, 113 English Composition (3 class hrs/wk) 3 credits each
Fundamentals of composition, weekly written themes. Wr 111 must be taken before 112 or 113. (Six hours of Composition required for AA or AS degree. Some four-year institutions require, all will accept nine hours of Composition.)

Wr 226 Expository Writing (3 class hrs/wk) 3 credits
Prerequisite: Wr 111, 112. Practice in various forms of expository writing.

*Pending Approval

Mass Communication

CHAIRMAN: Virginia De Chaine

FACULTY: Dennis Celorie, Mary Forestieri, Joyce Harms, Michael Hopkinson, Tom Lichty

Radio Broadcasting

TWO YEAR ASSOCIATE OF SCIENCE DEGREE PROGRAM. APPROVED BY VETERANS' ADMINISTRATION.

The radio communications training program in broadcasting gives the student the basic instruction and training required for employment in a commercial radio broadcast station.

Instruction covers the fundamentals of radio station operation, program planning and production, studio and control room operation, announcing techniques and radio advertising. On-the-air experience is provided at the College's FCC-licensed FM broadcast station, KLCC, which operates with 450 watts of power on 90.3 mc.

Instruction and training in this program are aimed at preparing a person for employment as a combination man, announcer-technician, or announcer. Usual first employment is at radio stations in smaller communities, with promotion to larger stations and more specialized jobs possible after a year or two of experience. Beginning pay is about $400 a month.

CURRICULUM

First Year

			F H-C*	W H-C	S H-C
LA	Wr 111, 112, 113	English Composition	3-3	3-3	3-3
MC	Sp 214, 215, 216	Communication Process & Theory	3-3	3-3	3-3
MC	3.400, 3.402, 3.404	Radio Broadcasting 1, 2, 3	3-3	3-3	3-3
MC	3.401, 3.403, 3.405	Radio Broadcasting 1, 2, 3 lab	12-4	12-4	12-4
Bus	2.104	Personal Typing	5-3		
		Elective chosen from:			
MC	J 216, 215	Newswriting 1 and Lab	3-3		
Elc	4.920	Electronics 1	(5-4)		
		Two Electives chosen from:			
MC	J 217, 215	Newswriting 2 and Lab		3-3	
Bus	BA 101	Introduction to Business		(4-4)	
Elc	4.922	Electronics 2		(5-4)	
MC	Sp 130	Voice and Articulation		3-3	
LA	Eng 254	Survey of American Literature		(3-3)	
Mth	4.202	Mathematics 2		(5-3)	
		Two Electives chosen from:			
Bus	2.314	Advertising (Broadcast)			3-3
Elc	4.924	Electronics 3			(5-4)
LA	Eng 255	Survey of American Literature			3-3
MC	Sp 241	Fundamentals of Broadcasting			(3-3)
Mth	4.204	Mathematics 3			(5-3)
			29-19	27-19	27-19

Second Year

			F H-C*	W H-C	S H-C
MC	3.370, 3.372 3.374	Radio Broadcasting 4, 5, 6	3-3	3-3	3-3
MC	3.371, 3.373 3.375	Radio Broadcasting 4, 5, 6 Lab	12-4	12-4	12-4
MC	Sp 111, 112, 113	Fundamentals of Speech	3-3	3-3	3-3
		Elective chosen from:			
SSc	Soc 204, 205, 206	General Sociology	3-3	3-3	3-3
SSc	Psy 201, 202, 203	General Psychology	(3-3)	(3-3)	(3-3)
		Elective chosen from:			
PfA	Mus 201, 202, 203	Introduction to Music and Its Literature	3-3	3-3	3-3
Sc	GS 104, 105, 106	Physical Science	(5-4)	(5-4)	(5-4)
		Elective chosen from:			
Sc	4.300	Science of Properties of Materials	5-4		
Elc	4.915	Radiotelephone Operators Preparation 1	(5-4)		
		Elective chosen from:			
LA	Wr 226	Expository Writing		3-3	
Elc	4.917	Radiotelephone Operators Preparation 2		(5-4)	
		Elective chosen from:			
SSc	PS 203	American Government			3-3
Elc	4.919	Radiotelephone Operators Preparation 3			(5-4)
			29-20	27-19	27-19

Health or Physical Education: 1 hour any term.
*H-hours, C-credits

Television Broadcasting

TWO YEAR ASSOCIATE OF SCIENCE DEGREE PROGRAM. APPROVED BY VETERANS' ADMINISTRATION.

The television broadcasting program offers the student intensive experience in basic television production techniques. Included is television camera operation, audio production, video switching, television lighting, set construction, program production and directing, and announcing. The course also includes an orientation in the basic business functions of the broadcast industry, broadcast law and ethics, sales techniques and advertising copy writing, broadcast station management, and broadcast journalism. Through the choice of elective classes, students specialize in either broadcast production and management or broadcast engineering. LCC's closed circuit television facilities (including a television mobile unit) provide a laboratory for the application of production skills.

Instruction and training in this program are aimed at providing the student with a working knowledge of all aspects of television station operation. Graduates usually find employment in smaller television stations and can, with adequate professional experience, move to stations in larger cities. Beginning pay varies widely with the size of the station and its service area, but averages approximately $400.

CURRICULUM

First Year

			F H-C*	W H-C	S H-C
LA	Wr 111, 112, 113	English Composition	3-3	3-3	3-3
MC	Sp 214, 215, 216	Communication Process and Theory	3-3	3-3	3-3
MC	3.410, 3.412, 3.414	Television Broadcasting 1, 2, 3	3-3	3-3	3-3
MC	3.411, 3.413, 3.415	Television Broadcasting 1, 2, 3 Lab	12-4	12-4	12-4
Bus	2.104	Personal Typing	5-3		
		Elective chosen from:			
MC	J 216, 215	Newswriting 1 and Lab	3-3		
Elc	4.920	Electronics 1	(5-4)		
		Two electives chosen from:			
MC	J 217, 215	Newswriting 2 and Lab		3-3	
Bus	BA 101	Introduction to Business		(4-4)	
Elc	4.922	Electronics 2		(5-4)	
MC	Sp 130	Voice and Articulation		3-3	
LA	Eng 254	Survey of American Literature		(3-3)	
Mth	4.202	Mathematics 2		(5-3)	
		Two electives chosen from:			
Bus	2.314	Advertising (Broadcast)			3-3
Elc	4.924	Electronics 3			(5-4)
LA	Eng 255	Survey of American Literature			3-3
MC	Sp 241	Fundamentals of Broadcasting			(3-3)
Mth	4.204	Mathematics 3			(5-3)
			29-19	27-19	27-19

Second Year

			F H-C*	W H-C	S H-C
MC	3.416, 3.418, 3.420	Television Broadcasting 4, 5, 6	3-3	3-3	3-3
MC	3.417, 3.419, 3.421	Television Broadcasting 4, 5, 6 Lab	12-4	12-4	12-4
MC	Sp 111, 112, 113	Fundamentals of Speech	3-3	3-3	3-3
		Elective chosen from:			
SSc	Soc 204, 205, 206	General Sociology	3-3	3-3	3-3
SSc	Psy 201, 202, 203	General Psychology	(3-3)	(3-3)	(3-3)
		Elective chosen from:			
AD	AA 204, 205, 206	History of Western Art	3-3	3-3	3-3
Sc	GS 104, 105, 106	Physical Science	(5-4)	(5-4)	(5-4)
		Elective chosen from:			
Sc	4.300	Science of Properties of Materials	5-4		
Elc	4.915	Radiotelephone Operators Preparation 1	(5-4)		
		Elective chosen from:			
LA	Wr 226	Expository Writing		3-3	
Elc	4.917	Radiotelephone Operators Preparation 2		(5-4)	
		Elective chosen from:			
SSc	PS 203	American Government			3-3
Elc	4.919	Radiotelephone Operators Preparation 3			(5-4)
			29-20	27-19	27-19

Health or Physical Education: 1 hour any term
*H-hours, C-credits

COURSES

1.104, 1.105, 1.106 Communication Process & Theory 3 credits each (3 class hrs/wk)
Nature, functions, impact, and problems of mass communications; its developmental, psychological, sociological, aesthetic, and physical bases; introduction to general speech, journalism, photography, radio and television.

1.113 Public Relations (3 class hrs/wk) 3 credits
The effective use of public relations techniques which will increase the understanding, confidence, and appreciation of individuals or groups when presented with new information or procedures.

1.300 Supervised Field Experience (3-45 hrs/wk) 1-15 credits
Prerequisite: Department chairman's approval. Supervised, on-the-job experience through the Cooperative Work Experience Program is offered for students working in off-campus occupations closely paralleling the student's program. Entry is by petition if working or placement by CWE Program.

1.610 Public Speaking (3 class hrs/wk) 3 credits
The course is intended to develop speaking skills with emphasis on the dual role of communication as both a speaking and listening skill, and on adjusting the approach to the specific audience. Practice is provided through the use of video tapes. In addition to the principles of effective speech communication, instruction would be given the use of television equipment.

2.207 Photography 1 (3 class hrs/wk) 3 credits
Introduction, history, purposes, uses, fundamentals of camera and darkroom procedures.

2.209 Photography 2 (3 class hrs/wk) 3 credits
Prerequisite: Photography 1 or consent of instructor. Camera techniques, composition, lighting, optics, mechanics of the finished photograph.

3.370 Radio Broadcasting 4 (3 class hrs/wk) 3 credits
Provides the prospective announcer with an understanding of the role that programming plays in the commercial success of today's stations and the development of network programming.

3.371 Radio Broadcasting 4 Lab (12 lab hrs/wk) 4 credits
Prerequisite: Radio Broadcasting 3 or consent of instructor. Provides laboratory and on-the-air experience in newscasting, copy writing, equipment maintenance, library maintenance, and program production.

3.372 Radio Broadcasting 5 (3 class hrs/wk) 3 credits
Provides the student with an insight into the development of our present system of time sales and program sponsorship. Describes the inter-related roles of radio and television networks, affiliated stations, advertising agencies, sponsors and advertisers.

3.373 Radio Broadcasting 5 Lab (12 lab hrs/wk) 4 credits
Prerequisite: Radio Broadcasting 4. Emphasizes continuity and production of typical spot announcements in typical merchandising fields.

3.374 Radio Broadcasting 6 (3 class hrs/wk) 3 credits
Provides the student with an insight into the problems of organizing a station staff, of developing a program format suitable to the community's needs, and improving station-community relations. Includes an understanding of the public-service responsibilities of radio licensees and ways of meeting these obligations.

3.375 Radio Broadcasting 6 Lab (12 lab hrs/wk) 4 credits
Prerequisite: To be taken in the sixth term. Focuses on the student's air personality. Defines his goals, his abilities and his possibilities. Audition tape preparation and job application procedures.

3.400 Radio Broadcasting 1 (3 class hrs/wk) 3 credits
Provides a broad, general background on the development of broadcasting. Develops basic understanding of broadcast organization, management, and programming. Broadcasting history, comparative systems, vocabulary practice.

3.401 Radio Broadcasting 1 Lab (12 lab hrs/wk) 4 credits
Introduces the student to the equipment of the modern control room. Develops the basic skills of the radio announcer.

3.402 Radio Broadcasting 2 (3 class hrs/wk) 3 credits
Provides experience with actual radio continuities, including actual scripts and spot announcements. Develops further insight into the announcer's basic skills, with particular emphasis on interpretive reading, foreign words, place names, and proper names.

3.403 Radio Broadcasting 2 Lab (12 lab hrs/wk) 4 credits
Prerequsite: Radio Broadcasting 1 or consent of instructor. Acquaints the student with the characteristics of various microphone types, tape recorders, turntables, and audio consoles. Cultivates the vocie qualities necessary for good microphone work.

3.404 Radio Broadcasting 3 (3 class hrs/wk) 3 credits
Provides an understanding of the basic functions of the modern control room and studio equipment, typical inter-connection of equipment items, and certain limitations and cautions in its use.

3.405 Radio Broadcasting 3 Lab (12 lab hrs/wk) 4 credits
Prerequisite: Radio Broadcasting 2 or consent of instructor. (Seminar in advanced radio station operation is available on sufficient demand.) Develops further understanding and skill in the operation of the control room through actual on-the-air experience.

3.410 Television Broadcasting 1 (3 class hrs/wk) 3 credits
An introduction to the broadcasting industry — its organization and practices. Includes the operation of stations, networks, advertisers and advertising agencies, station representatives, the FCC, and professional organizations. Also, regulation of the industry (both governmental and self-regulation).

3.411 Television Broadcasting 1 Lab (12 lab hrs/wk) 4 credits
An introduction to basic equipment used in TV studios and control rooms. The use of lighting instruments, audio, film chains, and video switchers in basic production situations. Operating procedures and responsibilities of each member of a TV production crew.

3.412 Television Broadcasting 2 (3 class hrs/wk) 3 credits
An examination of the different types of programs presented on television. How programs are conceived, produced, and sold. The TV audience: How it is measured and how ratings are used by broadcasters. The social effects of broadcasting.

3.413 Television Broadcasting 2 Lab (12 lab hrs/wk) 4 credits
A further study of types of equipment used in a TV station. Graphic materials and their use in production. Basic principles of TV directing. Intensive experience in each of the studio crew positions.

3.414 Television Broadcasting 3 (3 class hrs/wk) 3 credits
The history of broadcasting, including background of current problems in the industry and economic development of television. Study of the broadcasting systems of other countries.

3.415 Television Broadcasting 3 Lab (12 lab hrs/wk) 4 credits
The use of film (35 mm. and 16 mm.) in television production. Film camera operation and film editing techniques. Practice directing various types of studio productions. Basic techniques of remote broadcasting.

3.416 Television Broadcasting 4 (3 class hrs/wk) 3 credits
Television station management and problems involved in day-to-day station operation. Employer-employee relations. Financial operations of individual stations.

3.417 Television Broadcasting 4 Lab (12 lab hrs/wk) 4 credits
Make-up and clothing for television. Scenery and set construction. Continued directing practice. The visual aesthetic of television. Acting for television.

3.418 Television Broadcasting 5 (3 class hrs/wk) 3 credits
Basic broadcast law. An examination of the role of educational broadcasting. Salesmanship and public relations.

3.419 Television Broadcasting 5 Lab (12 lab hrs/wk) 4 credits
Continued practice in all crew positions, including directing. Special effects in television production.

3.420 Television Broadcasting 6 (3 class hrs/wk) 3 credits
The role of broadcasting in contemporary society. Current problems facing the broadcasting industry. Broadcasting in the future. Seeking employment in broadcasting.

3.421 Television Broadcasting 6 Lab (12 lab hrs/wk) 4 credits
Advanced production techniques employing all previous material. The role and functions of a TV producer.

J 215 Newswriting Lab (1 lab hr/wk) 1 credit
Prerequisite: Concurrent enrollment in either J 216, 217, 218. Gathering, writing, editing news for the College newspaper.

J 216 Newswriting 1 (2 class hrs/wk) 2 credits
Prerequisite: Concurrent enrollment in J 215. What news is, how its simpler forms are written.

J 217 Newswriting 2 (2 class hrs/wk) 2 credits
Prerequisite: J 216, concurrent enrollment in J 215. Writing news which lends itself to "feature" treatment.

J 218 News Editing (2 class hrs/wk) 2 credits
Prerequisite: J 216. Basics of copy reading, headline writing, makeup.

Sp 111 Fundamentals of Speech (3 class hrs/wk) 3 credits
Projects in extempore speaking. Primary emphasis on content and organization, with attention to the student's adjustment to the speaking situation, effective delivery, audience motivation, and language of speech.

Sp 112 Fundamentals of Speech (3 class hrs/wk) 3 credits
Prerequisite: Sp 111 Fundamentals of Speech. Projects in extempore speaking. Primary emphasis on research.

Sp 113 Fundamentals of Speech (3 class hrs/wk) 3 credits
Prerequisite: Sp 111 Fundamentals of Speech. Projects in extempore speaking. Primary emphasis on styles of delivery.

Sp 130 Voice and Articulation (3 class hrs/wk) 3 credits
Principles of voice production and articulation of speech sounds, with attention to elementary speech physiology and phonetics. Intended for those who desire to develop more effective speech for meeting the special needs of teachers, radio and television speakers, public speakers, foreign born, and others who require special competence in speaking.

Sp 214, 215, 216 Communication Process & Theory 3 credits each
(3 class hrs/wk)
Refer to 1.104, 1.105, 1.106 above.

Sp 230 Public Speaking (3 class hrs/wk) 3 credits
Refer to 1.610 above.

Sp 241 Fundamentals of Broadcasting (3 class hrs/wk) 3 credits
General survey of broadcasting, including history, growth, social aspects, laws and policies, station and network organization, programming, the advertiser, the listener, public interest, standards of criticism, and comparison of broadcast systems, international broadcasting and propaganda.

Mathematics

CHAIRMAN: Howard E. Zink

FACULTY: Richard Coalwell, Glenn Cook, Ron Edelman, Casey Fast, Leland Halberg, Roger Jay, John Loughlin, Ed Phillips, Thomas Reimer, Vernon D. Schwin, Edward Seabloom, Hazel Smith, James W. Snow, James Swanson.

Mathematics

COURSES

4.200 Mathematics 1 (5* class hrs/wk) 3 credits
Applied mathematics, emphasis on problem solving including the use of slide rule and calculator. Whole numbers, fractions, decimals, percentage, measurements, powers and roots, and related topics from plane and solid geometry are covered. Slide rule helpful.

4.202 Mathematics II (5* class hrs/wk) 3 credits
Prerequisite: Mathematics 1 or equivalent. Mathematics applied to occupational fields. Topics include elementary algebra, trigonometry of the right triangle, and vectors. No knowledge of algebra is presumed.

4.204 Mathematics 3 (5* class hrs/wk) 3 credits
Prerequisite: Mathematics 2 or equivalent. Mathematics applied to occupational fields. Topics include exponents, roots, radicals, logarithms, quadratic equations, graphs, and linear equations.

4.208 Slide Rule (2 lab hrs/wk) 1 credit
Prerequisite: Mathematics 3 or equivalent. Basic course in operation, theory and applications of the slide rule, including multiplication, division, powers and roots, trigonometric functions and logarithms. Text and slide rule with C, D, A, B, K, CI, CF, DF, S, T, ST, L scales required.

4.306 Elementary Algebra (5 class hrs/wk) 4 credits
Prerequisite: Mathematics 1 or equivalent. Beginning course in algebra: set, real numbers, variables, operations, equations, integral exponents, polynomials, solving linear and quadratic equations, and graphs. Prepares students for Mth 95, and may be used in 4.306, 4.307 and 4.308 sequence. Uses audio-tutorial materials.

4.307 Mathematics for Data Processing (4 class hrs/wk) 4 credits
Prerequisite: Elementary Algebra (4.306) or equivalent. This course is designed to provide a mathematical background, for the data processing student, to aid in logical thinking and problem solving. It will treat the mathematics and language peculiar to the area of data processing. The emphasis will be numerical rather than theoretical. Second term of the sequence 4.306, 4.307, 4.308.

4.308 Algebra for Data Processing (4 class hrs/wk) 4 credits
Prerequisite: Mathematics for Data Processing (4.307). A review of basic algebra; study of linear and quadratic equations and inequalities, algebraic functions, non-linear functions, systems of linear equations, and matrices. Emphasis is on problem solution rather than proof and the applications to computer related problems. Last term of a sequence 4.306, 4.307, 4.308.

6.115 Electrical Mathematics (4 class hrs/wk) 4 credits
Prerequisite: Technical Mathematics 3 or equivalent. Calculus for electronic engineering technicians. Differentiation and integration of algebraic, trigonometric, and exponential functions. Direct applications to electronics and electricity.

6.135 Engineering Problems 1 (2 class hrs/wk) 2 credits
Prerequisite: Mathematics 3 or equivalent. This course is designed to meet the calculating needs of the technician in electronics, civil and structural engineering and technical drafting. Engineering methods and related problem solving will be considered. Prime emphasis, however, will be placed on slide rule computation. Log Log Slide rule required.

6.136 Engineering Problems 2 (2 class hrs/wk) 2 credits
Prerequisite: Engineering Problems 1. This course will continue with an emphasis on the slide rule and related problem solution. Other means of calculation will be related to problem solution in the technician's various fields. Problem solution will be structured in terms of analysis, formulation, calculation, and clear presentation. Log Log Slide rule required.

6.261 Technical Mathematics 1 (4 class hrs/wk) 4 credits
Prerequisite: 1 year high school algebra or Mathematics 3. Review of basic algebra and geometry; study of algebraic functions, systems of linear equations, quadratic equations. Emphasis on technical application and problem solving. Slide rule useful.

6.262 Technical Mathematics 2 (4 class hrs/wk) 4 credits
Prerequisite: Technical Mathematics 1 or College Algebra (Mth 101). Trigonometric ratios with applications, vectors, trigonometric functions, trigonometric identities and conditional equations, complex numbers with applications. Slide rule useful.

6.266 Technical Mathematics 3 (4 class hrs/wk) 4 credits
Prerequisite: Technical Mathematics 2 or Trigonometry (Mth 102). Basic analytic geometry, intuitive introduction to differential and integral calculus. Emphasis will be placed on the continued development of the student's understanding of functions and on applications to technical areas. Slide rule useful.

6.268 Introduction to Numerical Computation 3 credits
(3 class, 1* lab hrs/wk)
Prerequisite: Algebra for Data Processing or equivalent. Computer use with emphasis on problem definition and analysis; use of flow charting techniques; uses FORTRAN IV programming language in mathematical and business applications.

FE 207 Supervised Field Experience (3-45 hrs/wk) 1-15 credits
Prerequisite: Department chairman's approval. Supervised, on-the-job experience through the Cooperative Work Experience Program is offered for students working in off-campus occupations closely paralleling the student's college program. Entry is by petition if working or placement by CWE Program.

Mth 10 Elementary Algebra (5 class hrs/wk) Non-credit
Prerequisite: Math 1 or equivalent. Beginning course in algebra: set, real numbers, variables, operations, equations, integral exponents, polynomials, solving linear and quadratic equations, and graphs. Prepares students for Mth 95. Uses audio-tutorial materials.

Mth 95 Intermediate Algebra (5* class hrs/wk) 4 credits
Prerequisite: Mth 10 or equivalent. Second course in algebra: factoring, exponents, radicals and basic algebraic operations and concepts associated with linear and quadratic functions. Prepares students for Mth 101. No credit if taken after successful completion of Mth 101 or any more advanced mathematics course. Will not satisfy science group requirements at the U of O. Uses audio-tutorial materials.

Mth 101 College Algebra (4 class hrs/wk) 4 credits
Prerequisite: Mth 95 or 1½ years high school algebra within past year. Expanded treatment of linear and second degree functions and relations, equations and inequalities with absolute value. Fundamental concepts of polynomial functions, matrices, mathematical induction, sequences and series. This course is generally the first in sequence 101, 102, 106, or 101, 103, 106.

Mth 102 Trigonometry (4 class hrs/wk) 4 credits
Prerequisite: Mth 101 or equivalent. Exponential and logarithmic functions; circular functions and their graphs; sum and difference, double arc and half arc formulas; law of sines and cosines; polar coordinates; inverse functions; trigonometric equations; complex numbers; finding n nth-roots; introduction to permutations, combinations and probability. Prepares student for 200-203 Calculus series or can be used in 101, 102, 106 sequence to fill a 1-year math requirement.

Mth 103 Introduction to Probability and Statistics 4 credits
(4 class hrs/wk)
Prerequisite: Mth 101. Basic theory and application of statistics and probability; distributions of data, probability distributions, measures of central tendency and variability; basic concepts of statistical inference, and of hypothesis testing. This course is the second in the sequence 101, 103, 106.

Mth 106 Elementary Calculus (4 class hrs/wk) 4 credits
Prerequisite: Mth 102 or 103. A one term course in the elements of differential and integral calculus approached largely from an intuitive viewpoint. Basic objective is to provide the student needing no further mathematics an introduction to the notions of limit, the derivative and the integral. Strong emphasis on application to other fields of study. Possible sequences: 101, 102, 106 or 101, 103, 106.

Mth 107 Introduction to Linear Algebra (4 class hrs/wk) 4 credits
Prerequisite: Mth 106, Mth 200, or consent of the instructor. Systems of linear equations, vectors in a geometric setting, real vector spaces, matrices and operations on matrices, equivalence of matrices, linear transformation and matrices, determinants, inverse of a matrix.

Mth 191, 192, 193 Mathematics for Elementary Teachers (3 class hrs/wk) 3 credits each
Sequence of study in basic concepts of mathematics for elementary teachers, or for anyone wishing a course in contemporary mathematics.

Mth 191: Prerequisite: Competency in basic arithmetic skills. Course in contemporary mathematics for elementary teachers; set-theory; whole number system and the operations, addition, subtraction, multiplication, and division: systems of numeration and various number bases; integers and their operations; nonmetric geometry. Emphasis on math content with reference to teaching methods and application.

Mth 192: Prerequisite: Mth 191. Topics from number theory; fractions, rational numbers, and their operations; decimal representation and real numbers; general mathematical systems; elementary probability; introduction to metric geometry. Emphasis on math content with continued reference to teaching methods and applications.

Mth 193: Prerequisite: Mth 192. Topics from metric geometry; simple algebra; introduction to statistics; logic. Reference to teaching methods and classroom applications.

Mth 200, 201, 202, 203 Calculus with Analytic Geometry 4 credits each
(4 class hrs/wk)

Standard sequence for students in mathematics, science and engineering.

Mth 200: Prerequisite: Mth 102. A development of the concepts of plane analytic geometry, limits and derivative. Theorems on differentiation and their applications.

Mth 201: Prerequisite: Mth 200. Development and analysis of definitions and theorems related to the definite integral with applications. Trigonometric review of lines, conics, and trigonometric and exponential functions.

Mth 202: Prerequisite: Mth 201. Parametric equations, polar coordinates, vectors, and methods of integration with applications.

Mth 203: Prerequisite: Mth 202. Solid analytic geometry, vectors in three dimensions, infinite series, partial differentiation, multiple integration and linear algebra.

Mth 233 Introduction to Numerical Computation 3 credits
(3 class hrs/wk)

Prerequisite: Mth 101 or equivalent. Computer use with emphasis on problem definition and analysis; use of flow charting techniques; uses FORTRAN IV programming language in mathematical and business applications.

*Pending Approval

Mechanics

CHAIRMAN: Melvin C. Gaskill

FACULTY: Lawrence L. Davis, Donald Dickinson, Howard Dull, German C. M. Ellsworth, John Haurigan, Daryl A. Jossart, Carl Lemke, George Luck, Robert D. Maxwell, Roland Meyer, Henry Naessens, John Neely, Paul Patrick, Herb Pruett, Marvin Winger

Agricultural and Industrial Equipment Technology

TWO YEAR ASSOCIATE OF SCIENCE DEGREE PROGRAM. APPROVED BY VETERANS' ADMINISTRATION.

Students are trained to repair agricultural and light industrial equipment. Since equipment is increasing in size, cost, and complexity, few are skilled in this specialty and jobs are abundant. Wages begin at about $2.50 per hour; journeymen get $3.50 to $4.

The program has 20 vacancies yearly. An agricultural background and interest in mechanics are helpful. Special costs include: Books $25, tools $100, welding fee $10.

CURRICULUM

First Year

		F H-C*	W H-C	S H-C
Mch 8.101, 8.103, 8.105	Farm Implement 1, 2, 3	5-5	5-5	2-2
Mch 8.102, 8.104, 8.106	Farm Implement 1, 2, 3 Lab	10-3	10-3	6-2
Mth 4.202	Mathematics 2	5-3		
Mch 3.392	Machine Shop Orientation	5-3		
IT 4.150	Welding 1A	5-2		
Sc 4.302	Science of Mechanics		5-4	
Sc 4.304	Electrical Science			5-4
Mch 3.393	Machine Tool Operation		5-3	
Mch 8.146	Internal Combustion Engines 1		2-2	
Mch 8.147	Internal Combustion Engines 1 Lab		3-1	
Mch 8.148	Applied Fluid Mechanics			2-2
Mch 8.149	Power Trains			2-2
Mch 8.150	Power Trains Lab			6-2
Mch 8.107	Fuel Systems, Farm Equipment			6-4
		30-16	30-18	29-18

Agriculture and industrial equipment technology 1.300 Supervised Field Experience fills the summer between the first and second years. It carries 30 class/lab hours and 10 credits. Regular tuition must be paid if credits are to be earned.

Second Year

		F H-C*	W H-C	S H-C
Mch 8.109	Farm Equipment Electrical Systems	6-4		
Mch 8.111	Diesel and LP Gas Engines	5-5		
Mch 8.112	Diesel and LP Gas Engines Lab	10-3		
LA 1.100, 1.102	Communication Skills 1, 2	3-3	3-3	
Mch 8.151	Hydraulics, Heavy Equipment	5-3		
Mch 8.113, 8.115	Farm Equipment Hydraulics 1, 2		5-3	5-3
Mch 8.117	Farm Equipment Power Trains		5-3	
Mch 8.121	Crawler Tractors		5-5	
Mch 8.122	Crawler Tractors Lab		10-3	
Mch 8.143	Farm Equipment Service Management			3-3
Bus 2.316	Salesmanship			3-3
Mch 8.110	Parts Department Operating Procedures			2-1
Mch 8.123	Tractor, Major Overhaul			15-7
	Elective (General Education)			3-3
		29-18	28-17	31-20

*H-hours, C-credits

Auto Body and Fender/Auto Painting

TWO YEAR ASSOCIATE OF SCIENCE DEGREE PROGRAM. ONE YEAR CERTIFICATE OF COMPLETION PROGRAM. APPROVED BY VETERANS' ADMINISTRATION.

Training is given in all phases of auto body and fender repair and painting. A broad understanding and background is provided in the various phases of auto body and fender and painting through class instruction and shop practice.

Special costs include: Tools approx. $125, welding fee $10.

Entry jobs for employment in this field are available in body shops, at auto sales and service departments, and specialty auto body and fender repair and paint shops. Increasing numbers of auto makes and models and traffic congestion have caused an ever-increasing demand for qualified auto body and fender repairmen. Beginners earn $1.50 to $2 per hour; journeymen get $8,000 to $12,000 per year. This two-year program consists of one year of auto body metal work and one year of auto painting. Each course prepares the student for that specialty. To qualify for the associate degree, both one year programs must be completed. Courses are non-sequential.

CURRICULUM — Automotive Body and Fender

			F H-C*	W H-C	S H-C
Mch	3.248, 3.250, 3.252	Automotive Metal Work 1, 2, 3	3-3	3-3	2-2
Mch	3.249, 3.251, 3.253	Automotive Metal Work 1, 2, 3 Lab	20-7	20-7	20-7
IT	4.150, 4.151, 4.156	Welding 1A, 1B, 2A	5-2	5-2	5-2
Sc	4.302 or	Science of Mechanics or	5-4		
Sc	Ph 202	General Physics	(7-4)		
LA	1.100 or 1.102	Communication Skills 1 or 2 or		3-3	
LA	Wr 111 or 112	English Composition		(3-3)	
Mth	4.202 or	Mathematics 2 or			5-3
Mth	Mth 95	Intermediate Algebra			(5-4)
PE	PE 190 or	Physical Education or			3-1
PE	1.605	Health Education			(2-2)
			33-16	31-15	35-15

*H-hours, C-credits

A certificate of completion may be obtained by taking three sequential terms of Auto Body and Fender repair plus required subjects.

CURRICULUM — Automotive Painting

			F H-C*	W H-C	S H-C
Mch	3.238, 3.240, 3.243	Automotive Painting 1, 2, 3	3-3	3-3	3-3
Mch	3.239, 3.241, 3.244	Automotive Painting 1, 2, 3 Lab	20-7	20-7	20-7
Sc	4.300 or	Science of Properties of Materials or	5-4		
Sc	Ph 201	General Physics	(7-4)		
Mth	4.202	Mathematics 2 or	5-3		
Mth	Mth 95	Intermediate Algebra	(5-4)		
LA	1.100 or 1.102	Communication Skills 1 or 2 or		3-3	

continued

LA	Wr 111 or 112	English Composition		(3-3)	3-2
SSc	1.601	Self and Society (6 weeks)			
PE	1.605 or	Health Education or		2-2	
PE	PE 190	Physical Education		(3-1)	
Bus	1.506	Applied Economics			3-3
			33-17	28-15	29-15

*H-hours, C-credits

A certificate of completion may be obtained by taking three sequential terms of auto painting plus required related subjects. A total of 93 credits are required for the associate degree. Additional needed courses may be selected from the following electives: Machine Shop Orientation (Mch 3.392); Welding 2B (IT 4.158); Collision Estimating (Mch 3.246); Applied Economics (Bus 1.506); Fundamentals of Speech (MC Sp 111).

Automotive and Diesel Technology

TWO YEAR ASSOCIATE OF SCIENCE DEGREE PROGRAM IN AUTOMOTIVE TECHNOLOGY
TWO YEAR ASSOCIATE OF SCIENCE DEGREE PROGRAM IN DIESEL TECHNOLOGY
TWO YEAR CERTIFICATE OF COMPLETION PROGRAMS APPROVED BY VETERANS' ADMINISTRATION

Automotive Technology

This training can lead to employment in entry occupations of the automotive service and repair field. Beginners usually earn from $1.50 to $2.00 an hour; journeymen get up to $10,000 annually.

With an ever-expanding number of makes and models of autos, the demand for auto mechanics who have a broad background of course instruction and training is constantly increasing. Class vacancies total 100. Special costs include: Tools $225, coveralls $12, books $45, and welding fees $30.

CURRICULUM — Automotive-Diesel Technology Associate Degree Program

First Year

		F H-C*	W H-C	S H-C
Mch 3.300	Auto-Diesel 1	8-8		
Mch 3.301	Auto-Diesel 1 Lab	15-5		
IT 4.150	Welding 1A	5-2		
Mch 3.392	Machine Shop Orientation	5-3		
Mch 3.302	Auto-Diesel 2		8-8	
Mch 3.303	Auto-Diesel 2 Lab		15-5	
IT 4.151	Welding 1B		5-2	
Mch 3.393	Machine Tool Operation		5-3	
Mch 3.304	Auto-Diesel 3			8-8
Mch 3.305	Auto-Diesel 3 Lab			15-5
SSc 1.601	Self and Society (6 weeks)			3-2
Mth 4.200	Mathematics 1			5-3
		33-18	33-18	31-18

Auto-Diesel 1, 2, 3 and Labs are offered each term and need not be taken in sequence.

CURRICULUM — Automotive Technology Associate Degree Program

Second Year

			F H-C*	W H-C	S H-C
Mch	3.306	Auto Technology 4	8-8		
Mch	3.307	Auto Technology 4 Lab	15-5		
Sc	4.300	Science of Properties of Materials	5-4		
LA	1.100, 1.102	Communication Skills 1, 2	3-3	3-3	
Mch	3.308	Auto Technology 5		8-8	
Mch	3.309	Auto Technology 5 Lab		15-5	
Sc	4.302	Science of Mechanics		5-4	
Mch	3.310	Auto Technology 6			8-8
Mch	3.311	Auto Technology 6 Lab			15-5
Sc	4.304	Electrical Science			5-4
PE	1.605	Health Education			2-2
			31-20	31-20	30-19

*H-hours, C-credits

TWO YEAR CERTIFICATE OF COMPLETION PROGRAM:

For certificate program only the following general education courses are not required: Communication Skills 1 and 2, Mathematics 1, Science of Properties of Materials, Science of Mechanics, Electrical Science and Health.

Diesel Technology

Students are prepared for employment in entry occupations leading to jobs such as heavy duty mechanic, truck mechanic, tractor mechanic, fuel injection technician, and diesel tune-up technician. Beginning pay is $3 an hour; journeymen get $4.50 an hour.

Possible job opportunities are available with truck fleets, logging operations, heavy construction, factory diesel sales outlets, road construction contractors, parts sales and service outlets, general heavy equipment repair jobs, and automotive diesel service and repair. Class vacancies total 40.

CURRICULUM — Diesel Technology Associate Degree Program

Second Year

			F H-C*	W H-C	S H-C
IT	4.158	Welding 2B	5-2		
Mch	3.312	Diesel Technology 4	8-8		
Mch	3.313	Diesel Technology 4 Lab	15-5		
Sc	4.300	Science of Properties of Materials	5-4		
LA	1.100, 1.102	Communications Skills 1, 2	3-3	3-3	
Mch	3.314	Diesel Technology 5		8-8	
Mch	3.315	Diesel Technology 5 Lab		15-5	
Sc	4.302	Science of Mechanics		5-4	
Mch	3.316	Diesel Technology 6			8-8
Mch	3.317	Diesel Technology 6 Lab			15-5
Sc	4.304	Electrical Science			5-4
PE	1.605	Health Education			2-2
			36-22	31-20	30-19

*H-hours, C-credits

TWO YEAR CERTIFICATE OF COMPLETION PROGRAM:

For certificate program only the following general education courses are not required: Communication Skills 1 and 2, Mathematics 1, Science of Properties of Materials, Science of Mechanics, Electrical Science, and Health Education.

Aviation Maintenance Technician

TWO YEAR ASSOCIATE OF SCIENCE DEGREE PROGRAM. APPROVED BY VETERANS' ADMINISTRATION.

This program prepares one for employment as a line or service mechanic. Opportunities for employment exist for those who can qualify for the Federal Aviation Administration mechanic certificate and ratings. Airline mechanics start around $5 an hour with increases to more than $5.50 in 15 months. Fixed base small field operators pay $2.50 to $3 with increases to about $4 within six years.

The exacting nature of the courses is such that only applicants who have mechanical aptitude and who have completed high school or the equivalent should enroll. Special costs include: Books $75, tools $125, welding fee $10. Total class enrollment limited to 100 students.

The complete program encompasses Aviation Maintenance Technician General, Airframe, and Powerplant. General and Airframe combined qualify a student to take the F.A.A. Airframe exam. General and Powerplant combined qualify a student to take the Powerplant exam. General is taken one time only and can be in any sequence. It will normally require four terms to qualify for the first rating and two terms for the second or a total of six terms for the two ratings.

CURRICULUM

General

This F.A.A. approved General section encompasses most of the technical related subjects and three terms of A.M.T. General 1, 2 and 3 labs.

			F H-C*	W H-C	S H-C
Mch	3.205, 3.206, 3.207	**Aviation Maintenance Technician General 1, 2, 3	5-3	10-7	7-4
IT	4.101	**Drafting 1	4-2		
Mth	4.202	**Mathematics 2	5-3		
LA	1.100, 1.102	Communications Skills 1, 2	3-3		3-3
PE	1.605	Health Education	2-2		
IT	4.103	**Electrical Drafting		4-2	
Mth	4.204	Mathematics 3		5-3	
Sc	4.302	**Science of Mechanics		5-4	
IT	4.150	**Welding 1A		5-2	
Sc	4.304	**Electrical Science			5-4
Bus	1.506	Applied Economics			3-3
			19-13	29-18	18-14

*H-hours, C-credits
**Required first year courses

Airframe

The F.A.A. approved airframe section provides the practical training, theory, and technical information required to take the F.A.A. examination for Airframe Mechanic. Students with previous experience can advance at own rate by proving competency and documenting previous experience in each area for which credit is desired. The chart below indicates the minimum and maximum hours and credits which may be taken in any one term.

	F		W		S		Su	
	H	C	H	C	H	C	H	C
Mch 3.208 Airframe	10-40	4-16	10-40	4-16	10-40	4-16	10-30	4-12

Total section consists of: 84 theory hours for 7 credits
756 lab hours for 21 credits

28 credits total

The section can be completed by scheduling 28 credits in any combination over a period of time. It is recommended that four terms be a target maximum.

Powerplant

The F.A.A. approved powerplant section provides the practical training, theory, and technical information required to take the F.A.A. examination for Powerplant Mechanic. Students with previous experience can advance at own rate by proving competence and documenting previous experience in each area for which credit is desired. The chart below indicates the minimum and maximum hours and credits which may be taken in any one term.

	F		W		S		Su	
	H	C	H	C	H	C	H	C
Mch 3.211 Powerplant	10-40	4-16	10-40	4-16	10-40	4-16	10-30	4-12

Total section consists of: 84 theory hours for 7 credits
756 lab hours for 21 credits

28 credits total

The section can be completed by scheduling 28 credits in any combination over a period of time. It is recommended that four terms be the target maximum.

To qualify for the associate degree, it is necessary to have 45 credits from General, 28 from Airframe, and 28 from Powerplant for a total of 101 credits.

TWO YEAR CERTIFICATE OF COMPLETION PROGRAM:

To qualify for the F.A.A. ratings only, the following general education courses are not required: Communication Skills 1 and 2, Health Education, Mathematics 3 and Applied Economics.

Insurance Adjusters

TWO YEAR ASSOCIATE OF SCIENCE DEGREE PROGRAM. APPROVED BY VETERANS' ADMINISTRATION.

This course is designed to give training in all phases of Insurance Adjusting which includes industrial experience, statements, estimate writing, investigations, and settlements of claims.

Entry employment as adjuster would be with an independent adjusting firm or with an insurance company claims department. Starting pay ranges from $6,500 to $7,500 per year. This two year program consists of laboratory and related class work to prepare a student for employment as an insurance adjuster, automobile body man, or automotive painters helper. A person considering this training must be a high school graduate, must be bondable, and have good driving record.

CURRICULUM

First Year

		F H-C*	W H-C	S H-C
Mch 3.248, 3.250, 3.252	Automotive Metal Work 1, 2, 3	3-3	3-3	2-2
Mch 3.249, 3.251, 3.253	Automotive Metal Work 1, 2, 3 Lab	15-5	15-5	15-5
LA 1.100	Communication Skills 1	3-3		
Mch 3.325, 3.326, 3.327	Insurance Policies 1, 2, 3	5-5	5-5	5-5
IT 4.150	Welding 1A	5-2		
Mth 4.200	Mathematics 1		5-3	
Mch 3.246	Collision Estimating			5-3
Bus 2.517	Office Training for Insurance Adjusters			3-3
		31-18	28-16	30-18

Second Year

		F H-C*	W H-C	S H-C
Mch 3.328	Automotive Painting for Insurance Adjusters	3-3		
Mch 3.329	Automotive Painting for Insurance Adjusters Lab	4-1		
Mch 3.330	Drafting for Insurance Adjusters	5-2		
Bus 1.506	Applied Economics	3-3		
Mch 3.331	Insurance Law	5-5		
LA 1.102	Communication Skills 2 or		3-3	
LA Wr 111	English Composition		(3-3)	
Mch 3.332, 3.338	Insurance Investigations 1, 2		5-5	5-5
Mch 3.333	Estimating Building Construction Cost		3-3	
Mch 3.334	Contracts & Specifications for Building Const.		2-2	
MC Sp 111, 112	Fundamentals of Speech		3-3	3-3
Mch 3.335	Insurance Settlements: How to Conclude a Loss			3-3
Mch 3.336	Estimating Auto Body Damages			5-3
PE 1.605	Health Education		2-2	
Mch 3.337	Automotive Mechanics for Estimators			5-3
		20-14	18-18	21-17

*H-hours, C-credits

Machine Shop

TWO YEAR ASSOCIATE OF SCIENCE DEGREE PROGRAM.
TWO YEAR CERTIFICATE OF COMPLETION PROGRAM.
APPROVED BY VETERANS' ADMINISTRATION

Basic principles and fundamentals are taught in machine and related metal work. Class instruction in theory is combined with shop practice. Students prepare for entrance occupations in machine shop or related industries. Class vacancies total 30. Special costs include: Tools $105, books $35, welding fee $40. Opportunities for employment are found in the machine repair and maintenance shops, metal working plants,

repair and maintenance shops for mill and construction contractors, and specialty machine shops. Local beginning pay is $3 an hour; journeymen earn $4.40 an hour.

CURRICULUM

	First Year	F H-C*	W H-C	S H-C
Mch 3.380, 3.382, 3.384	Machine Shop 1, 2, 3	3-3	3-3	3-3
Mch 3.381, 3.383, 3.385	Machine Shop 1, 2, 3 Lab	12-4	12-4	12-4
Sc 4.300	Science of Properties of Materials	5-4		
Sc 4.302	Science of Mechanics		5-4	
Sc 4.304	Electrical Science			5-4
IT 4.101, 4.105	Drafting 1, 2	4-2	4-2	
Mth 4.202	Mathematics 2	5-3		
IT 4.150, 4.151	Welding 1A, 1B		5-2	5-2
Bus 1.506	Applied Economics			3-3
		29-16	29-15	28-16

	Second Year	F H-C*	W H-C	S H-C
Mch 3.386, 3.388, 3.390	Machine Shop 4, 5, 6	3-3	3-3	3-3
Mch 3.387, 3.389, 3.391	Machine Shop 4, 5, 6 Lab	12-4	12-4	12-4
LA 1.100, 1.102	Communication Skills 1, 2	3-3		3-3
IT 4.156, 4.158	Welding 2A, 2B	5-2		5-2
IT 4.102	Introduction to Specifications	3-3		
Mth 4.204	Mathematics 3		5-3	
IT 4.119	Project Drafting		10-4	
PE 1.605	Health Education			2-2
SSc 1.601	Self and Society (6 weeks)			3-2
		26-15	30-14	28-16

*H-hours, C-credits

COURSES

1.300 Supervised Field Experience 10 credits
(30 class/lab hrs/wk)
Prerequisite: Department chairman's approval. Students are placed at Farm Implement dealers for one summer to work as regular employees. Supervised, on-the-job experience through the Cooperative Work Experience Program is offered for students working in off-campus occupations closely paralleling the student's college program. Entry is by petition if working or placement by CWE Program.

3.205 Aviation Maintenance Technician General 1 3 credits
(2 class, 3 lab hrs/wk)
Technical information and laboratory projects necessary for the practical application and understanding of theories, principles, and concepts of mechanic privileges and limitations, maintenance publications, forms, and records, aircraft drawings, and weight and balance.

3.206 Aviation Maintenance Technician General 2 7 credits
(5 class, 5 lab hrs/wk)
Technical information and laboratory projects necessary for the practical application and understanding of theories, principles, and concepts of fluid lines and fittings, materials and processes, corrosion control, cleaning, and ground operation.

3.207 Aviation Maintenance Technician General 3 4 credits
(3 class, 4 lab hrs/wk)
Technical information and laboratory projects necessary for the practical application and understanding of theories, principles, and concepts of basic electricity for the aviation maintenance technician.

3.208 Airframe (84 class, 756 lab hrs)* 28 credits
Technical information and laboratory projects necessary for the practical application and understanding of theories, principles, and concepts of airframe structures, systems and components.

*Indicated class/lab hours and credits are required for the total program. They may be distributed over any number of quarters.

3.211 Powerplant (84 class, 756 lab hrs)* 28 credits
Technical information and laboratory projects necessary for the practical application and understanding of theories, principles and concepts of powerplant maintenance, systems and components.

*Indicated class/lab hours and credits are required for the total program. They may be distributed over any number of quarters.

3.238 Automotive Painting I (3 class hrs/wk) 3 credits
Instruction on materials and equipment used in preparation of auto body for refinishing.

3.239 Automotive Painting 1 Lab (20 lab hrs/wk) 7 credits
Prerequisite: To be taken concurrently with Automotive Painting 1. Provides shop practice in mixing primers and color; spray gun adjusting and cleaning; preparing metal for painting; painting with lacquer type products; and rubbing and cleaning.

3.240 Automotive Painting 2 (3 class hrs/wk) 3 credits
Prerequisite: Automotive Painting 1. Matching colors and the use of color charts. Complete refinishing instructions.

3.241 Automotive Painting 2 Lab (20 lab hrs/wk) 7 credits
Prerequisite: To be taken concurrently with Automotive Painting 2. Shop practice in all phases of lacquer type painting and preparation, and general production work.

3.243 Automotive Painting 3 (3 class hrs/wk) 3 credits
Prerequisite: Automotive Painting 2. Preparing a car for complete painting; spraying with enamel; special enamel finishes; interior refinishing; auto clean-up after painting; preparing car for delivery to customer.

3.244 Automotive Painting 3 Lab (20 lab hrs/wk) 7 credits
Prerequisite: To be taken concurrently with Automotive Painting 3. Shop practice in preparing car for painting with enamel; interior painting detailing; and preparing car for delivery to customer.

3.245 Automotive Service Management 2 credits
(2 class hrs/wk)
Duties and responsibilities of the service manager. Methods of organizing service personnel, shop facilities, and an instruction on shop layout and buildings. Appreciation of good relationship with customers, labor and management groups and individuals.

3.246 Collision Estimating (2 class, 3 lab hrs/wk) 3 credits
Prerequisite: Third-term standing. Estimating over-all cost for parts, labor, fixing shop costs and profit on repair jobs. Preparation of insurance claim estimates and making out insurance claim forms.

3.248 Automotive Metal Work 1 (3 class hrs/wk) 3 credits
History and development in auto body and frame construction and types of auto bodies and frames. Fundamentals of metal work. Removal, repair and replacement of hardware, glass and trim; sealing for water and dust leaks.

3.249 Automotive Metal Work 1 Lab
(20 lab hrs/wk for Auto Body) 7 credits
(15 lab hrs/wk for Insurance Adj.) 5 credits
Prerequisite: To be taken concurrently with Automotive Metal Work 1 and Welding 1A. Shop practice in straightening metal damage; door assembly and alignment; fender, hood, and deck lid replacement; removal and replacement of glass; and seal for dust and water leaks.

3.250 Automotive Metal Work 2 (3 class hrs/wk) 3 credits
Prerequisite: Automotive Metal Work 1. Body, fender, and panel major repair.

3.251 Automotive Metal Work 2 Lab
(20 lab hrs/wk for Auto Body) 7 credits
(15 lab hrs/wk for Insurance Adj.) 5 credits
Prerequisite: To be taken concurrently with Automotive Metal Work 2. Provides shop practice on major front end repair; major rear end damage, and damages resulting from side swipe.

3.252 Automotive Metal Work 3 (2 class hrs/wk) 2 credits
Prerequisite: Automotive Metal Work 2. Methods and procedures for repair of extensive damage to cars involving body structural members; frame measuring and alignment; fitting and placing of panels.

3.253 Automotive Metal Work 3 Lab
(20 lab hrs/wk for Auto Body) 7 credits
(15 lab hrs/wk for Insurance Adj.) 5 credits
Prerequisite: To be taken concurrently with Automotive Metal Work 3. Provides shop practice in repairing extensive damage; frame repair, super-structure alignment, major body replacements, and general production.

3.300 Auto-Diesel 1 (8 class hrs/wk) 8 credits

3.301 Auto-Diesel 1 Lab (15 lab hrs/wk) 5 credits
Internal Combustion Engines
The design, function, and operation of internal combustion engines. Lab work includes complete disassembly, inspection, repair, reassembly, and test of automotive engines.

Chassis
Theory and laboratory experiences in suspension systems, steering geometry and alignment, brakes, wheel balancing, and miscellaneous components.

3.302 Auto-Diesel 2 (8 class hrs/wk) 8 credits

3.303 Auto-Diesel 2 Lab (15 lab hrs/wk) 5 credits

Applied Fluids
Methods and uses of hydraulics as applied to all types of equipment including power steering, automatic transmissions, and braking systems. Basic principles of construction and design, testing and repairing hydraulic components will be covered by classroom and lab studies and work.

Power Trains
Operating principles, design, and construction of all automotive and light truck components. Included are clutches, transmissions, rear axle assemblies, gear reductions, and all types of power train applications. The lab work will consist of actual tear down and assembly of power train components.

3.304 Auto-Diesel 3 (8 class hrs/wk) 8 credits

3.305 Auto-Diesel 3 Lab (15 lab hrs/wk) 5 credits

Electricity
Fundamental principles of electricity as used by the auto and heavy duty mechanic. The construction and function of all types of electrical components used in automotive equipment are studied in detail with the aid of demonstrations, cutaways, and mockups. Students will diagnose minor problems in lighting, charging, starting, indicating, and ignition systems. Students will diagnose problems using wiring diagrams and test instruments.

Fuel Systems and Carburetion
Principles of carburetion, fuel systems and fuels, and function of all types of fuel systems on automotive and heavy duty gasoline engines. Techniques and procedures for overhaul and service of carburetors and fuel system components including all types of single and multiple throat carburetors will be practiced. Diagnosis and testing procedures involving fuel systems are covered using standard automotive test instruments.

3.306 Auto Technology 4 (8 class hrs/wk) 8 credits

3.307 Auto Technology 4 Lab (15 Lab hrs/wk) 5 credits
Prerequisite: Auto-Diesel 1, 2, 3 or equivalent.

Tune-Up and Diagnosis
Diagnosing malfunctions in the automotive engine and its accessory systems. Advanced testing of electrical and carburetion systems. Developing the ability to analyze the operation of engine accessories directly related to engine performance.

Auto Repair Estimating
Diagnosing and estimating of labor and material costs involved in the repair and service of automotive equipment. Emphasis on the use of typical manuals and price lists used in industry.

Automotive Overhaul
Complete inspection and analysis to determine repairs needed to recondition an automobile.

3.308 Auto Technology 5 (8 class hrs/wk) 8 credits

3.309 Auto Technology 5 Lab (15 lab hrs/wk) 5 credits
Prerequisite: Auto-Diesel 1, 2, 3 or equivalent.

Automotive Fuels and Lubricants
Nature and origin of petroleum products, their manufacturing processes, uses, and functions.

Automotive Repair
Development of additional abilities and understanding through diagnosis and repair of automotive equipment with emphasis on automotive electricity and power steering units.

3.310 Auto Technology 6 (8 class hrs/wk) 8 credits

3.311 Auto Technology 6 Lab (15 lab hrs/wk) 5 credits
Prerequisite: Auto-Diesel 1, 2, 3 or equivalent.

Automatic Transmissions
Instruction in automatic transmissions, including principles of operation, trouble shooting procedures on hydraulically operated transmissions, torque converters, and fluid couplings used with automatic transmissions common to the automotive field.

Auto Service Management
Duties and responsibilities of the service manager, methods of organizing service personnel, shop facilities, and instruction in shop layout and buildings. Appreciation of good relationship with customers, labor, and management groups and individuals.

Auto Repair
Continuation of Auto Repair to develop further the student's abilities in diagnosis and repair of automotive units, with emphasis on automatic transmissions and tune-up procedures. Power accessories are serviced.

3.312 Diesel Technology 4 (8 class hrs/wk) 8 credits

3.313 Diesel Technology 4 Lab (15 lab hrs/wk) 5 credits
Prerequisite: Auto-Diesel 1, 2, 3 or equivalent.

Fuel Injection
Diesel fuel systems, fuel-oil transfer pumps, injection systems, fuel injection pumps, and nozzles. Service and repair of injection equipment. Safety and proper handling of fuel injection equipment and testing equipment. The principles, specifications, installations, adjustments, and maintenance of various types of nozzles.

Diesel Tune-Up and Diagnosis
Various troubles encountered in tune-up and diagnosis of diesel engines with emphasis on accurate and systematic procedures.

3.314 Diesel Technology 5 (8 class hrs/wk) 8 credits

3.315 Diesel Technology 5 Lab (15 lab hrs/wk) 5 credits
Prerequisite: Auto-Diesel 1, 2, 3 or equivalent.

Auxiliary Systems
Specialized study in the areas of the cooling, fuel supply, lubrication, air intake, exhaust, and starting systems of typical diesel engines in use today. Starting aids, blowers, superchargers, governors, and compressors.

Hydraulics, Heavy Equipment
Principles of hydraulics in power transmission as used on heavy duty equipment. Basic principles of hydraulics and the trouble shooting, servicing, and overhauling of hydraulic system components.

Power Trains, Heavy Equipment
Developing skills in servicing, overhauling, and adjusting units in automotive, and heavy equipment power trains.

Automotive Service Management
Duties and responsibilities of the service manager. Methods of organizing service personnel, shop facilities, and instruction in shop layout and buildings. Appreciation of good relationship with customers, labor and management groups, and individuals.

3.316 Diesel Technolgoy 6 (8 class hrs/wk) 8 credits

3.317 Diesel Technology 6 Lab (15 lab hrs/wk) 5 credits
Prerequisite: Auto-Diesel 1, 2, 3 or equivalent.

Diesel Engines
Types and construction of engines with emphasis on the fundamentals, also cooling and lubricating systems. Valve operating mechanism, air intake systems, piston and connecting rod servicing, crankshaft servicing, cylinder and block servicing, engine performance superchargers and blowers, and hydraulic and mechanical governors.

Diesel Engine Repair (1)
Shop and/or laboratory course for development of additional abilities and understandings through the diagnosis and repair of operating diesel equipment and components. Overhaul and maintenance procedure and practices as they relate to the removal, disassembly, overhaul, reassembly, installation, and testing of component parts. Inspection, servicing, and repair of systems.

3.325 Insurance Policies 1 (5 class hrs/wk) 5 credits
A detailed treatment of the reading and interpretation of insurance policies. Deals with the theory of policies in general and offers specific treatment of auto policies.

3.326 Insurance Policies 2 (5 class hrs/wk) 5 credits
A detailed treatment of the reading and interpretation of insurance policies. Deals with the theory of policies and will offer specific treatment of standard fire policies.

3.327 Insurance Policies 3 (5 class hrs/wk) 5 credits
Prerequisite: Insurance Policies 1 and 2. Specific interpretation of standard and deluxe home-owners policy. The course covers the dwelling, contents, and personal liability divisions of the policy. The commercial portion of the course will acquaint the student with the most common forms used by the industry.

3.328 Automotive Painting for Insurance Adjusters 3 credits
(3 class hrs/wk)
This is planned as a one-term program to prepare the student to have a general background of spray equipment, paint products, paint applications, spray-painting terminology, and paint problems.

3.329 Automotive Painting for Insurance Adjusters Lab 1 credit
(4 lab hrs/wk)
Provides shop experience, in the use of spray equipment, preparing a paint surface, and spraying; primer surfaces, color and the use of compounds. Diagnosis of paint damages and corrections.

3.330 Drafting for Insurance Adjusters (5 lab hrs/wk) 2 credits
Practical drafting, sketching, and interpretation of architectural drawing as related to home building plans and other related building projects including structural details, materials, and drawing practices in common usage.

3.331 Insurance Law (5 class hrs/wk) 5 credits
A review of the applications of tort law and its pertinence to insurance claims. Covers the elements of tort law, the modifications of the basic doctrines of tort and negligence and the principles affecting the application of tort law and the laws applicable to negligence.

3.332 Insurance Investigation 1 (5 class hrs/wk) 5 credits
An introduction to the fundamentals of investigation. The course teaches the proper approach prior to the interview. It includes written statements, telephone reports, and use of a recorder in statement taking.

3.333 Estimating Building Construction Costs (3 class hrs/wk) 3 credits
Practical estimating of building repair costs, the use of ordinary mathematics, the development of skill in computing costs of materials, labor, and overall costs.

3.334 Contracts and Specifications for Building Construction 2 credits
(2 class hrs/wk)
To provide the student with the knowledge to locate competent contractors and negotiate acceptable contracts on building repairs based on the adjuster's specifications.

3.335 Insurance Settlements: How to Conclude A Loss 3 credits
(3 class hrs/wk)
Instruction in dealing with insureds and claimants. The course will deal with the role of management, supervisors, and the adjuster in final settlements.

3.336 Estimating Auto Body Damages (2 class, 3 lab hrs/wk) 3 credits
Prerequisite: Collision Estimating (3.246). Instruction and practice in estimating minor and major body damage; estimate procedures; use of flat-rate manual in estimating labor and parts, and preparing damage estimates for insurance companies and auto agencies.

3.337 Automotive Mechanics for Estimators 3 credits
(2 class, 3 lab hrs/wk)
Instruction in fundamentals of automobile engines, power trains, and chassis. It is designed to give the student a knowledge of the structure of the vehicle and the terminology involved with the parts. The use of service manuals and flat-rate charts will be stressed throughout the course. This will be a combination lab and classroom experience to give the student practical application of theory developed in the classroom.

3.338 Insurance Investigation 2 (5 class hrs/wk) 5 credits
Prerequisite: Insurance Investigation 1. The use and value of photography as evidence in the adjustment of losses, the making of diagrams to show how an event occurred, and techniques of reporting the results of investigation to the file in a logical manner.

3.380 Machine Shop 1 (3 class hrs/wk) 3 credits

3.381 Machine Shop 1 Lab (12 lab hrs/wk) 4 credits
Fundamentals and workable knowledge of industrial processes and machines required of the machinist. Basic fundamentals of layout and machining metal by drilling. Use and maintenance of measuring tools and machinist hand tools and safety practices. Basic metallurgy.

3.382 Machine Shop 2 (3 class hrs/wk) 3 credits

3.383 Machine Shop 2 Lab (12 lab hrs/wk) 4 credits
Prerequisite: Machine Shop 1. Use, operation, and maintenance of the lathe. Tool grinding, drilling, straight turning, taper turning, boring, internal and external thread cutting, and facing cuts.

3.384 Machine Shop 3 (3 class hrs/wk) 3 credits

3.385 Machine Shop 3 Lab (12 lab hrs/wk) 4 credits
Prerequisite: Machine Shop 2. Advanced lathe work. Precision fitting of parts and fundamentals of industrial hydraulics.

3.386 Machine Shop 4 (3 class hrs/wk) 3 credits

3.387 Machine Shop 4 Lab (12 lab hrs/wk) 4 credits
Prerequisite: Machine Shop 3. Use and set-up and care of shapers. Calculation of feeds and speeds for different materials. Operation of large lathes. Heat treatment and metallurgy. Set-up and operation of horizontal milling machines. Use of different types of cutters.

3.388 Machine Shop 5 (3 class hrs/wk) 3 credits

3.389 Machine Shop 5 Lab (12 lab hrs/wk) 4 credits
Prerequisite: Machine Shop 4. Use and set-up of different types of milling machines. Gear cutting. Jig boring.

3.390 Machine Shop 6 (3 class hrs/wk) 3 credits

3.391 Machine Shop 6 Lab (12 lab hrs/wk) 4 credits
Prerequisite: Machine Shop 5. Precision grinding on surface grinders and cylindrical grinders. Tool and cutter grinding. Programming and use of numerically controlled milling machine. Use of tracer lathe. Hydraulic power transmission, pumps, actuators, and controls.

3.392 Machine Shop Orientation (2 class, 3 lab hrs/wk) 3 credits
Identification of various machine tools and their use. Use and care of measuring tools and hand tools. Sharpening of drills and drill press work. Some metallurgy.

3.393 Machine Tool Operation (2 class, 3 lab hrs/wk) 3 credits
Prerequisite: Machine Shop Orientation (3.392). Basic machine shop practice with drill press, lathe, and grinder that a

person may need to know to set up and operate in certain fields other than the machinist's trade.

8.101 Farm Implement 1 (5 class hrs/wk) 5 credits
The farm equipment industry; history, developments of the industry, and job requirements; tillage equipment: plows, harrows, cultivators, rollers and carriers.

8.102 Farm Implement 1 Lab (10 lab hrs/wk) 3 credits
Development of skill in adjusting, maintaining, repairing, and in-the-field operation of tillage equipment.

8.103 Farm Implement 2 (5 class hrs/wk) 5 credits
Prerequisite: Farm Implement 1. Instruction in the use of Operator's Manual when assembling, adjusting, maintaining, repairing of seeding, fertilizing, and spraying equipment.

8.104 Farm Implement 2 Lab (10 lab hrs/wk) 3 credits
Prerequisite: To be taken concurrently with Farm Implement 2. Practice in assembling, adjusting, lubricating, and repairing of seeding, fertilizing, and spray equipment.

8.105 Farm Implement 3 (2 class hrs/wk) 2 credits
Prerequisite: Farm Implement 2. Use of the Operator's Manual when adjusting, maintaining, assembling, and repairing harvest equipment.

8.106 Farm Implement 3 Lab (6 lab hrs/wk) 2 credits
Prerequisite: To be taken concurrently with Farm Implement 3. Practice in adjusting, maintaining, assembling, and repairing harvesting equipment.

8.107 Fuel Systems, Farm Equipment (3 class, 3 lab hrs/wk) 4 credits
Prerequisite: Internal Combustion Engines 1. Kinds, repairing, assembling of fuel systems in agricultural machinery.

8.109 Farm Equipment Electrical Systems 4 credits
(3 class, 3 lab hrs/wk)
Prerequisite: Electrical Science (4.304). Principles of the tractor electrical system, locating and correcting troubles in the electrical system.

8.110 Parts Department Operating Procedures 1 credit
(2 class/lab hrs/wk)
A study of the function of the parts department and its relation to the total business. It gives a student the understanding of a dealership's parts business and how to be a good parts man.

8.111 Diesel and LP Gas Engines (5 class hrs/wk) 5 credits
Prerequisite: Internal Combustion Engines and one lab. Principles of operation of various types of diesel and LP gas engines and their fuel systems.

8.112 Diesel and LP Gas Engines Lab (10 lab hrs/wk) 3 credits
Prerequisite: To be taken concurrently with Diesel and LP Gas Engines. Adjustment, maintenance, and repair of diesel and LP gas engines.

8.113 Farm Equipment Hydraulics 1 (2 class, 3 lab hrs/wk) 3 credits
Hydraulics with farm equipment application.

8.115 Farm Equipment Hydraulics 2 (2 class, 3 lab hrs/wk) 3 credits
Hydraulics with farm equipment application. Some time is spent with different manufacturing companies, studying new hydraulics as applied to each company's equipment.

8.117 Farm Equipment Power Trains (2 class, 3 lab hrs/wk) 3 credits
Instruction in assembling and repairing of different types of power trains in tractors.

8.121 Crawler Tractors (5 class hrs/wk) 5 credits
Prerequisite: Completion, first year of Farm Equipment Service Curriculum. Understanding and use of the Operator's Manual for crawler tractors; various kinds and types of crawler tractors.

8.122 Crawler Tractors Lab (10 lab hrs/wk) 3 credits
Prerequisite: To be taken concurrently with crawler tractors. Instruction in assembling, adjusting, and repairing tracks and steering clutches of the crawler tractor.

8.123 Tractor, Major Overhaul (3 class, 12 lab hrs/wk) 7 credits
Prerequisite: Final term standing in Agricultural & Industrial Equipment Technology. Procedures in overhauling a tractor and the ability to disassemble, repair, reassemble, and tune the tractor for field conditions.

8.143 Farm Equipment Service Management (3 class hrs/wk) 3 credits
Prerequisite: Final term standing in Agricultural & Industrial Equipment. Operating procedures of an agricultural machinery service department; function of a service employee.

8.146 Internal Combustion Engines 1 (2 class hrs/wk) 2 credits

8.147 Internal Combustion Engines 1 Lab (3 lab hrs/wk) 1 credit
Principles of operation of various types of internal combustion engines and all components and accessories. Service and overhaul techniques. Engine and accessory component functions.

8.148 Applied Fluid Mechanics (2 class hrs/wk) 2 credits
Basic hydraulics, types of pumps, valves, seals, packing, etc.

8.149 Power Trains (2 class hrs/wk) 2 credits

8.150 Power Trains Lab (6 lab hrs/wk) 2 credits
All components of the power train, including clutch, standard and overdrive type transmissions, drive line, and final drive.

8.151 Hydraulics, Heavy Equipment (2 class, 3 lab hrs/wk) 3 credits
Prerequisite: Applied Fluid Mechanics. Hydraulics as applied to heavy equipment.

Nursing

DIRECTOR: Mary C. Fiorentino

FACULTY: Evelyn Alford, Charlene Deffenbacher, Sheila Gardipee, Janice Kinman, Saralie Lewis, Iris Lindahl, Margaret Milne, Ann Newton, Arlene Underhill, Joyce Young

Associate Degree Nursing

TWO YEAR ASSOCIATE OF SCIENCE DEGREE PROGRAM. APPROVED BY VETERANS' ADMINISTRATION.

Both general and specialized content in approximately equal amounts is taught throughout this program. Graduates earn an Associate Degree in Nursing and are eligible to write the State Board Test Pool Examination for licensure as a registered nurse. The student, if he/she desires, can apply some of the credits earned towards a baccalaureate degree. Students who plan to attend a four year institution should be familiar with the requirements of the institution to which they plan to transfer.

This program is accredited by the Oregon State Board of Nursing. The Associate Degree nurse performs under the supervision of a physician and/or qualified superordinate and assists in planning the nursing care of patients, applying appropriate nursing measures, and evaluating the results of the care given. She/he assists others with less preparation to perform the technical aspects of nursing care and functions with a high degree of skill based upon knowledge of principles derived from the life and behavioral sciences.

Admission Procedures

1. *College Admission Procedures*
   Applicants must make application and be accepted to the College according to the policies outlined in the Admission Procedures Section of the catalog.
2. *Admission to the Associate Degree Nursing Program*
   Applicant must be a high school graduate or have a GED certificate. A background in high school chemistry and math or college chemistry, Elementary Chemistry (Ch 101, 102) and Elementary Algebra (Mth 10) taken within the past five years is a pre-entrance requirement.

   Applications will be accepted after January 1st. Requirements 1, 2 and 3 listed below, must be completed by April 1st for the applicant to be considered for selection. Applicants will be considered according to date of completion of academic requirements. Enrollment is limited.

Procedure

1. Write to the Admissions Office for two copies of the application form. Send one copy of the completed application form to the Nursing Department and the other to the Admissions office.
2. Submit high school and, if applicable, college or post-high school transcripts to the Nursing Department.
3. Applicant will be contacted to take the GATB (General Aptitude Test Battery) on a selected date.

   A preliminary evaluation of these credentials will be made at this point. If you meet admission criteria you will be asked to:
   1. Submit a health examination report (LCC form to be used).
   2. Be available for a personal interview if requested.
   3. Submit letters of reference if requested.

If you do not meet admission criteria, you may elect to enter the college general education courses. Counseling will be available to you.

Applicants may not be admitted to the nursing program until admission to the College has been completed. Students who are not accepted to the program must reapply the following year if they wish to be reconsidered.

CURRICULUM

First Year

			F H-C*	W H-C	S H-C
Sc	Bi 123	Elementary Microbiology	6-4		
LA	Wr 111	English Composition	3-3		
SSc	Soc 204 or	General Sociology or			
	Psy 201	General Psychology	3-3		
Nur	5.607-5.611	Nursing Fundamentals 1, 2 & Lab 1, 2	10-6	13-7	
Sc	Bi 121, 122	Elementary Human Anatomy & Physiology		6-4	6-4
HEc	FN 225	Nutrition		3-3	
Nur	5.609	Survey of Nursing 1		1-1	
PE	PE 180, 190	Physical Education		3-1	
HEc	FL 225	Child Development			3-3
Nur	5.612, 5.613	Maternal & Infant Health Nursing & Lab			17-9
			22-16	26-16	26-16

Second Year

			F H-C*	W H-C	S H-C
Nur	5.614-5.617	Physical and Mental Illness 1, 2 & Lab 1, 2 (6 wks)	33-10		
PE	HE 251	Community Health	3-3		
Nur	5.618-5.622	Physical and Mental Illness 3, 4 & Lab 3, 4		16-8	16-8
Nur	5.620	Survey of Nursing 2			2-2
Sc	6.371, 6.366	Applied Physics 2, 3 (for nurses)		5-4	5-4
MC	Sp 111	Fundamentals of Speech		3-3	
		Electives		3-3	3-3
			36-13	27-18	26-17

*H-hours, C-credits

Practical Nursing

ONE YEAR CERTIFICATE PROGRAM.
APPROVED BY VETERANS' ADMINISTRATION.

This program prepares men and women to participate in the care of the sick, in rehabilitation and in the prevention of illness.

The Practical Nurse as a nursing assistant works under the guidance of a physician and/or registered nurse. According to assignment she will apply selected nursing measures to meet the patient's basic physical needs of hygiene, comfort, safety, nutrition and elimination in a relatively stable, clinical situation. The Practical Nurse will assist in the more complex nursing situations by preparing equipment, supplies and the physical environment and by helping the registered nurse perform nursing measures. She will utilize knowledge of fundamental social and psychological concepts to identify significant patient responses and communicate such responses to the appropriate personnel.

Admission to the Program
The applicant must be a high school graduate or have a GED certificate.

For admission requirements follow the same procedure as outlined for the Associate Degree Nursing Program.

CURRICULUM

			F H-C*	W H-C	S H-C	Su H-C
Nur	5.500, 5.501	Fundamentals of Practical Nursing & Lab	17-9			
Nur	5.510, 5.512	Physical Sciences 1, 2	3-3	3-3		
LA	1.102	Communication Skills 2 or equivalent	3-3			
Nur	5.505-5.508	Conditions of Illness 1, 2 & Lab 1, 2		17-9	17-9	
PfA	Sp 250	Speech and Theatre Workshop or Approved Elective		3-2		
Nur	5.502, 5.509	History and Trends of Practical Nursing 1, 2			1-1	1-1
PE	HE 252	First Aid			3-3	
Nur	5.503, 5.504	Maternal-Child Health Nursing & Lab (8 weeks)				30-9
			23-15	23-14	21-13	31-10

*H-hours, C-credits
Summer quarter credits computed on an eight-week period.

Assistant Nursing

A one-term program designed to prepare nurse aides to work in: 1) hospitals, 2) nursing homes, or 3) home health agencies. This program will be offered as needed. For information inquire at the Nursing Department.

CURRICULUM
Philosophy of Health Agencies
Social and Psychological Needs of the Ill
Foods and Nutrition
Accident Prevention and First Aid — Health Measures
Basic Nursing Skills — Daily Living Activities
Rehabilitation
Cleaning and Care Tasks of Home and Health Agencies
Hospital and Nursing Home Physical Environment Tasks
Job Application Procedures

COURSES

5.500 Fundamentals of Practical Nursing (5 class hrs/wk) 5 credits

5.501 Fundamentals of Practical Nursing Lab 4 credits
(12 lab hrs/wk)
Introduces basic human needs of hygiene, comfort and safety, nutrition and elimination. Fundamental physical, social and emotional concepts, as applied to self and others, are correlated with clinical practice. Focus is on identification of patients' needs arrived at through observation and application of a problem solving approach. Therapeutic measures based upon nursing principles appropriate to this level of practitioner are applied to uncomplicated conditions of illness.

5.502 History and Trends of Practical Nursing 1 (8 weeks) 1 credit
(1 class hr/wk)
Major historical trends which influenced the progress of Practical Nursing.

5.503 Maternal-Child Health Nursing (8 weeks) 4 credits
(6 class hrs/wk)

5.504 Maternal-Child Health Nursing Lab (8 weeks) 5 credits
(24 lab hrs/wk)
Fundamental physical, emotional and community health concepts will be applied to the nursing care of the family throughout the normal process of pregnancy and childbirth and to the newborn infant and child. Selected concepts of nutrition and pharmacology will be integrated. Laboratory experiences will be selected to help the students make application of theoretical concept.

5.505 Conditions of Illness 1 (5 class hrs/wk) 5 credits

5.506 Conditions of Illness 1 Lab (12 lab hrs/wk) 4 credits

5.507 Conditions of Illness 2 (5 class hrs/wk) 5 credits

5.508 Conditions of Illness 2 Lab (12 lab hrs/wk) 4 credits
Theory and application of selected supportive therapeutic, and rehabilitative measures during disease and injury. Selected concepts of nutrition and pharmacology will be integrated throughout the two quarters.

5.509 History and Trends of Practical Nursing 2 (8 weeks) 1 credit
(1 class hr/wk)
Current nursing trends, community health agencies, membership in nursing organizations, licensure, and job opportunities and responsibilities are presented during the two quarters.

5.510 Physical Science 1 (3 class hrs/wk) 3 credits

5.512 Physical Science 2 (3 class hrs/wk) 3 credits
A two-quarter course which identifies selected fundamental concepts of microbiology, chemistry, anatomy and physiology.

5.607 Nursing Fundamentals 1 (4 class hrs/wk) 4 credits

5.608 Nursing Fundamentals 1 Lab (6 lab hrs/wk) 2 credits
Utilizes principles derived from the physical and social science as a basis for presenting foundations for nursing intervention. The major concepts of nutrition, asepsis, pharmacology, safety, communication, and maintaining the individuality of man serve as connecting threads upon which to build more complex knowledge. Mental health concepts are stressed and integrated throughout.

5.609 Survey of Nursing 1 (1 class hr/wk) 1 credit
Major historical events which influenced the progress of nursing and the contributions made by selected leaders in the nursing field during specific periods of history.

5.610 Nursing Fundamentals 2 (4 class hrs/wk) 4 credits

5.611 Nursing Fundamentals 2 Lab (9 lab hrs/wk) 3 credits
A continuation of Nursing Fundamentals 1 which builds the basic foundation for nursing practice.

5.612 Maternal and Infant Health Nursing (5 class hrs/wk) 5 credits

5.613 Maternal and Infant Health Nursing Lab 4 credits
(12 lab hrs/wk)
Builds upon concepts of normal behavior and personality development to form the basis for a study of the family unit during the pregnancy cycle and the development of the fetus from conception through adolescence. Emphasis is placed on child, family and nurse relationships as they influence the hospitalized child. Maternal complications and common disorders of infancy are considered.

5.614 Physical and Mental Illness 1 (6 weeks) 3 credits
(6 class hrs/wk)

5.615 Physical and Mental Illness 1 Lab (6 weeks) 3 credits
(15 lab hrs/wk)
Presents mental health principles and concepts and their application to the care of the mentally ill. Therapeutic, rehabilitative and preventive health measures are incorporated.

5.616 Physical and Mental Illness 2 (6 weeks) 3 credits
(6 class hrs/wk)

5.617 Physical and Mental Illness 2 Lab (6 weeks) 1 credit
(6 lab hrs/wk)

5.618 Physical and Mental Illness 3 (4 class hrs/wk) 4 credits

5.619 Physical and Mental Illness 3 Lab 4 credits
(12 lab hrs/wk)
Physical and Mental Illness 2, 3 presents major alterations in normal physiology as the basis for medical-surgical intervention. Acute and complex problems of patients in specialized nursing care units are considered. Emphasizes fields of nursing undergoing rapid change.

5.620 Survey of Nursing 2 (2 class hrs/wk) 2 credits
Seminar discussion will focus responsibilities of new graduates, opportunities for employment, nursing organizations, legislation and legal responsibilities of the nurse.

5.621 Physical and Mental Illness 4 4 credits
(4 class hrs/wk)

5.622 Physical and Mental Illness 4 Lab 4 credits
(12 lab hrs/wk)
A continuation of Physical and Mental Illness 2 and 3.

Paradental-Paramedical

DIRECTOR: John P. Dickson

FACULTY: Becky Armstrong, Marie Bell, Foster Keene, Eileen Massey, Muriel Peterson, Kenneth Pyle, Ray Rickett, Terry Strong, Ron Tyvan, Elizabeth Webb.

Dental Assistant

ONE YEAR CERTIFICATE OF COMPLETION PROGRAM. APPROVED BY VETERANS' ADMINISTRATION.

The dental assistant's responsibilities are three-fold: She serves as a receptionist-secretary-bookkeeper, a technical or chairside assistant, and in some offices may complete some laboratory procedures. This program prepares its graduates for employment in private or group practice, with emphasis on modern concepts of chairside assisting and "four-handed" dentistry. The course is fully accredited by the American Dental Association's Council on Dental Education. Satisfactory completion of the course fulfills the education requirement for dental assistant certification, and graduating students are eligible to take the Certification Examination administered by the Certifying Board of the American Dental Assistants Association. Those who complete this examination successfully may become certified upon fulfilling the employment and membership requirements of the Board.

Oregon Law requires dental assistants who expose dental x-rays to hold a Certificate of Radiological Proficiency. The Oral Roentgenology class prepares students for the Radiological Proficiency Examination. Adult Education classes are held each year in Oral Roentgenology for employed dental assistants. The dental assisting program includes basic health sciences, oral anatomy and pathology, radiographic techniques, fundamentals of chairside assisting, basic office record keeping, and supervised clinical experience. Concepts of oral health service, psychological considerations in patient treatment, and an understanding of auxiliary personnel's professional responsibilities are an integral part of the program.

The program accepts one class per year, beginning fall term. Class size is limited. Applicants are asked to take an aptitude test and appear for personal interview. Books, special clothing and miscellaneous costs total approximately $215 for the year. Applications close on or about March 1.

CURRICULUM

		F H-C*	W H-C	S H-C
PDM 5.404, 5.405, 5.406	Clinical Laboratory 1, 2, 3	6-4	12-8	4-4
PDM 5.433	Applied Psychology in Dentistry		2-2	
PDM 5.401	Pre-Clinical Orientation	4-2		
PDM 5.407, 5.408, 5.409	Dental Health Education 1, 2, 3	1-1	1-1	1-1
PDM 5.410	Health Sciences	4-4		
PDM 5.415	Dental Anatomy	3-1		
PDM 5.416, 5.417, 5.418	Oral Roentgenology 1, 2, 3	3-1	4-2	15-2 (3 wk
Bus 2.102	Typing 2		5-3	
PDM 5.419	Professional Office Communications	3-3		
PfA Sp 250	Speech and Theatre Workshop	3-2		
PDM 5.435	Oral Pathology		2-2	
Bus 2.530 **	Secretarial Accounting			4-3
PDM 1.300	Supervised Field Experience			24-6
		27-18	26-18	48-16

*H-hours, C-credits
**Pending Approval

Dental Hygiene

TWO YEAR ASSOCIATE OF SCIENCE DEGREE PROGRAM. APPROVED BY VETERANS' ADMINISTRATION.

The Dental Hygienist is a professional member of the dental health team. She is educated so that she can be employed in the private office, in public health facilities, in industry and in teaching dental health in school rooms. Her duties include the oral prophylaxis (cleaning and scaling of the teeth), fluoride applications, dental health education, radiographic techniques, polishing alloy restoration, and office management.

She must pass the Oregon State Board of Dental Examiners Examination to practice her profession in this state. She must pass, in addition, a National Board Examination. The program is so designed, that upon completion the student may apply the credits toward a baccalaureate degree in the schools that are part of the State System of Higher Education in the State of Oregon.

The American Dental Hygiene Association aptitude test is not required. If, however, the applicant takes it and has the results sent to the college, the results will be used so that it is not necessary to take the Lane Community College test. Class size is 16. Both male and female students are accepted. Applicant must be a high school graduate or have a GED certificate, and in addition have had high school math and chemistry within five years of application date. An aptitude test and personal interview are required. Special costs total about $350 for books, uniforms and shoes. Applications close on or about March 1.

CURRICULUM

First Year

			F H-C*	W H-C	S H-C
Sc	Ch 101, 102, 103	Elementary Chemistry	6-4	6-4	6-4
Sc	Bi 123	Elementary Microbiology	6-4		
Sc	Bi 121, 122	Elementary Human Anatomy & Physiology		6-4	6-4
PDM	DH 113	Dental Anatomy	3-1		
PDM	DH 118, 119, 120	Dental Hygiene 1, 2, 3	8-4	8-4	6-2
PDM	DH 130, 131	Dental Procedures 1, 2		1-1	3-1
PDM	DH 109	Oral Roentgenology 1			1-1
HEc	FN 225	Nutrition		3-3	
PE	HE 250	Personal Health	3-3		
PDM	DH 223	Dental Disease Control 1			1-1
MC	Sp 111	Fundamentals of Speech			3-3
PE	PE 180, 190	Physical Education	3-1	3-1	3-1
			29-17	27-17	29-17

Second Year

			F H-C*	W H-C	S H-C
SSc	Soc 204, 205, 206	General Sociology	3-3	3-3	3-3
PDM	DH 225, 226, 227	Peridontology for Dental Hygienists 1, 2, 3	1-1	1-1	1-1
PDM	DH 228, 229	Oral Biology 1, 2	4-2	4-2	
PDM	DH 232, 233, 234	Dental Procedures 3, 4, 5	2-2	2-2	3-3

PDM	DH 220, 221, 222	Dental Hygiene 4, 5, 6	9-3	9-3	9-3
PDM	DH 210, 211, 212	Oral Roentgenology 2, 3, 4	4-2	4-2	2-1
PDM	DH 240, 241, 242	Dental Health Education 1, 2, 3	2-2	1-1	4-2
LA	Wr 111, 112	English Composition	3-3	3-3	
PE	HE 252	First Aid			3-3
PE	PE 180, 190	Physical Education		3-1	3-1
			28-18	30-18	28-17

*H-hours, C-credits

Inhalation Therapy

TWO YEAR ASSOCIATE OF SCIENCE DEGREE PROGRAM. APPROVED BY VETERANS' ADMINISTRATION.

Inhalation Therapy is an allied health specialty concerned with the treatment, management, control, and care of patients with deficiencies and abnormalities associated with respiration. It involves the therapeutic use of medical gasses, air and oxygen administering apparatus, environmental control systems, humidification and aerosols, drugs and medications, ventilatory control, postural drainage, chest physiotherapy and breathing exercise, respiratory rehabilitation assistance with cardiopulmonary resuscitation, and maintenance of natural, artificial and mechanical airways. There is urgent need for inhalation therapists to work with physicians and nurses in a team approach to patients with respiratory disease. Applicants must have completed high school or the equivalent, and must have taken high school algebra and chemistry within the last five years.

A letter of recommendation, a personal interview and an entrance examination are required. Class size is limited. Applications close on or about March 1. Hospital affiliation is Sacred Heart General Hospital, Eugene, Oregon.

CURRICULUM

First Year

			F H-C*	W H-C	S H-C
SSc	1.608	Human Relations 1		3-3	
Sc	Ch 101, 102, 103	Elementary Chemistry	6-4	6-4	6-4
Nur	5.607	Nursing Fundamentals 1	4-4		
Sc	Bi 121, 122	Elementary Human Anatomy & Physiology	6-4	6-4	
Sc	Bi 123	Elementary Microbiology			6-4
PDM	5.700, 5.701, 5.702	Fundamentals of Inhalation Therapy 1, 2, 3	4-2	4-2	7-3
PE	HE 252	First Aid		3-3	
Bus	2.550	Supervisory Management			3-3
PDM	5.483	Medical Terminology	2-2		
PDM	5.710	Pathology			2-2
			22-16	22-16	24-16

Second Year

		F H-C*	W H-C	S H-C
LA Wr 111, 112	English Composition	3-3	3-3	
	Elective			3-3
PDM 5.711	Pharmacology	3-3		
PDM 5.703, 5.704, 5.705	Inhalation Therapy Application & Procedures 1, 2, 3	15-6	15-6	15-6
PDM 5.707, 5.708, 5.709	Inhalation Therapy Clinical Practice 1, 2, 3	15.5	15-7	15-7
		36-17	33-16	33-16

*H-hours, C-credits

Substitution may be made for First Aid and Medical Terminology with approval of the medical director. Human Relations 1 may be substituted with approval of the department chairman.

Medical Office Assistant

ONE YEAR CERTIFICATE OF COMPLETION PROGRAM. APPROVED BY VETERANS' ADMINISTRATION.

The medical office assistant is a member of the paramedical health team. As an office assistant, she acts as secretary, receptionist, and bookkeeper. As a technical assistant, she prepares patients for examination or treatment, takes temperatures, measures height and weight, sterilizes instruments, stands by to assist the physician as he examines or treats patients. She may perform certain simple laboratory tests, take x-rays, and give other medical assistance to patients under the physician's supervision.

CURRICULUM

		F H-C*	W H-C	S H-C
Bus 2.101, 2.102, 2.103	Typing 1, 2, 3	5-3(2)**	5-3(2)	5-3(2)
Bus 2.512, 2.514, 2.516	Office Procedures 1, 2, 3	3-3	3-3	3-3
Bus 2.110, 2.111	Accounting 1, 2	4-3	4-3	
PDM 5.480	Community Relationships	2-2		
PDM 5.410	Health Sciences	4-4		
PDM 5.482	Medical Assistant		3-3	
PDM 5.483	Medical Terminology	2-2		
PDM 5.484	Medical Law & Ethics		2-2	
	Elective		3-3	
PDM 5.485	Laboratory Orientation			3-3
PDM 1.300	Supervised Field Experience			20-5
		20-17	20-17	31-14

*H-hours, C-credits

**3 credits if taken for vocational credit; 2 credits if taken for college transfer.

COURSES

1.300 Supervised Field Experience (3-45 hrs/wk) 1-15 credits
Prerequisite: Department chairman's approval. Supervised, on-the-job experience through the Cooperative Work Experience Program is offered for students working in off-campus occupations closely paralleling the student's college program. Entry is by petition if working or placement by CWE Program.

5.401 Pre-Clinical Orientation (4 class hrs/wk) 2 credits
Survey of the history of dentistry and its professional development, professional ethics, the laws governing the profession, the roles of the several members of the dental health team with emphasis on dental assistant's role, areas of professional service. The dental profession's relation to community and role in the community. Introduction to dental office environment includes purposes of dentistry, professional terminology, and conduct, basic principles of dental health, and detailing of responsibilities delegated to the dental assistant.

5.404 Clinical Laboratory 1 (3 class, 3 lab hrs/wk) 4 credits
Basic chairside assisting, including positioning of patient, oral evacuation techniques, instrument transfer, rubber dam procedure. Survey of instruments; instrument sharpening, annotation of teeth and cavity classification; charting completion of patient health histories; sterilization procedures; operation and care of dental office and laboratory equipment; ordering, care, and storage of dental supplies; the structure, physical properties, and manipulation of dental materials.

5.405 Clinical Laboratory 2 (6 class, 6 lab hrs/wk) 8 credits
Specialities of dentistry, basic principles of treatment, role of the assistant in each, instrument set-ups for various procedures, application of dental materials and dental procedures to simple laboratory procedures. Summary and review and supervised clinical experience.

5.406 Clinical Laboratory 3 (4 class hrs/wk) 4 credits
Prerequisite: Completion of all courses in dental assistant program. Summary and review of course content and practice.

5.407,5.408,5.409 Dental Health Education 1, 2, 3 1 credit each
(1 class hr/wk)
Principles of patient education in the dental office including oral hygiene, preventive and restorative dentistry and the techniques involved in communicating with patients. Dental Health Education 2 will be a continuation of this course dealing mainly with nutrition and communication through visual aids.

5.410 Health Sciences (4 class hrs/wk) 4 credits
The study of structure and function of cells, tissues, organs, and systems of the human body. Bacteriology, microbiology, physiology, and the importance of these as related to dentistry. First aid procedures for dental emergencies.

5.415 Dental Anatomy (3 lab hrs/wk) 1 credit
Prerequisite: Admission to the dental hygiene or dental assistant program. Anatomy and physiology of the teeth and their supporting structures. A laboratory course combined with a self-teaching course of instruction provided in a seven volume series of textbooks developed at the University of Oregon Dental School. The laboratory work involves the drawing of individual teeth, and detailed study of the anatomy of the teeth through the use of clay restorations on plaster models.

5.416 Oral Roentgenology 1 (2 class, 1 lab hrs/wk) 1 credit
The complete theory background of x-ray, terminology, safety factors, biological effects of radiation; darkroom procedures;

operation of the dental x-ray machine, including the breakdown of the functions; and the legal aspects pertaining to x-ray films.

5.417 Oral Roentgenology 2 (1 class, 3 lab hrs/wk) 2 credits
Prerequisite: Oral Roentgenology 1. Continuation of Oral Roentgenology 1.

5.418 Oral Roentgenology 3 (15 lab hrs/wk for 3 wks) 2 credits
Prerequisite: Oral Roentgenology 2. Continuation of Oral Roentgenology 2.

5.419 Professional Office Communications (3 class hrs/wk) 3 credits
Development of personal oral communication skills. Principles of composition, business letters, and telephone procedure with emphasis on informal communication with patients in various office situations.

5.433 Applied Psychology in Dentistry (2 class hrs/wk) 2 credits
Maturation of patients; public relations; contact with the public. Applied psychology with patients, particularly children.

5.435 Oral Pathology (1 class, 1 lab hr/wk) 2 credits
The study of oral pathology. Normal tissues, diseased or injured tissues, developmental anomalies, dental caries, abcesses and cysts.

5.480 Community Relationships (2 class hrs/wk) 2 credits
Community resources available to the ill, health agencies which may assist the patients or which help maintain the health and welfare of the community, function of the caseworker.

5.482 Medical Assistant (3 class hrs/wk) 3 credits
Specifics of medical office assisting: Examination room techniques, sterilization of instruments, injection techniques, geriatrics, cardiac resuscitation.

5.483 Medical Terminology (2 class hrs/wk) 2 credits
Medical terminology; pronunciation, meaning, and derivation.

5.484 Medical Law & Ethics (2 class hrs/wk) 2 credits
Ethics of the profession, laws governing the profession.

5.485 Laboratory Orientation (3 lab hrs/wk) 3 credits
Laboratory procedures: hematology, urinalysis, radiology, electrocardiology, immunology.

5.700 Fundamentals of Inhalation Therapy 1 2 credits
(1 class, 3 lab hrs/wk)
Basic equipment processes; oxygen; manufacturing, handling and storage; safety rules and regulation; piping methods and control. Hospital and field trip observation.

5.701 Fundamentals of Inhalation Therapy 2 2 credits
(1 class, 3 lab hrs/wk)
Prerequisite: Inhalation Therapy 1. Resuscitation and airway management; methods of resuscitation and maintenance of patient airway by natural and artificial means, e.g., tracheotomy. Hospital observation; surgery and post anesthesia recovery under direction of anesthesiologist.

5.702 Fundamentals of Inhalation Therapy 3 3 credits
(1 class, 6 lab hrs/wk)
Prerequisite: Inhalation Therapy 2. Mechanical function of equipment used in assisted ventilations; methods of routine assisted ventilation; indications for therapy and its effectiveness; lung physiotherapy; hospital observation and discussion with inhalation and physical therapists.

5.703 Inhalation Therapy Application & Procedures 1 6 credits
(3 class, 12 lab hrs/wk)
Prerequisite: Inhalation Therapy 3. Mechanical function of equipment used in controlled ventilation. Application of assisted and controlled ventilation; monitoring of patients on these units. Hospital observation and discussion with therapists and physicians.

5.704 Inhalation Therapy Application & Procedures 2 6 credits
(3 class, 12 lab hrs/wk)
Prerequisite: Inhalation Therapy Application & Procedures 1. Mechanical function of equipment used for the administration of oxygen and other gases; methods and procedures; humidification; use of testing and analyzing equipment.

5.705 Inhalation Therapy Application & Procedures 3 6 credits
(3 class, 12 lab hrs/wk)
Continuation of Inhalation Therapy Application & Procedures 2. Mechanical function of nebulization and aerosol equipment; methods and procedures; special emphasis on preventive maintenance and sterilization of inhalation therapy equipment. Hospital observation.

5.707 Inhalation Therapy Clinical Practice 1 5 credits
(3 class, 12 lab hrs/wk)
Prerequisite: Fundamentals of Inhalation Therapy 3. Supervised clinical experience designed to provide competent and efficient administration of various therapies prescribed by the physician; group discussions with physicians and therapists.

5.708 Inhalation Therapy Clinical Practice 2 7 credits
(3 class, 12 lab hrs/wk)
Continuation of Inhalation Therapy Clinical Practice 1.

5.709 Inhalation Therapy Clinical Practice 3 7 credits
(3 class, 12 lab hrs/wk)
Continuation of Inhalation Therapy Clinical Practice 2 with special emphasis on supervisory and administrative duties.

5.710 Pathology (2 class hrs/wk) 2 credits
Study of the nature and cause of disease which involves changes in structure and function.

5.711 Pharmacology (3 class hrs/wk) 3 credits
The study of drugs, their origin, nature, properties and their effects upon living tissues.

DH 109 Oral Roentgenology 1 (1 class hr/wk) 1 credit
Lecture and laboratory course covering theory and development of x-ray films, and the correct use of x-ray machines. Techniques for exposing, processing, and mounting films with clinical practice on the patient.

DH 113 Dental Anatomy (3 lab hrs/wk) 1 credit
Prerequisite: Admission to the dental hygiene program. Anatomy and physiology of the teeth and their supporting structures. A laboratory course combined with a self-teaching course of instruction provided in a seven volume series of textbooks developed at the University of Oregon Dental School. The laboratory work involves the drawing of individual teeth and detailed study of the anatomy of teeth through the use of clay restorations on plaster models.

DH 118, 119 Dental Hygiene 1, 2 (8 lab hrs/wk) 4 credits each

DH 120 Dental Hygiene 3 (6 lab hrs/wk) 2 credits
Theory of stains and hard deposits on the teeth; principles and methods for removal of these deposits. Beginning with laboratory techniques on manikins, the students proceed to their performance of the oral prophylaxis on live patients during winter term, first year. Routine examination procedures, charting of oral conditions, patient appointment procedures, and recalls. Dental assisting techniques; fluoride application, theory, and techniques; the child patient, and child management.

DH 130 Dental Procedures 1 (1 class hr/wk) 1 credit

DH 131 Dental Procedures 2 (3 lab hrs/wk) 1 credit
Designed to familiarize the student with procedures used in dentistry; orientation to dentistry, dental materials, operative dentistry, endodontics, oral surgery, prosthetic dentistry, four-handed dental assisting, medical emergencies, polishing of alloy restorations, dentistry in public health, and pharmacology.

DH 210 Oral Roentgenology 2 (4 class hrs/wk) 2 credits

DH 211 Oral Roentgenology 3 (4 class hrs/wk) 2 credits

DH 212 Oral Roentgenology 4 (2 class hrs/wk) 1 credit
See course description under DH 109 above.

DH 220, 221, 222 Dental hygiene 4, 5, 6 (9 lab hrs/wk) 3 credits each
See course description under DH 118, 119, 120 above.

DH 223 Dental Disease Control 1 (1 class hr/wk) 1 credit

DH 224 Dental Disease Control 2 (3 class hrs/wk) 1 credit
Theoretical and clinical application of preventing decay by stressing education, diet, nutrition, food theories, and fluoride theories.

DH 225, 226, 227 Periodontology for Dental Hygienist 1, 2, 3
(1 class hr/wk) 1 credit each
Review of the etiology, classification and treatment of periodontal diseases; prevention is emphasized. Principles of therapy.

DH 228, 229 Oral Biology 1, 2 (4 class hrs/wk) 2 credits each
Fall term will be devoted to oral embryology and microscopic anatomy. An understanding of the development of the face and oral cavity, the basic structure, the oral tissues essential to the dental hygienist. The second term will be basic pathology and oral pathology. Oral manifestations of disease.

DH 232, 233 Dental Procedures 3, 4 (2 class hrs/wk) 2 credits each

DH 234 Dental Procedures 5 (3 class hrs/wk) 3 credits
See course description under DH 130, 131 above.

DH 240 Dental Health Education 1 (2 class hrs/wk) 2 credits

DH 241 Dental Health Education 2 (1 class hr/wk) 1 credit

DH 242 Dental Health Education 3 (1 class, 3 lab hrs/wk) 2 credits
Planning, developing and evaluating instructional materials for various age levels (pre-school through geriatric group). Field experiences in the Eugene Public Schools; classroom talks; visual aids in education; motivation for acceptance of dental health.

Performing Arts

CHAIRMAN: Edward Ragozzino

FACULTY: Gene Aitken, Nathan Cammack, Wayte Kirchner, George Lauris, Polly McKeever, David Sherman

The Performing Arts Department brings together the performing disciplines of music, drama, and dance. The objective of all three is the same: theory, technique, and performance. The department is not solely for the undergraduate student, but is intended to make facilities and staff available to the community for whatever its cultural interests may be.

Performing Arts

COURSES

FE 207 Supervised Field Experience (3-45 hrs/wk) 1-15 credits
Prerequisite: Department chairman's approval. Supervised, on-the-job experience through the Cooperative Work Experience Program is offered for students working in off-campus occupations closely paralleling the student's college program. Entry is by petition if working or placement by CWE Program.

Mus 50 Basic Piano (2 class hrs/wk) 1 credit each term (3 crs. max.)
Classroom instruction to fit the needs of beginners.

Mus 51 Basic Voice (2 class hrs/wk) 1 credit each term (3 crs. max.)
For beginners in vocal music. Deals primarily with the development of breath control, tone production, articulation, and enunciation in a group situation. Classroom performance of songs. Study of song literature.

Mus 111, 112, 113 Music Theory 1 4 credits each term
(5 class hrs/wk)
Thorough groundwork in the fundamentals of music; melody, harmony, rhythm, and ear training. Students having a limited piano background should take a Basic Piano class, so as to have an understanding of the keyboard.

Mus 190 Performance Studies (1 hr lesson/wk) 1 credit
(No more than six hours credit may be earned in Mus 190 and 290, singly or combined.) Individual instruction in technical and stylistic aspects of artistic solo performance. Students enroll for one half-hour lesson per week in their major instrument each term during their undergraduate years. Extra fee required.

Mus 194 Chamber Ensemble 1 credit each term (3 credits max.)
(2 class hrs/wk)
Chamber ensembles are small performing vocal and instrumental groups. Emphasis is placed on precision, sensitivity and musicianship.

Voice
Prerequisite: Permission of the instructor. To provide the skilled vocalist an opportunity to participate in a select group.

String Quartet
Prerequisite: Permission of the instructor. Classroom instruction and participation in the technique of string quartet playing.

Brass Quintet
Prerequisite: Permission of the instructor. Classroom instruction and participation in the technique of brass quintet playing.

Stage Band
Prerequisite: Audition and/or instructor's permission. Provides an opportunity for students to rehearse and perform current jazz and jazz rock literature. Enrollment limited to 5 saxes, 5 trombones, 6 trumpets and 5 percussion. All students in stage band must be concurrently enrolled in Mus 195 Band.

Jazz Rock Improvisation
Prerequisite: Open to all students who play a musical instrument. Provides an opportunity for any student to develop an aural approach to music. Course content is concerned with improvisation and playing standard and extended chord progressions.

Mus 195 Band (3 class hrs/wk) 1 credit each term (6 crs. max.)
Prerequisite: Open to all students who play a band instrument. Provides an opportunity for woodwind, brass, and percussion students to rehearse and perform all types of band literature from classical to jazz-rock, and includes electronic music literature.

Mus 196 Orchestra (3 class hrs/wk) 1 credit (6 crs. max.)
To give string instrument students (violin, viola, cello, string bass and piano) an opportunity to study and perform Baroque through Contemporary chamber orchestra literature.

Mus 197 Chorus (3 class hrs/wk) 1 credit each term (6 crs. max.)
College Concert Choir. No prior choral experience necessary.

Mus 201, 202, 203 Introduction to Music and Its Literature
(3 class hrs/wk) 3 credits each
Enjoyment and understanding of music through listening and study of its elements, forms and historical styles.

Mus 211, 212 213 Music Theroy 2 (4 class hrs/wk) 3 credits each
Prerequisite: Music Theory 1 or permission of the instructor. Continued studies in the elements of music, with emphasis upon composition, analysis of various musical styles and trends, and elements of listening. Mus 213 is primarily concerned with the analysis and composition of 20th Century music.

Mus 214, 215, 216 Keyboard Harmony (1 class hr/wk) 1 credit each
Application of theoretical principles to the piano; exercises in modulation, transposition and the development of extempore playing. To be taken concurrently with Mus 211, 212, 213.

Mus 290 Performance Studies (1 hr lesson/wk) 1 credit
Prerequisite: Three terms of Mus 190 or permission of the instructor. (No more than six hours credit may be earned in Mus 190 and 290, singly or combined.) Individual instruction in technical and stylistic aspects of artistic solo performance. Students enroll for one half hour lesson per week in their major instrument each term during their undergraduate years. Extra fee required.

Mus 294 Chamber Ensemble 1 credit each term (3 credits max.)
(2 class hrs/wk)
Chamber ensembles are small performing vocal and instrumental groups. Emphasis is placed on precision, sensitivity and musicianship.

Voice
Prerequisite: Satisfactory completion of Mus 194 (Voice) or permission of the instructor. To provide the skilled vocalist an opportunity to participate in a select group.

String Quartet
Prerequisite: Satisfactory completion of Mus 194 (String Quartet) or permission of the instructor. Classroom instruction and participation in the technique of string quartet playing.

Brass Quintet
Prerequisite: Satisfactory completion of Mus 194 (Brass Quintet) or permission of the instructor. Classroom instruction and participation in the technique of brass quintet playing.

***Sp 103 Rehearsal and Performance** 1-3 credits (6 crs. max.)
(3-9 lab hrs/wk)
Prerequisite: Consent of instructor. Designed to reflect practical application of classroom theory; may be taken by any participant of a music or dramatic production of the Performing Arts Department which is scheduled for a public performance as determined by the department.

Sp 229 Oral Interpretation (3 class hrs/wk) 2 credits
Art of re-creating prose, poetry, or drama through the medium of oral reading by an interpreter to an audience.

Sp 250 Speech and Theatre Workshop 2 credits each term
(6 hrs. max) (3 class hrs/wk)
Beginning course in acting for any level of competence. Study of the methods, techniques, and theory of acting as an art form. Performance of laboratory exercises and cuttings from

plays is the basic teaching approach. Individual instruction is provided; no prior acting experience required.

Sp 251 Elements of Acting (3-5 hrs/wk) 1-3 credits
Prerequisite: Speech and Theatre Workshop or equivalent experience. A second year acting class that concentrates exclusively on the problems of characterization. Students present recital performances for critique purposes from a variety of contemporary and classical theatre literature.

Sp 252 Make-Up (2 hrs/wk) 1 credit
Teaches the basic theory and application of make-up for the stage and television.

Sp 261, 262, 263 Theatre Principles (3 class hrs/wk) 1 credit each
Development of the physical theatre; mechanics of its stage and shops; planning and construction of stage settings and properties, basic principles of stage lighting.

Sp 264, 265, 266 Production Workshop 3 credits each
(6 class hrs/wk)
Prerequisite: Sp 261, 262, 263, or concurrent registration. Practical experience in construction, painting, and handling of scenery, and the lighting of plays.

Sp 267, 268, 269 Appreciation of Drama 2 credits each
(3 class hrs/wk)
The theatre as an art form. A non-performance course to make the spectator a more intelligent playgoer and to make the performing arts a part of his cultural life.

*Pending Approval

Science

CHAIRMAN: John W. Jacobs

FACULTY: Mable Armstrong, Charles Bentz, Robert J. Boettcher, Victor E. Favier, Richard T. Fraga, Alan Gubrud, Hayden Hodges, Stephen W. John, Benard Kirk, Jay R. Marston, Michael H. Mitchell, Eugene Z. Parro, Wendell Pepperdine, Freeman Rowe, Jack D. Scales, Thomas Wayne, Floyd Weitzel.

Environmental Technology

TWO YEAR ASSOCIATE OF SCIENCE DEGREE PROGRAM. APPROVED BY VETERANS ADMINISTRATION.

This program will prepare the student for work as an Environmental Technician in water pollution control. The Environmental Technician performs biological surveys and investigations in identifying and solving water quality problems. This includes phases of water pollution and water quality management studies; field investigation, inventory and monitoring programs; biological tests and routine chemical analyses of water samples; effects of municipal, industrial and agricultural waters on water quality; and preparation of technical reports.

Job opportunities exist in water purification and sewage treatment plants; and as technical aides in municipal, county or state sanitation agencies. Many larger industries in Oregon employ Pollution Control Technicians in their labs.

CURRICULUM

		First Year	F H-C*	W H-C	S H-C
Sc	Bi 101	General Biology	6-4		
Mth	Mth 101	College Algebra	4-4		
Sc	Ch 101, 102, 103	Elementary Chemistry	6-4	6-4	6-4
Sc	6.300, 6.301	Environmental Technology 1, 2	3-3	3-3	
MC	Sp 111	Fundamentals of Speech		3-3	
PE	HE 251	Community Health		3-3	
Sc	Bi 123	Elementary Microbiology			6-4
Sc	GS 106	Physical Science			5-4
PE	HE 250	Personal Health		3-3	
		Electives (General Education)			3-3
			19-15	18-16	20-15

		Second Year	F H-C*	W H-C	S H-C
Sc	6.502	Water Chemistry & Microbiology	6-4		
LA	Wr 111	English Composition	3-3		
SSc	Soc 204, 205, 206	General Sociology	3-3	3-3	33
IT	4.160	Drafting Fundamentals	5-2		
IT	6.112, 6.114	Hydraulics 1, 2	3-3	3-3	
LA	6.126	Communication Skills 3 or equivalent		3-3	
Sc	6.303	Water Treatment & Purification		5-4	
		Electives (General Education)		6-6	3-3
MC	1.113	Public Relations			3-3
Sc	1.300	Supervised Field Experience			15-5
			20-15	20-19	24-14

*H-hours, C-credits

COURSES

1.300 Supervised Field Experience (15 hrs/wk) 5 credits
Prerequisite: Department chairman's approval. Supervised, on-the-job experience through the Cooperative Work Experience Program is offered for students working in off-campus occupations closely paralleling the student's college program. Entry is by petition if working or placement by CWE Program.

4.300 Science of Properties of Materials 4 credits
(3 class, 2 lab hrs/wk)
Introductory practical physics covering heat, light, and sound.

4.302 Science of Mechanics (3 class, 2 lab hrs/wk) 4 credits
Prerequisite: Mathematics 1 (4.200) or equivalent. Introductory practical physics covering matter, measurements, mechanics, and machines.

4.304 Electrical Science (3 class, 2 lab hrs/wk) 4 credits
Prerequisite: Mathematics 2 (4.202) or equivalent. Introductory practical physics covering magnetism and electricity.

6.300 Environmental Technology 1 (3 class hrs/wk) 3 credits
Study of man's relationship to his environment and how his activities have created pollution problems which affect his culture. Laws, regulations and enforcement procedures will be a central theme.

6.301 Environmental Technology 2 (3 class hrs/wk) 3 credits
Prerequisite: Environmental Technology 1. An in depth presentation of major pollution problems (as identified in Environmental Technology 1) in terms of standard measurement techniques and control methods.

6.303 Water Treatment and Purification 4 credits
(3 class, 2 lab hrs/wk)
Prerequisites: Hydraulics 1 and 2. Principles of treatment and purification of water supplies, designs of the collection, treatment and distribution systems of potable water. Theory and practice of the treatment and disposal of sewage and industrial waste waters by aeration, sedimentation, digestion filtration. Instruction is designed to develop an understanding of, and the skills necessary for, the treatment and protection of water supplies and the disposal of liquid waste. Course includes theory, laboratory work, field trips and work experience.

6.366 *Applied Physics 3 (3 class, 2 lab hrs/wk) 4 credits
Prerequisite: Technical Mathematics 2 or approval of department head. Magnetism and electricity, including basic electric currents, sources, electromagnetism, alternating current, generators, and motors.
*Special sections for nurses are also included.

6.370 Applied Physics 1 (3 class, 2 lab hrs/wk) 4 credits
Prerequisite: Technical Mathematics 1 concurrently or approval of department head. Mechanics of measurement, vectors, kinematics, work power-energy, machines and rotational motion.

6.371 *Applied Physics 2 (3 class, 2 lab hrs/wk) 4 credits
Prerequisite: Technical Mathematics 2 or approval of department head. Structure of matter, heat, sound, and light.
*Special sections for nurses are also included.

6.502 Water Chemistry and Microbiology 4 credits
(3 class, 3 lab hrs/wk)
Prerequisite: General Chemistry (Ch 101, 102, 103) and Microbiology (Bi 123). Standard chemical and biological tests and measurements for water purification and pollution control. The course will include theory, laboratory work, and field studies.

Bi 101, 102, 103 General Biology (6 lecture/lab hrs/wk) 4 credits each
Basic principles of biology and the methods and purposes of scientific research as a human activity. Student may enter any term with consent of instructor. For non-majors only — Core Biology is recommended for majors.

General Biology (N series)
A field course emphasizing natural history of native Oregon animal and plant species. Field trips, lecture, lab, and projects. The course carries the same credits as Bi 101, 102, 103, and will be limited to elementary education majors and biology majors. Students may enter any term.

Bi 121 Elementary Human Anatomy & Physiology 4 credits
(3 class, 3 lab hrs/wk)
A medically oriented study of the human body, beginning with the single cell and continuing through the skeletal, muscular, and nervous systems. Previous high school or college chemistry is strongly recommended.

Bi 122 Elementary Human Anatomy & Physiology 4 credits
(4 class, 2 lab hrs/wk)
A continuation of Bi 121 which is a prerequisite. Circulatory, respiratory, alimentary, excretory, endocrine, and reproductive systems are treated. Emphasis on integrative control mechanisms.

Bi 123 Elementary Microbiology (3 class, 3 lab hrs/wk) 4 credits
A medically oriented survey of the bacteria and other microorganisms which affect man's health. Some discussion of cell reproduction, genetics, immunology, sterilization, disinfection and interactions of man with the microbial environment are also included.

Bi 210, 211, 212, 213 Core Biology 5 credits each
(4 lecture, 4 lab hrs/wk)
Prerequisite: Ch 104, 105. For majors in the medical and biological sciences. This sequence will transfer for Bi 211, 212, 213 at Oregon State and for 301, 302, 303 at the University of Oregon. The course will include two quarters of cellular biology and two quarters of organismal biology.
Bi 210: Genetics, evolution and ecology. Bi 210 given spring term only. Biology majors may enter 211 with instructor approval.
Bi 211: Comparative morphology, behavior, and physiology with related taxonomy, reproduction and development.
Bi 212: Bioenergetics, thermodynamics, respiration, photosysthesis, enzymes and all related cell structure.
Bi 213: Cell theory, membrane and nuclear cell structure and molecular biology of the gene.

Bot 201, 202, 203 General Botany 4 credits each
(6 lecture/lab hrs/wk)
Student may enter first or second term.
Bot 201: Structure of cells and seed plants, metabolism and growth.
Bot 202: Reproduction and genetics. Taxonomy of lower plants.
Bot 203: Prerequisite: Bot 202. Taxonomy of vascular plants, identification of native plants, ecology, evolution.

Ch 101, 102, 103 Elementary Chemistry 4 credits each
(3 class, 3 lab hrs/wk)
Prerequisite: Mth 95 or equivalent. Terminal service course for students with no previous training in chemistry. Course cannot be used for a prerequisite for further training in chemistry.

Ch 104, 105, 106 General Chemistry 5 credits each
(3 lecture, 1 recitation, 3 lab hrs/wk)
Prerequisite: Mth 101 or equivalent. Prepares students for further work in chemistry, biology, engineering, pre-medicine, and allied fields. No chemistry background assumed.

Ch 226, 227 Organic Chemistry(3 lecture, 6 lab hrs/wk) 5 credits each
Prerequisite: Ch 106 with grade of C or better. For students not majoring in chemistry or chemical engineering. A systematic coverage of aliphatic and aromatic chemistry.

Ch 234 Quantitative Analysis (3 lecture, 6 lab hrs/wk) 5 credits
Prerequisite: Ch 106 with grade of C or better. Gravimetric and volumetric analysis and an introduction to instrumental analysis.

FE 207 Supervised Field Experience (15 hrs/wk) 5 credits
Refer to 1.300 above.

G 201, 202, 203 Geology (3 class, 3 lab hrs/wk) 4 credits each
Earth materials, processes and forms, formation of economic mineral deposits, the main events in earth history. Field work where applicable.

GS 104, 105, 106 Physical Science 4 credits each
(3 class, 2 lab hrs/wk)
Prerequisite: One year of high school algebra, or equivalent. Students may enter any term. Principles of physics, chemistry, astronomy, geology; development and application of the scientific method.

PH 201, 202, 203 General Physics 4 credits each
(7 lecture/lab hrs/wk)
Prerequisite: College algebra, trigonometry. Recommended: knowledge of the use of the slide rule. The study of energy and physical phenomena, including the fundamental principles of mechanics, wave theory, electricity, electronics, relativity, and atomic theory. Courses may be entered any quarter.

PH 207, 208, 209 Introductory Classical Physics 4 credits each
(7 lecture/lab hrs/wk)
Corequisite: Mth 200 or equivalent. The functional analysis of mechanics, the analog relationship of mechanical, electrical, thermal, and hydraulic systems; and electricity and magnetism. For students in engineering, physics, and the physical sciences.

Z 201, 202 203 General Zoology 3 credits each
(2 lectures, 3 lab hrs/wk)
For forestry, fish and game, pharmacy, agriculture and home economic students and others. Students may enter any term.

Social Science

CHAIRMAN: William Beals

FACULTY: John Baughman, David Croft, Greg Delf, Dale Gramley, Dan Hodges, Joyce Hops, Marvin Jaegers, John Klobas, John Kocher, Paula Lutz, Milton Madden, Paul Malm, John McCulloch, Rodney Metzger, Ronald Mitchell, Harold Molenkamp, Roy Mullin, Penny Schlueter, Gary Searl, Donald Wilson

Fire Prevention Technology

TWO YEAR ASSOCIATE OF SCIENCE DEGREE PROGRAM. APPROVED BY VETERANS' ADMINISTRATION.

The majority of fire fighters employed in Oregon have learned their skills on the job. Complexities in the science of fire fighting, and increasing knowledge of better methods of fire fighting, have created a need for a comprehensive training program in this field.

Demand for qualified fire fighters is greater than the supply of trained personnel. Training in this program could qualify a student to work in the Safety Division of an industrial firm or provide background for fire underwriting. Persons interested in entering this field should be in good physical health and be able to demonstrate stamina under physical strain.

The curriculum is designed for pre-employment training as well as for employed persons in fire protection and allied occupations. Options include single courses in specialized areas of study, a one-year core of selected subjects from a two-year pre-employment curriculum, and advanced courses at the company officer level. During the 1971-72 college year this program will be offered only to employed firemen.

CURRICULUM

	First Year	Credits
LA 1.100	Communication Skills 1	3
LA 1.102	Communication Skills 2	3
Mth 4.202	Mathematics 2	3
SSc 5.254	Introduction to Fire Protection	3
Sc 4.300	Science of Properties of Materials	4
SSc 1.601	Self and Society (9 weeks)	3
IT 4.101	Drafting 1	2
SSc 5.256	Fire Science	4
SSc 5.250	Fire Fighting Skills 1	3
SSc 5.257	Fire Department Hydraulics	3
SSc 5.258	Fire Company Organization & Management	3
	Electives	14
		48
	Second Year	
SSc 5.251	Fire Fighting Skills 2	3
SSc 5.252	Fire Fighting Skills 3	3
SSc 1.601	Self and Society (9 weeks)	3
SSc 5.263	Fire Pump Construction & Operation	4
SSc 5.260	Hazardous Materials 1	3
SSc 5.261	Hazardous Materials 2	4
SSc 5.264	Building Construction for Fire Protection	3
SSc 5.267	Fire Department Communications & Alerting Systems	3
PE 5.212, 13, 14	First Aid	3
SSc 5.268	Fire Service Rescue Practices	4
SSc 5.269	Water Distribution Systems	3
SSc 5.272	Fixed Systems & Extinguishers	3
SSc 5.273	Fire Investigation	4
SSc 5.274	Fire Fighting Tactics & Strategy	3
		46

Law Enforcement

TWO YEAR ASSOCIATE OF SCIENCE DEGREE PROGRAM. APPROVED BY VETERANS' ADMINISTRATION.

The law enforcement curriculum is designed for young men and women desiring to pursue an educational program which will prepare them for career employment in police departments, sheriffs' offices, and various other law enforcement-related agencies. It also provides opportunities for those persons already engaged in law enforcement occupations to obtain further training for additional competency, or retraining that will help them qualify for higher-level positions.

The curriculum, which leads to an Associate of Science Degree, has been developed cooperatively by the Oregon Board of Education and the State Advisory Board on Police Standards and Training. The program of studies covers basic police science knowledge, skills, and techniques.

Those who meet minimum physical, emotional, intellectual, citizenship, and moral standards are eligible for the program, provided they meet the school entrance requirements. These minimal requirements are directly related to statutory requirements and common hiring practices which limit entrance into law enforcement occupations. Local police departments make a routine investigation, including fingerprinting, of all applicants. Students may participate in the program on a full-time or part-time basis.

The Law Enforcement program is in the process of being revised and a second program in Law Enforcement—Security is being developed for the 1971-72 college year. Students should contact the Social Science Department for up-to-date information.

The Law Enforcement—Security program provides the law enforcement students the option of training to become security officers for commercial establishments in contrast to the training for service with governmental police agencies.

CURRICULUM

First Year

		F H-C*	W H-C	S H-C
SSc 5.200	Introduction to Law Enforcement	3-3		
SSc 5.209, 5.210, 5.211	Patrol & Traffic 1, 2, 3	5-3	5-3	5-3
PE 5.212, 5.213, 5.214	First Aid 1, 2, 3	2-1	2-1	2-1
PE PE 180, 190	Physical Education (including defensive tactics)	3-1		
LA 1.100, 1.102	Communication Skills 1, 2	3-3	3-3	
Bus 2.101, 2.102	Typing 1, 2	5-3	5-3	
SSc 5.202	Administration of Justice		3-3	
SSc 5.208	Criminal Law 1			3-3
	Elective			2-2
SSc 1.601	Self and Society (9 weeks)			3-3
		21-14	18-13	15-12

Second Year

		F H-C*	W H-C	S H-C
SSc 5.238	Criminal Law 2	3-3		
SSc 5.239, 5.240, 5.241	Police Report Writing 1, 2, 3	4-2	4-2	4-2
SSc 5.216, 5.217, 5.218	Criminal Investigation 1, 2, 3	3-3	3-3	3-3

continued

SSc	5.233, 5.234, 5.235	Problems of Physical & Photographic Evidence 1, 2, 3	3-1	3-1	3-1
MC	1.610	Public Speaking	3-3		
SSc	5.236	Juvenile Procedures		5-3	
SSc	5.226, 5.227	Firearms 1, 2		2-1	2-1
SSc	1.601	Self and Society (9 weeks)		3-3	
SSc	5.242	Police and Community Relations		3-3	
SSc	5.222	Criminal Evidence			3-3
SSc	5.232	Jail Procedures			2-1
SSc	1.608	Human Relations 1			3-3
			16-12	23-16	20-14

*H-hours, C-credits
Twelve additional hours of approved electives are required to qualify for an associate degree.

COURSES

0.500 Orientation to College (2 class hrs/wk) 2 credits

Role of the student, his opportunities at Lane Community College, courses, programs, services and facilities. Focus is on the individual in terms of his vocational and educational choice, self-awareness and effective study.

0.515, 0.516 Career Analysis 1, 2 (2 class hrs/wk) 2 credits each
A course to help students explore and plan their future careers. An examination of work values, interests, and aptitudes. Focus will be on the individual in the world of work. Course will be taught in small discussion groups.

1.300 Supervised Field Experience (3-45 hrs/wk) 1-15 credits
Prerequisite: Department chairman's approval. Supervised, on-the-job experience through the Cooperative Work Experience Program is offered for students working in off-campus occupations closely paralleling the student's college program. Entry is by petition if working or placement by CWE Program.

1.601 Self and Society (3 hrs/wk) 1-7 credits
(based on 1 credit for each 3 weeks of class)
This course replaces the old courses of American Institutions, Introduction to Psychology and Employer/Employee Relations. It has units covering the areas of psychology, local government, consumer economics, the role of the employer and employee. The student may take any unit which interests him and get one credit for each three weeks of class. Attendance is mandatory for credit.

1.608 Human Relations 1 (3 class hrs/wk) 3 credits
Study and experience of the intra- and interpersonal factors involved in forming and maintaining productive relationships with others. Focus on the development of communication skills and on giving and receiving feedback. Text: Suggested readings.

1.609 Human Relations 2 (3 class hrs/wk) 3 credits
Prerequisite: Human Relations 1 and/or consent of instructor. Specialized study and experience of the intra- and interpersonal factors involved in forming and maintaining specific productive working relationships with others. Focus on development of communication skills, skills in decision making and in problem solving, and on giving and receiving personal feedback. Some homogeneous groups will be formed to consider particular relationships. Text: Suggested readings.

5.200 Introduction to Law Enforcement (3 class hrs/wk) 3 credits
The philosophy and history of law enforcement; crime and police problems; organization and jurisdiction of local, state and federal law enforcement agencies; survey of professional career opportunities, qualifications required, and police ethics.

5.202 Administration of Justice (3 class hrs/wk) 3 credits
Review of court systems; procedures from incident to final disposition; principles of constitutional, federal, state, and civil laws as they apply to and affect law enforcement.

5.208 Criminal Law 1 (3 class hrs/wk) 3 credits
The structure definitions and the most frequently used section of the Penal Code and other criminal statutes.

5.209, 5.210, 5.211 Patrol and Traffic Procedures 1, 2, 3 3 credits each (2 class, 3 lab hrs/wk)
Purposes and types of patrols, assignments, response to emergencies, action to be taken. Traffic law enforcement, regulation and control; fundamentals of traffic accident investigation; Oregon Motor Vehicle Code.

5.216 Criminal Investigation 1 (3 class hrs/wk) 3 credits
Fundamentals of investigation; crime scene search; sketching and recording; collection and preservation of physical evidence; scientific aids; modus operandi; sources of information interviews and interrogation, follow-up, and case preparation.

5.217 Criminal Investigation 2 (3 class hrs/wk) 3 credits
Continuation of Criminal Investigation 1.

5.218 Criminal Investigation 3 (3 class hrs/wk) 3 credits
Continuation of Criminal Investigation 2.

5.222 Criminal Evidence (3 class hrs/wk) 3 credits
Kinds and degrees of evidence and the rules governing the admissibility of evidence in court.

5.226 Firearms 1 (2 lab hrs/wk) 1 credit
Moral aspects, legal provisions, safety precautions, and restrictions covering the use of firearms, firing of the sidearm riot shotgun and other weapons. Combined lecture and laboratory (range).

5.227 Firearms 2 (2 lab hrs/wk) 1 credit
Law enforcement uses of rifles, shotguns, Thompson submachine guns; legal and moral aspects. Use of rifles and shotguns in sports and the laws pertaining to such.

5.232 Jail Procedures (2 lab hrs/wk) 1 credit
Receiving, booking, and searching, care and custody of prisoners; laws relating to commitments, holding orders, and warrants; duties and responsibilities of the officer as outlined in the law regarding property and belongings of prisoners. Detention of prisoners for outside agencies.

5.233, 5.234, 5.235 Problems of Physical and Photographic Evidence 1, 2, 3 (3 lab hrs/wk) 1 credit each
Various uses of photography in police work. Techniques of locating, collecting and identifying physical evidence. Use of fingerprinting, casts and molds, photography and sketching.

5.236 Juvenile Procedures (2 class, 3 lab hrs/wk) 3 credits
The organization, functions, and jurisdiction of juvenile agencies; processing and detention; case disposition; statutes and court procedures.

5.238 Criminal Law 2 (3 class hrs/wk) 3 credits
Continuation of Criminal Law 1.

5.239, 5.240, 5.241 Police Report Writing 1, 2, 3 2 credits each
(2 class, 2 lab hrs/wk)
Knowledge of the principles of composition and basic forms of writing reports.

5.242 Police and Community Relations (3 class hrs/wk) 3 credits
Police and minority groups, social change and law enforcement, and principles of programming in police and community relations.

5.250 Fire Fighting Skills 1 3 credits
Individual skills using small tools and minor equipment, practice in forcible entry, use of masks.

5.251 Fire Fighting Skills 2 3 credits
Practice in team skills used in fire ground operation, including hose and ladder evolutions, salvage, overhaul, rescue, fire attack.

5.252 Fire Fighting Skills 3 3 credits
Practice in skills involving multi-company operations, including simultaneous activities of ladder, engine, and salvage companies; manning large stream appliances, coordinating communications.

5.253 Fire Apparatus and Equipment 3 credits
Familiarization with different types of fire apparatus; principles of application, care, and preventive maintenance; safe operating practices, emergency and non-emergency; National Board standards.

5.254 Introduction to Fire Protection 3 credits
Philosophy, history of fire protection, loss of life and property by fire; role and responsibility of fire department in the community; organizations, sources of professional literature; survey of professional career opportunities.

5.256 Fire Science 4 credits
Characteristics and behavior of fire; fundamentals of physical laws and chemical reactions occurring in fire and fire suppression; analysis of factors contributing to fire and to its confinement, control, and extinguishment.

5.257 Fire Department Hydraulics 3 credits
Review of basic mathematics hydraulic laws and formulas as applied to the fire service; application of formulas and mental calculations to hydraulic problems; fire ground water-supply problems: Underwriters' requirements for pumps and accessories.

5.258 Company Organization and Station Assignment 3 credits
Fire company organization and operation; company responsibilities in station: record keeping, state communications; and

watch, housekeeping and house privileges, tours and public relations, company organization for response to alarms, company morale.

5.260 Hazardous Materials 1 3 credits
Review of basic chemistry; identification of hazardous materials by color, symbol, and markings; recommended safe practices for storage and handling of solids, liquids, and gases; methods for fire control of these materials.

5.261 Hazardous Materials 2 4 credits
Methods for combating fire in hazardous chemicals and similar materials; radiation hazards of the fire service; space age fuel; highway transportation explosives.

5.263 Fire Pump Construction and Operation 4 credits
Principles of fire apparatus pumping operations; fire ground water supply; construction and operation of fire service pumps and accessories; pump operation under emergency conditions; rule-of-thumb hydraulics.

5.264 Building Construction for Fire Prevention 3 credits
Classification of buildings; structural features affecting fire spread; effect of fire on structural strength; fire stops and rating of materials; fire retardants; Sanborne maps.

5.267 Fire Department Communications & Alerting Systems 3 credits
Dispatching, receiving, and radio communication procedures; FCC regulations; municipal box alarm; telephone and tone-activated alarm; recording messages; tap-out procedures, running cards.

5.268 Fire Service Rescue Practices 4 credits
Electrical; use of rescue tools; common rescue carries; search and rescue procedures; handling nets; care of victim, excavation emergencies; evacuations.

5.269 Water Distribution Systems 3 credits
Main systems; hydrants; residential and commercial districts; fire flow requirements; pumping stations, high pressure systems, storage tanks and cisterns; mobile supplies.

5.272 Fixed Systems and Extinguishers 3 credits
Portable extinguisher equipment; sprinkler system; protection systems for special hazards; fire alarm and detection system; ventilating systems.

5.273 Fire Investigation 4 credits
Effect on fire prevention by isolating cause of fire; interpreting clues and burn patterns leading to point of origin; identifying sources of ignition and materials ignited; preservation of the fire scene.

5.274 Fire Fighting Tactics & Strategy 3 credits
Response and size-up; fire ground tactics; analysis and post-mortem; pre-fire survey and planning.

Anth 101, 102, 103 General Anthropology 3 credits each
(3 class hrs/wk)

May be taken out of sequence.
Anth 101: Physical anthropology — a man as a living organism.

Anth 102: Archeology — study of past cultures.
Anth 103: Cultural anthropology — organization and functioning of culture.

Ec 201, 202, 203 Principles of Economics 3 credits each
(3 class hrs/wk)
Trailer courses will be offered each term.
Ec 201: Emphasized macroeconomic overview, especially national income, employment, inflation, government fiscal policy, monetary policy.
Ec 202: Prerequisite: Ec 201. Continuation of macroeconomic emphasis, especially equilibrium of supply and demand as reflected in GNP; microeconomic principles are included (the firm and markets).
Ec 203: Prerequisite: Ec 201, 202. Deals with selected topics and independent work; comparative systems; international economics; public finance; economic growth; economic history.

FE 207 Supervised Field Experience (3-45 hrs/wk) 1-15 credits
Prerequisite: Sociology majors: 6-9 hours in sociology, recommendation by instructor, interview with department coordinator. Prerequisite: Psychology majors: 6-9 hours in psychology, recommendation by instructor, interview with department coordinator. See course description under 1.300 above.

Geog 105, 106, 107 Introductory Geography 3 credits each
(2 class, 1 lab hr/wk)
Geog 105: Urban and Social Geography (offered every term). Process of settling the land. Population patterns. Urban landscapes. Perception of place. Methods of geographic inquiry.
Geog 106: Regional Geography (winter term). The regional approach used to examine selected landscapes of the world.
Geog 107: Cultural Geography. Origin and diffusion of people, goods, and ideas. Spatial behavior and perception. Spatial diffusion in the modern period. Spatial diffusion before the Industrial Revolution. Spatial inquiry methods for diffusion studies.

Geog 221 Field Geography (3 class hrs/wk) 3 credits
(Spring Term) Provides students opportunity to observe, record and report on the features of the landscape. Both group and individual research.

Hst 101, 102, 103 History of Western Civilization 3 credits each
(3 class hrs/wk)
Hst 101: Origins and development of western civilization from ancient times to the middle ages.
Hst 102: The end of the middle ages to 1789.
Hst 103: From 1789 to the present. May be taken out of sequence.

Hst 201, 202, 203 History of the United States 3 credits each
(3 class hrs/wk)
Hst 201: The United States in the 17th and 18th centuries.
Hst 202: Development of political, social, and economic institutions in the American democracy, Civil War, and industrial revolution in the 19th century.
Hst 203: Changes occurring in the 20th century technical revolutions and global conflicts. May be taken out of sequence.

Hst 210 Black Man in American History (3 class hrs/wk) 3 credits
This course is designed to trace the part the Black man has played in American history. Further, it will concern itself with how the Black American's role in society has changed and how his role in the past effects his present situation.

LE 111 Police and Society (3 class hrs/wk) 3 credits
Agencies dealing with the administration of justice. Requirements for entering police service. Origin and evolution of law enforcement agencies. Police problems, functions of the course, prosecuting and defense attorneys, correctional measures; American and foreign police systems.

LE 112 Organization and Administration of Law Enforcement Agencies (3 class hrs/wk) 3 credits
Application of the principles of organization and administration to law enforcement agencies at the federal, state, and municipal levels.

LE 113 Elements of Law for Police Officers 3 credits
(3 class hrs/wk)
Overview of the salient principles of law which have special application to police work, including criminal law, law of arrests, search, seizure, and evidence, automobile law. Discussion of court procedures.

Phl 201,202,203 Problems of Philosophy 3 credits each
(3 class hrs/wk)
Introduction to philosophical problems through the study of philosophical classics. May be taken out of sequence.

Phl 205 Elementary Ethics (3 class hrs/wk) 3 credits
To develop the idea of man as a moral agent and consider, critically, various interpretations of the ideals and standards of moral conduct.

PS 201 American Governments (3 class hrs/wk) 3 credits
American democratic philosophies; the voice of the people in government, including the myths on which people base their decisions and a consideration of socio-economic influences on voting and the results of "people pressure" on government; principles of the American constitutional system with its checks and balances; federal government organization; consideration of Congress and the Presidency.

PS 202 American Governments (3 class hrs/wk) 3 credits
Prerequisite: PS 201. A continuation of Political Science 201 considering the Bureaucracy and Judiciary; civil liberties and the practical application of the powers of the federal government to society's problems.

PS 203 American Governments (3 class hrs/wk) 3 credits
The place of the state and local government in the federal system, past and present; present problems; organization and operation of each level of state government, reform of state government, and taxation and the ability of the state to solve its problems.

PS 205 International Relations (3 class hrs/wk) 3 credits
Analysis of the nature of relations among states; contemporary international issues; a study of the motivating factors; nationalism, imperialism, economic rivalries, quest for security.

Psy 201, 202, 203 General Psychology (3 class hrs/wk) 3 credits each
Basic principles and theories of behavior. Sophomore standing recommended. Must be taken in sequence or with special permission of the instructor.
Psy 201: Scientific principles related to psychology and psychological research including an introduction to statistical methodology, the human organism considering both developmental and structural aspects, the senses and how they are influenced by the internal and external environment.
Psy 202: Prerequisite: Psy 201. Considerations of how we learn with an emphasis on principles conditioning, remembering and forgetting, thinking, motivation and emotion.
Psy 203: Prerequisite: Psy 202. Individual differences and methods of measurement, personality dynamics, reactions to stress, therapy, social behavior and the history of psychology.

Psy 210 Psychology of Racial Patterns (3 class hrs/wk) 3 credits
The course consists of an application of the principles of psychology to an analysis of the source, nature, effects, and potential for change in American racial patterns.

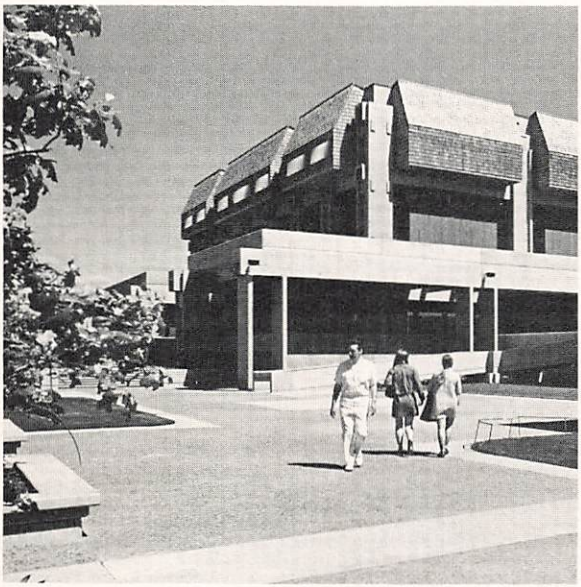
Psy 211, 212 Career Analysis 1, 2 (2 class hrs/wk) 2 credits each
See course description under 0.515 and 0.516 above.

Psy 215 Social Psychology (3 class hrs/wk) 3 credits
Prerequisite: Psy 201, 202, or Soc 204, 205. The general psychological principles underlying social behavior. Emphasis on student participation through small group interaction.

Psy 217 Human Development and Individual Differences 3 credits
(3 class hrs/wk)
Prerequisite: General Psychology, Psy 201, 202. Study of the development of behavior and personality through the prenatal period, infancy, childhood, adolescence, and adult life.

Soc 204, 205, 206 General Sociology (3 class hrs/wk) 3 credits each
Introduction to some basic sociological concepts, theories and findings, with emphasis on the analysis and interpretation of modern societies and contemporary social problems. Must be taken in sequence.

Special Programs



Adult Education

DIRECTOR: Nile G. Williams

COORDINATORS: Joris O. Johnson, Elizabeth Kepner, Raymond Proctor

The Division of Adult Education offers approximately 200 non-credit, no-grade courses each term in vocational-technical training, business, home arts, language arts, and mathematics, and in avocational areas such as citizenship, astrology, and driver education.

In addition, the Division is willing and usually able to establish other courses on request. The establishment of a course hinges on the location of a qualified instructor and the registration of at least 12 students.

All courses offered are held in the facility nearest the majority of enrollees. Classes are taught at the time, day or evening, which is most convenient to the majority of the students. Counseling and guidance are available on the main campus days and evenings.

Enrollment in most courses is open to anyone interested, though a few have prerequisites. A list of course offerings is issued quarterly and students can usually enroll for the course at the first class meeting. Books and other class materials can be purchased at the College Bookstore. Classes usually meet for 30 hours of instruction at a tuition charge of $12. The cost may vary with the number of instruction hours and the type of course. There may be an extra charge if a co-operating agency charges a rental fee for facilities. No refunds are made after the second meeting of a class. In some classes a material fee may be assessed.

An exception to the usual tuition rate is made in the case of senior citizens. A person 65 years or older may enroll in as many classes as he wishes at a tuition rate of only $6 per term.

Tuition Schedule

State Approved Occupational Courses ..... $12 per course
30 clock hours
Self Improvement, Avocational Courses ..... $20 per course
30 clock hours
Driver Education ..... $47 per course
15 clock hours
High School Completion ..... $12 per course
36 clock hours

Typical Course Offerings:

Vocational-Technical

Commercial Pilot Ground School, Investments, Taxidermy, Automotive Tuneup, Blueprint Reading and Sketching, Cabinet-making, Construction Estimating, Critical Path Scheduling, Drafting, Front End Alignment, Radio Theory, Hydraulics, Machine Shop, Radio Telephone Operator License Preparation, Welding, Retail Selling Fundamentals, Dental Radiology.

Business
Bookkeeping, Briefhand, Civil Service Preparation, Lumber Secretary, Office Procedures, Shorthand, Typing, Certified Professional Secretary Preparation, Elements of Supervision, Basic Psychology for Supervisors, Business Machines, Key-punch.

Home Arts
Bishop Sewing and Tailoring, Sewing Knits and Fashion Fabrics, Fitting Techniques, Gourmet Cooking, Upholstery, Furniture Refinishing, Interior Decorating, Home Maintenance and Repair for Women.

Language Arts
Accelerated Reading, Public Speaking, Creative Writing, Sign Language, Writing Workshop, English Essentials, French, German, Spanish, Russian.

Mathematics
Algebra, Business Mathematics, Slide Rule.

Avocational
Astrology, Beauty Workshop, Citizenship, Common Sense Horsemanship, Driver Education, Geneology, Physical Fitness, Film Techniques, Jazz Dance, Oil Painting, Pottery, Sculpture.

Apprentice Training

Training for apprentices is offered through the Adult Education Division in accordance with Oregon's Law and Plan of Apprenticeship. Classes cover technical areas of the trades and are intended to complement skills learned on the job. Information on how to become an apprentice can be obtained from the State Apprenticeship Office, State Building, 7th & Pearl, Room 301, Eugene, or phone 686-7623.

Apprenticeship programs include training in the following trades: Carpentry, Floor Covering, Industrial Electricians, Inside Wireman, Meterman, Painters, Bricklayers, Tile Setters, Plasterers, Plumbers, Sheet Metal, Power Lineman, Steamfitters.

High School Diploma

The High School Completion program offers those who have not completed high school an opportunity to earn a diploma. Entrance is usually limited to persons 19 years of age and older. On request of a school district or a court, where circumstances warrant, the College will cooperate to advance the education of students under 19.

Normally, the program consists of six basic courses: English Grammar, American Literature, U.S. History, Modern Problems, and fundamental science and mathematics courses. One course is offered at a time, ordinarily on Monday and Thursday evenings from 7-10 p.m. for a six-week period. A person may enter at the beginning of any of the classes. Proven proficiency in these six fields will merit an Adult Education diploma awarded through the participating school district. Classes are offered in all school districts in the College District where interest is sufficient. Counseling and guidance services are available at the LCC campus for persons interested in the program.

Study Skills Center

DIRECTOR: Howard F. Bird

FACULTY: Jerry Berg, Lucille Boyle, James Ellison, Lois Erickson, Leland Halberg, Elsie Long, Rosa Marks, Doris Rose, James Swanson

The Study Skills Center, located on the fourth floor of the Center Building, is a laboratory facility which provides students with the specialized equipment, materials, tools, and trained personnel necessary to improve their proficiency in learning techniques and basic skills.

Learning assistance is offered in accelerated and developmental reading, spelling, study skills, English grammar and composition, vocabulary building, music appreciation, electronics, physiology, chemistry, shorthand, typing, 10-key calculating, nursing psychology, air technology, flight technology, mathematics, foreign languages, and data processing.

Most of the programs are individually planned and combine instruction with tutorial guidance. Credit is offered for accelerated reading and study skills classes.

The Study Skills Center has a wide variety of teaching machines, film strips, tapes, typewriters, record players, programmed textbooks, and other printed materials available for use. Cassette players and programmed material can be checked out for overnight and extended use, permitting the student to broaden his education background through independent study; he can, therefore, remedy deficiencies without being confined to a classroom.

For the student whose education has been interrupted and who is now returning to college, the Center is a place to "get back into the swing of things" before entering regular classes. For the adult who has never been to college, it affords an opportunity to experience the learning process without classroom pressures or demands. For the non-reading adult it is an opportunity to correct a handicap without exposing himself to embarrassment. And for the student with a specific learning problem, it is an avenue of personal and immediate attention.

Attendance at the Study Skills Center is voluntary. No tuition is charged LCC students; non-LCC students are charged $15 per term. The facilities are open to everyone in the college district, but priority is given LCC students.

COURSES

1.108 Accelerated Reading (3 class hrs/wk) (8 weeks) 2 credits
To develop a rapid, efficient, and flexible reader, reading technique to meet the demands of the reading situation. The course content encompasses vision training, word and phrase recognition, and vocabulary development. The reading techniques developed will be those used for main idea, study, exploratory, recreational, and speed reading.

1.109 Effective Study Skills (1 class hr/wk) 1 credit
Skills which facilitate the location, selection, organization, and retention of information, the comprehension and interpretation of graphic representations, the adjustment of reading models to purposes and materials, and the following of directions. Note-taking and exam-taking skills are included. The emphasis is on application of technique, using the student's own textbooks.

Special Training Programs

DIRECTOR: Larry D. Murray

FACULTY: Norma Hucka, Lucille Lamoreaux, Helen Loomis, George Mobley, Bob Way, Mildred Wilson

Adult Basic Education

(Indeterminate length)
This program is offered tuition free to any individual 16 years of age or older who is not enrolled in a regular school and who has less than a ninth grade level of achievement. Classes are held in most geographical areas in Lane County and students can attend during the day or evening. Basic reading, writing, spelling and arithmetic are included. Interested adults may enroll at any time and remain in class as long as they need; working individually or in small groups. Students are encouraged to develop and prepare themselves for later occupational or academic training.

Manpower Development & Training Act

Work Incentive Programs

Some courses and students are selected and sponsored by local and state agencies. Those interested in participating may obtain information concerning requirements, qualifications and types of programs by inquiring at the department office on the second floor of the Apprenticeship Building.

A wide variety of programs have been offered in the past. They include: Basic Education (indeterminate length), Clerk Typist (24 weeks), Clerk Steno (36 weeks), Dinner Cook (24 weeks), Nurse Aide (12 weeks), Welding (12 weeks).

New Programs

Each year the college considers educational programs which have new and promising career opportunities. As of the printing of this catalog, programs for Municipal Management, Legal Assistance Technicians, Heavy Duty Equipment Operators, Teachers Aides, Mental Health Workers and Cosmetologists are being evaluated.

If these career fields interest you, please contact our office on the second floor of the Apprenticeship Building.

Cooperative Work Experience Program

FE 207, 1.300 Supervised Field Experience 1-15 credits
(3-45 hrs/wk)
Prerequisite: Departmental recommendation and good standing. The Cooperative Work Experience Program provides students enrolled in a particular field valuable experience in areas related to career goals. This program is a cooperative arrangement between the student, college and employer. Students are supervised by the school and employers and each contributes to his education and employability. Work

periods and school attendance may be on alternate half days, full days, weeks full-time, or other periods of time. Credit is given on the length of time employed each term. Entry into the Cooperative Work Experience may be by petition, if already employed, or by applying through the vocational department.

Landscape Development

ONE YEAR CERTIFICATE OF COMPLETION PROGRAM. APPROVED BY VETERANS' ADMINISTRATION.

This program focuses on preparing you for employment in the broad field of landscape design and construction. Presently many home owners in Lane County seek the advice of trained horticulturists when contemplating a complete or partial landscape job. A trained landscape man is prepared to build and maintain lawns, plant and cultivate trees, shrubs, flowers, plants. He also designs and constructs landscape features including walks, paths, small pools and walls. Other landscape skills covered in this course are: pruning, spraying, feeding and other kinds of tree work.

Job opportunities with landscape contractors and nurseries are available to graduates of this program.

CURRICULUM

			F H-C*	W H-C	S H-C
STP	4.301, 4.303, 4.305	Landscape Plant Identification 1, 2, 3	4-3	4-3	4-3
STP	3.103	Soils & Drainage		2-2	
STP	3.104	Landscape Design & Interpretation	3-3		
STP	3.105	Landscape Construction			5-4
STP	3.106	Landscape Administration		2-2	
STP	3.107	Landscape Maintenance			4-4
STP	1.300	Supervised Field Experience			9-3
Bus	2.110, 2.111, 2.112 or BA 211, 212, 213	Accounting 1, 2, 3 or Principles of Accounting	4-3 (3-3)	4-3 (3-3)	4-3 (3-3)
LA	1.100, 6.126 or Wr 111	Communication Skills 1, 3 or equivalent or English Composition	(3-3)	3-3	3-3
Bus	BA 125/2.125	Business Environment	3-3		
Bus	2.580	Small Business Management		3-3	
		Electives	3-3	3-3	
			17-15	21-19	29-20

*H-hours, C-credits

COURSES

1.300 Supervised Field Experience (3-45 hrs/wk) 1-15 credits
Prerequisite: Department chairman's approval. Supervised, on-the-job experience through the Cooperative Work Experience Program is offered for students working in off-campus occupations closely paralleling the student's college program. Entry is by petition if working or placement by CWE Program.

3.103 Soils and Drainage (1½ class, ½ lab hrs/wk) 2 credits
A study of mineral makeup including PH (soil acidity) nitrogen, potassium, calcium and minor elements of soils. Included in this course will be a study of such physical properties as sand, salt and clay. Students enrolled in this course will also build a shallow tile drain system.

3.104 Landscape Design and Interpretation 3 credits
(2 class, 1 lab hrs/wk)
A study of the theory and principles of landscape design as they are applied to selected problems. The essential characteristics of ideal planning, reasons for planning and various types of plans are presented as necessary methods of placing the designer's ideas on paper as guides for completed projects. Great emphasis is placed upon design principles as a thorough understanding of these principles is necessary.

3.105 Landscape Construction (1 class, 4 lab hrs/wk) 4 credits
Instruction in the fundamentals of construction as applied to landscape projects and the use of tools needed in landscape work. In addition, proper care of tools is covered in this course.

3.106 Landscape Administration (2 class hrs/wk) 2 credits
A study in the basic knowledge needed to own or manage a landscape business, including a discussion of wages, taxes, contracts, insurance and general business practice.

3.107 Landscape Maintenance (2 class, 2 lab hrs/wk) 4 credits
Basic practical skills required in typical landscape maintenance. The planting, pruning, and care of shrubs, trees, lawns and ground covers. The course includes the watering and fertilization of plants.

4.301 Landscape Plant Identification 1 3 credits
(1 class, 3 field hrs/wk)
Techniques and methods in identifying plants common to the mid-Willamette area. A study of growing habits, required soil condition and exposure and other related factors. The course will include field trips to nurseries and selected landscape projects.

4.303 Landscape Plant Identification 2 3 credits
(1 class, 3 field hrs/wk)
The study of plant ecology, relating the plant growth environment to landscape design.

4.305 Landscape Plant Identification 3 3 credits
(1 class, 3 field hrs/wk)
An advanced study of plants previously considered especially named varieties and cultivars, and the lesser known trees, shrubs, vines, and ground covers. Evaluation of plants for landscapings in relation to their growth requirements.

Board of Education

Robert Ackerman, chairman. Representative of Zone 3, which includes the Marcola, Springfield and McKenzie School Districts. A Springfield attorney, his term expires in 1973.

Catherine Lauris, vice-chairman. Representative of Zone 5, the Eugene School District. An editor at the University of Oregon, her term expires in 1974.

John Barber. Representative of Zone 2, which includes the Junction City, Bethel, Harrisburg, Harris, Wyatt, and Monroe Elementary School Districts. An attorney, his term expires in 1975.

Albert Brauer. Representative of Zone 1, which includes the Florence, Mapleton, Blachly, Fern Ridge and Crow-Applegate School Districts. A Florence physician, his term expires in 1972.

Richard Freeman. Representative of the District-at-large. A motel owner and research assistant at the University of Oregon, his term expires in 1974.

Robert Mention. Representative of the District-at-large. A Eugene architect, his term expires in 1975.

Dean Webb. Representative of Zone 4, which includes the Creswell, Pleasant Hill, South Lane, Lowell, Westfir and Oakridge School Districts. A Cottage Grove dentist, his term expires in 1972.

Faculty and Administration

Adler, Ellis; Science
Aitken, Gene; Performing Arts
Albin, Darel; Mechanics
Alford, Evan; Language Arts
Alford, Evelyn; Nursing
Allen, Robert; Industrial Technology
Ames, Merlin; manager of Food Services
Anderson, Catherine; Language Arts
Anderson, C. John; Mass Communications
Anderson, Ingri; Health and Physical Education
Anderson, Ryan; Social Science
Armstrong, Jeanne; Home Economics
Armstrong, Mabel; Science
Armstrong, Paul; Language Arts
Armstrong, Rebecca; Paradental/Paramedical
Arnold, Richard; Business
Arthur, Maryan; Language Arts
Ashton, Robert; Social Science
Aubrey, Chester; Industrial Technology
Avery, Evelyn; Language Arts
Avery, Sheldon; Social Science
Bailey, Wilbert (Buck); director of Student Placement
Bartsch, Richard; Health and Physical Education
Bash, Robert; Industrial Technology
Baughman, John; Social Science
Bayes, Maurine; Business
Beals, William; chairman, Social Science
Belden, Gladys; chairman, Home Economics
Bell, Marie; Paradental/Paramedical
Bennett, Dr. Stephen; Pardental/Paramedical
Benson, Peter; Health and Physical Education
Bentz, Charles; Science
Berg, Jerry; Developmental Education
Bernham, John; coordinator of Testing
Berwick, Arthur; Health and Physical Education
Bird, Dr. Howard; director, Developmental Education
Blackwell, Samuel; Language Arts
Blagaich, Michael; Adult Basic Education
Blix, Weltzin; Art and Applied Design
Blodgett, Thomas; Art and Applied Design
Blood, Carl; Industrial Technology
Boettcher, Robert; Science
Bowman, Ruth; Language Arts
Bradford, Vicki; Pardental/Paramedical

Brandstrom, Janice; counselor
Braun, Ann; Food Technology
Brock, James; electronics production specialist
Brown, Delmer; Aerospace
Brown, Rosabel; Adult Basic Education
Brubaker, Carole; Health and Physical Education
Bruner, Barbara; Business
Bullard, Pete; Social Science
Burns, Ralph; counselor
Brutraw, Sophie; Food Technology
Bussey, Marcia; Business
Butler, Douglas; Performing Arts
Byers, Ronald; head, Aerospace
Cammack, Nathan; Performing Arts
Carlile, Mary; Home Economics
Carter, John; Dean of Students
Case, Lewis; Dean of Instruction
Celorie, Dennis; Mass Communications
Clark, Frances; Home Economics
Coalwell, Richard; Mathematics
Cochran, M. Sharon; Health and Physical Education
Cole, Daniel; Health and Physical Education
Conrad, Terry; Art and Applied Design
Cook, Glenn; Mathematics
Cox, James; Data Processing, Business
Cox, William; superintendent of College Facilities and Construction
Crane, Marcel; Adult Basic Education
Creed, Robert; Health and Physical Education
Crockett, Sonia Rae; Performing Arts
Croft, David; Social Science
Cunningham, David; Social Science
Daggett, Delph; Health and Physical Education
Darling, Norman; Mass Communications
Darrow, Gordon; Social Science
Davis, Byron; Adult Basic Education
Davis, Lawrence; Mechanics
Dean, Bruce; Art and Applied Design
DeChaine, Virginia; chairman, Mass Communications
Deffenbacher, Charlene; Nursing
Delf, Gregory; Social Science
Danison, Ronald; Business
Dickinson, Donald; Mechanics
Dickson, Dr. John; director, Paradental/Paramedical
Dixon, Pauline; counselor
Dotson, Bert; administrative assistant to the President
Dull, Howard; Mechanics
Dunham, Dr. Jack; Paradental/Paramedical

Earl, Richard; coordinator of Pet Project
Edleman, Ronald; Mathematics
Ekstrom, Betty; coordinator of student activities
Ellingson, Joann; Home Economics
Ellison, Donna; counselor
Ellison, James; Developmental Education
Ellsworth, German; Mechanics
Eno, Richard; Business
Epstein, Kerry; Science
Erickson, Melvin; Social Science
Evans, James; Business
Eymann, Richard; assistant to the President, Governmental Affairs and Funding
Fast, Casey; Mathematics
Favier, Victor; Science
Fiorentino, Mary; director, Nursing
Forestieri, Mary; Mass Communications
Foster, Wilma; Adult Basic Education
Fox, Jeanne; Paradental/Paramedical
Foy, Albert; Mechanics
Fraenkel, Werner; Paradental/Paramedical
Fraga, Richard; Science
Fraleigh, Dr. Patrick; counselor
Gardipee, Sheila; Nursing
Gardner, Joanne; Language Arts
Gaskill, Melvin; chairman, Mechanics
Gault, Robert; Industrial Technology
Glenn, Oakley; Social Science
Goldsmith, Ellene; coordinator, Student Health Services
Goulding, Dr. Florence; Health and Physical Education
Gramley, Dale; Social Science
Grandbouche, Steve; Art and Applied Design
Grant, Rosemary; Business
Green, Patricia; Nursing
Gubrud, Allen; Science
Gulezian, Allen; Business
Gyorgyfalvy, George; Health and Physical Education
Halberg, Leland; Mathematics
Hall, Morgan; Art and Applied Design
Hanamura, Steve; counselor
Hansen, Britta; Language Arts
Harker, Keith; director, Library Learning Resource Center
Harms, Joyce; Mass Communications
Hart, Larry; Electronics
Hartstrom, Millie; Business
Harvey, Lee; Social Science
Haugan, Marilyn; Business

Haugse, John; Art and Applied Design
Haurigan, John; Mechanics
Heilpern, Jill; Home Economics
Heiserman, Glenn; Science
Hodges, Cecil; chairman, Health and Physical Education
Hodges, Daniel; Social Science
Hodges, Hayden; Science
Hollyer, Helen; Social Science
Hopkinson, Michael; Mass Communications
Hops, Dr. Joyce; Social Science
Hornsby, Dorothy; Business
Houglum, Roger; Media consultant
Hovland, Marvin; Mechanics
Howard, Frances; director, Financial Aids
Howard, John; chairman, Language Arts
Hoy, Harold; Art and Applied Design
Hucka, Norma; Adult Basic Education
Humphries, Lulu; Food Technology
Huntington, James; Electronics
Jacobs, John; chairman, Science
Jaegers, Marvin; Social Science
James, Betty; Business
Janson, Ronald; Art and Applied Design
Jay, Roger; Mathematics
John, Stephen; Science
Johnson, Joris; coordinator, Adult Education
Johnson, Robert; Business
Jones, Edith; Business
Jones, Jay; counselor
Jordon, Jack; Health and Physical Education
Jossart, Daryl; Mechanics
Juba, Sheila; Language Arts
Keene, Dr. Foster; Paradental/Paramedical
Kelm, Harvey; Mechanics
Kepner, Betty; coordinator, Adult Education
Kepner, Thomas; Language Arts
King, Marcia; Home Economics
Kinman, Janice; Nursing
Kirchner, Wayte; Performing Arts
Kirk, Bernard; Science
Klobas, John; Social Science
Kluth, Ronald; Aerospace
Koch, Edwin; Art and Applied Design
Kocher, John; Social Science
Krauss, Ethel; Adult Basic Education
Kreitz, John; chairman, Business
Kubler, Dr. Howard; Paradental/Paramedical

LaGrandeur, Dr. Ramon; Associate Dean of Instruction
Lamb, Charles; Data Processing
Lamoreaux, Lucille; Adult Basic Education
Land, Alfred; chairman, Industrial Technology
Lansdowne, Karen; Language Arts
Laptad, Pamela; Mathematics
Latterell, Eleanor; Home Economics
Lauris, George; Performing Arts
Lawrence, Sheron; Business
Leister, Douglas; Business
Lemke, Carl; Mechanics
Lichty, Thomas; Mass Communications
Lindahl, Iris; Nursing
Lionvale, Thomas; Health and Physical Education
Loughlin, John; Mathematics
Love, Rhoda; Science
Luck, George; Mechanics
Lutz, Paula; Social Science
Lynn, Helen; Business
Madden, Milton; Social Science
Maddox, Terrance; Science
Madill, William; Data Processing
Maliner, Eleanor; Home Economics
Malm, Paul; Social Science
Marks, Rosa; Developmental Education
Marshall, Monte; Industrial Technology
Marshall, Robert; director of Admissions
Marston, Jay; Science
Martin, Dee; administrative intern
Massey, Eileen; Paradental/Paramedical
Matheson, Delbert; librarian
Mawson, Carole; Language Arts
Maxwell, Robert; Mechanics
McCarroll, Darwin; chairman, Electronics
McClure, Jacqueline; Mass Communications
McCoy, Miriam; coordinator, Black Studies
McCulloch, John; Social Science
McGown, Carl; Health and Physical Education
McKeever, Earle; Performing Arts
McKeever, Polly; Performing Arts
McKenzie, Douglas; Mass Communications
Meier, Gerald; Industrial Technology
Melvej, Henning; Food Technology
Merrill, O. Jed; Industrial Technology
Merwin, Margaret; Adult Basic Education
Metzger, Rodney; Social Science
Meyer, Roland; Mechanics

Miller, Dennis; Business
Miller, Frank; Language Arts
Miller, Maryann; administrative intern
Milne, Margaret; Nursing
Mitchell, Michael; Science
Mitchell, Ronald; Social Science
Mobley, George; Special Training Program
Molenkamp, Harold; Social Science
Morgan, J. Marston; director, Institutional Research and Planning
Mortensen, Boyd; Adult Basic Education
Mullin, Bill; Social Science
Mundell, Fern; Adult Basic Education
Murray, Larry; director, Special Training Programs
Naessens, Henry; Mechanics
Neely, John; Mechanics
Nehring, Jerry; Data Processing
Nelson, Virginia; Language Arts
Newell, Richard; Health and Physical Education
Newton, E. Ann; Nursing
Nickel, Anton; Mathematics
Nilsen, Muriel; Language Arts
Noller, Betty; Mass Communications
Nosler, Steven; Business
Nott, Ray; Electronics
Oleson, Clifton, Mathematics
Olexa, Joseph; Social Science
Oswalt, Laura; counselor
Owens, Alfred; coordinator, Adult Education
Owens, LeRoy; curriculum specialist
Ownbey, Donald; librarian
Painter, Rebecca; Business
Parent, Irene; coordinator, Foreign Students
Parker, Audrey; Food Technology
Parro, Eugene; Science
Patrick, Paul; Mechanics
Pendergrass, Horace; Food Technology
Pepperdine, Wendell; Science
Peters, Lewis; coordinator, Black Studies
Peterson, Muriel; Paradental/Paramedical
Pfel, Melvin; Food Technology
Phillips, Edwin; Mathematics
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Wright, Rosco; chairman, Ast and Applied Design
Wright, William; counselor
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Young, Joyce; Nursing

Youngbluth, Joseph; coordinator, Audio/Visual
Zink, Howard; chairman, Mathematics

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