CHEMEKETA COMMUNITY COLLEGE

Catalog
1974-75

1974 - 75 Catalog

CHEMEKETA

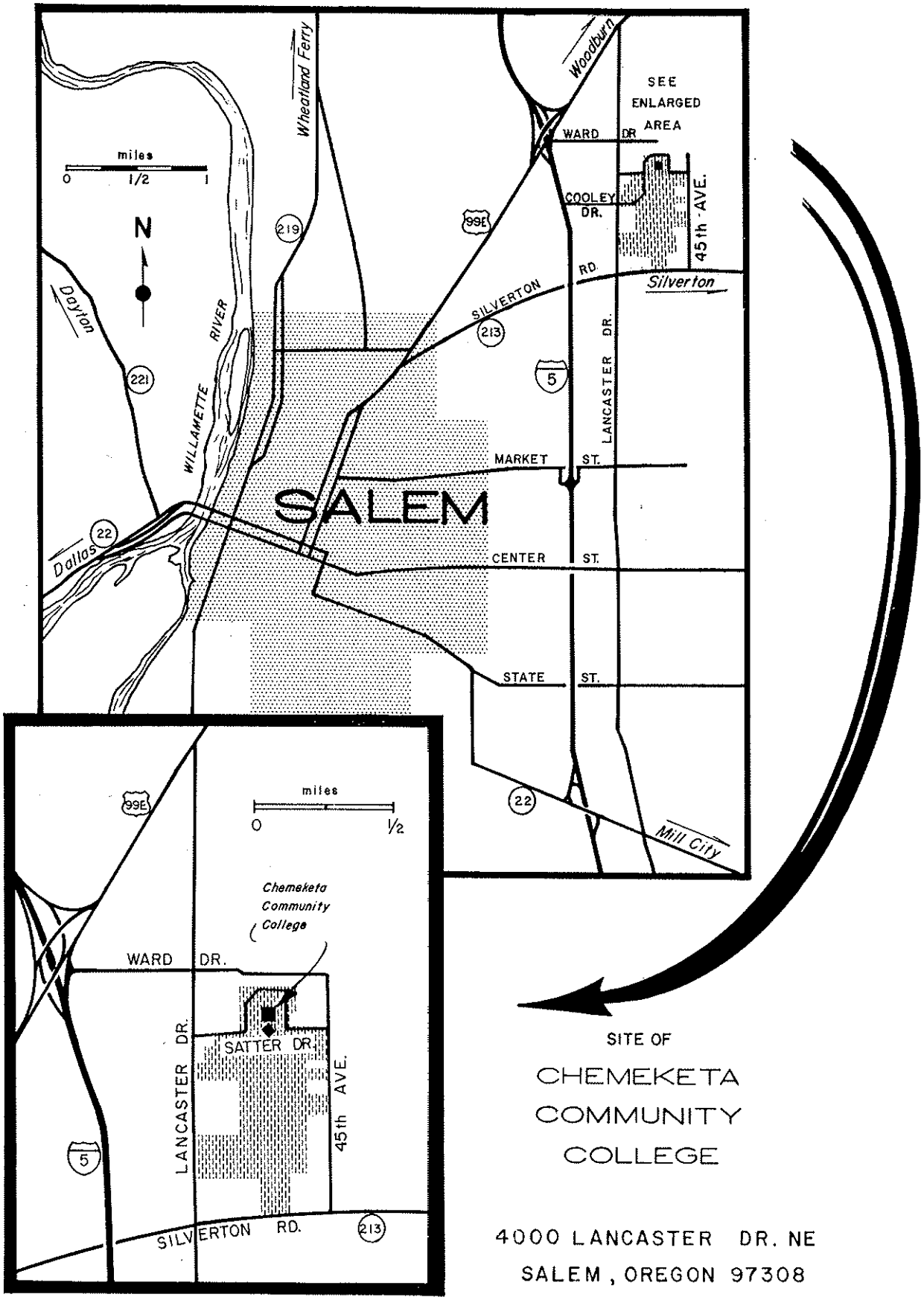
COMMUNITY COLLEGE

P.O. Box 1007

(4000 Lancaster Dr. NE)

Salem, Oregon 97308

585-7900



SITE OF

CHEMEKETA COMMUNITY COLLEGE

4000 LANCASTER DR. NE

SALEM, OREGON 97308

ACADEMIC CALENDAR

Fall Term — 1974

Registration	Sept. 23-26 (Mon.-Thur.)
Last day to register without penalty	Sept. 30 (Mon.)
Classes in regular session	Sept. 30 (Mon.)
Last day to register for fall term	Oct. 11 (Fri.)
Last day to make class or program changes	Oct. 11 (Fri.)
Midterm evaluation	Nov. 4-8 (Mon.-Fri.)
Veteran's Day holiday	Nov. 11 (Mon.)
Thanksgiving holiday	Nov. 28-29 (Thur.-Fri.)
Last day to withdraw from classes without responsibility for grades	Dec. 13 (Fri.)
Review and examination	Dec. 16-19 (Mon.-Thur.)
End of fall term	Dec. 20 (Fri.)
Advanced winter term registration for returning students	Dec. 27-30 (Fri.-Mon.)

Winter Term — 1975

Registration	Jan. 6 (Mon.)
Last day to register without penalty	Jan. 6 (Mon.)
Classes in regular session	Jan. 7 (Tue.)
Last day to register for winter term	Jan. 17 (Fri.)
Last day to make class or program changes	Jan. 17 (Fri.)
Midterm evaluation	Feb. 10-14 (Mon.-Fri.)
Last day to withdraw from classes without responsibility for grades	Mar. 14 (Fri.)
Review and examination	Mar. 17-20 (Mon.-Thur.)
End of winter term	Mar. 21 (Fri.)
Advanced spring term registration for returning students	Mar. 25-27 (Tue.-Thur.)

Spring Term — 1975

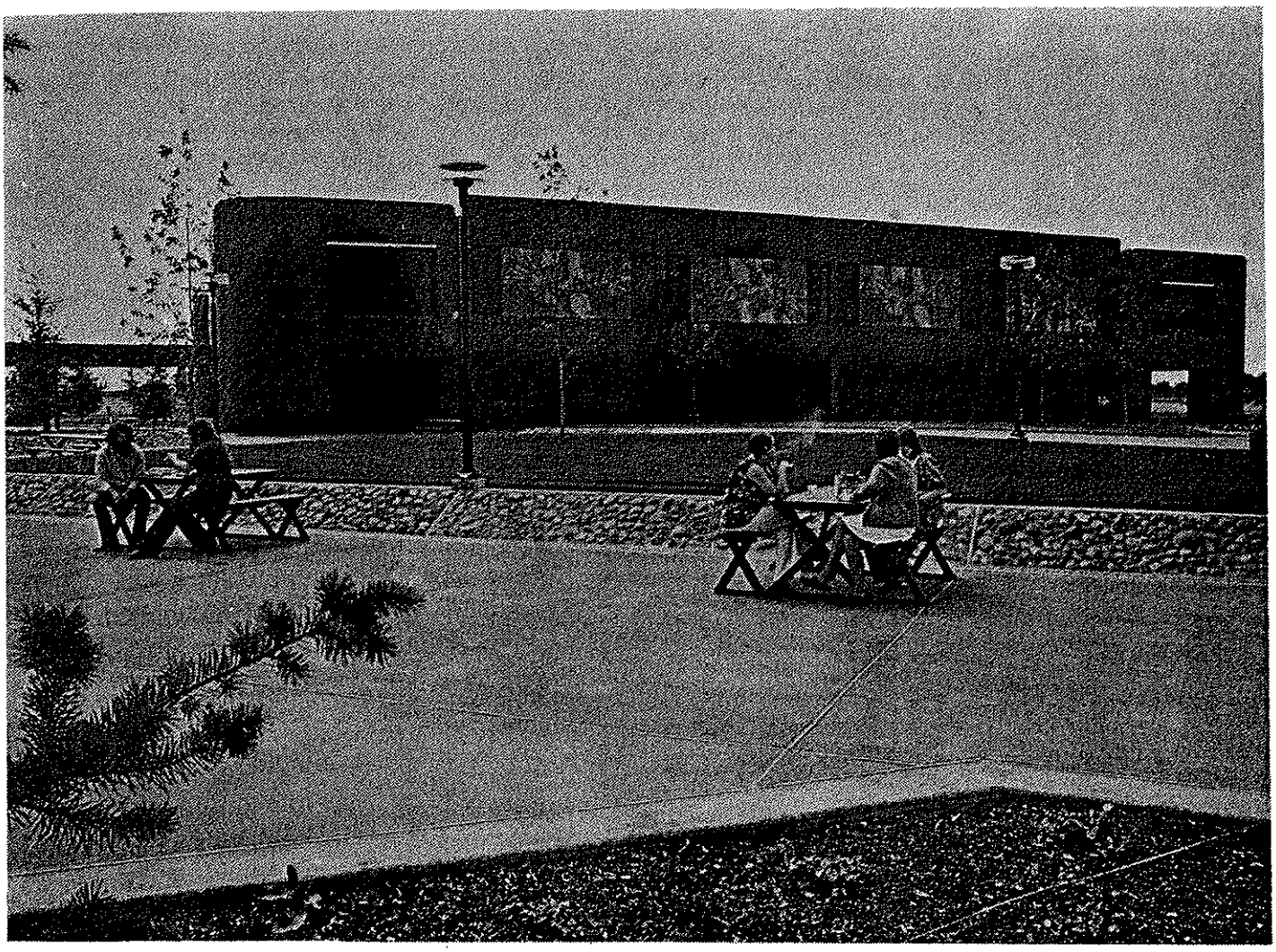
Registration	Mar. 31 (Mon.)
Last day to register without penalty	Mar. 31 (Mon.)
Classes in regular session	Apr. 1 (Tue.)
Last day to register for spring term	Apr. 11 (Fri.)
Last day to make class or program changes	Apr. 11 (Fri.)
Midterm evaluation	May 5-8 (Mon.-Thur.)
OCCA convention	May 9 (Fri.)
Memorial Day holiday	May 26 (Mon.)
Last day to withdraw from classes without responsibility for grades	June 6 (Fri.)
Review and examination	June 9-12 (Mon.-Thur.)
Graduation exercises	June 13 (Fri.)
End of spring term	June 13 (Fri.)

Fall Term — 1975

Registration	Sept. 22-25 (Mon.-Thur.)
Classes in regular session	Sept. 29 (Mon.)
Fall term ends	Dec. 19 (Fri.)

Table of Contents

This catalog is published for informational purposes. Every effort is made to insure accuracy at the time of printing. However, the provisions in this catalog are not to be regarded as an irrevocable contract between the student and the college. Chemeketa Community College reserves the right to change any provision or requirement at any time.



GENERAL INFORMATION

CHEMEKETA COMMUNITY COLLEGE

P.O. Box 1007
(4000 Lancaster Dr. NE)
Salem, Oregon 97308

GENERAL INFORMATION

PHILOSOPHY

Chemeketa Community College is dedicated to the philosophy that the greatest well-being accrues to the individual, his community and his society only when each individual is accorded the opportunity to define and pursue his legitimate interests and discover and develop his abilities to the maximum of his potential.

Chemeketa Community College is dedicated to providing educational opportunities at a minimum cost to the student—with the conviction that the fullest possible development of each individual's abilities is essential to the welfare of the community, the state and the nation. Chemeketa is an open door college, offering post high school educational opportunities up to two years to all people of the district.

This dedication commits the college to offer diversified programs to develop and accommodate the unique potential and needs of its students—widening the horizon beyond the curriculum in all aspects of career and personal life. It commits the college to offer its resources to the entire district and, likewise, to enhance and exploit the resources of the area it serves. And, it commits the college to continuously evaluate the relevancy, standards and the quality of its programs, the effectiveness of its instruction and the quality of all services to the students and the district service area. These commitments demonstrate that the college responds flexibly to the demands of society while fully recognizing the worth of each individual.

Implementation of the Philosophy

In view of this nature, role and philosophy of the comprehensive community college, Chemeketa designs its educational program to meet four objectives—singly or in combination:

Vocational-technical education for those who desire to qualify for the specialized demands of a highly diversified and technological society. The one- and two-year programs serve the student by preparing him for employment. They serve the community by providing business and industry with competent, trained workers who have learned basic skills in specialized fields. Upon successful completion of these programs, the student is awarded an associate degree or certificate of completion.

Lower division transfer for students who plan to transfer to a four-year institution. These courses may be taken as separate work or incorporated in a technical-vocational course of study. The courses parallel those of the lower division of Oregon's colleges and universities.

Adult education provides opportunities for continuing education and individual enrichment for those who wish to improve technical or vocational skills, retrain for a new position or simply for avocational purposes. These courses are open to all residents of the district in approximately 25 communities. The adult education program includes basic education for those who have had their formal education interrupted.

General education is emphasized throughout all programs in the college developing students' power of analysis and synthesis, offering opportunities for the nurture and development of the mind—the mind free to create and innovate—to move from mental adolescence to intellectual maturity. The college offers all students and requires of all graduates a pattern of courses designed to produce an awareness of self and provide basic competence in spoken and written English, mathematics, American history, government and economic systems, regard for physical and mental health and in-depth knowledge of one subject area. This approach offers quality within diversity—a major purpose of a comprehensive community college.

HISTORY

The formation of the Chemeketa Community College District—the Mid-Willamette Area Education District—by the voters on September 23, 1969, marked the culmination of more than seven years of effort toward the establishment of the community college district. This effort was evidenced as early as May of 1962, shortly after the 1961 legislature approved a statewide system of community colleges based on area education districts.

The formation movement was spearheaded by several farsighted citizens' groups seeing the need for a comprehensive community college to serve the Mid-Willamette Valley area.

Through the work of these dedicated citizens, the momentum to achieve positive action was reached: the steps necessary in the formation of a new community college were taken, resulting in the successful formation election. On the same date the first board of education was elected and the membership organized at once to work on the problems confronting the new district. Chemeketa's Board of Education is comprised of seven elected representatives from the four-county district. The board was then free to expand and develop a comprehensive community college serving the full range of needs of the residents of the district which includes all of Marion and Polk Counties, most of Yamhill County, and a portion of Linn County.

One of the early decisions by the board was to use the programs and facilities of Salem Technical Vocational Community College as the base of expansion.

On October 23, 1969, Paul F. Wilmeth, who had served as director of the Salem college since its establishment in 1955, was named first president of the new college. During the 15 years under his leadership, the college had grown from a few classes held in an abandoned elementary school in West Salem to more than 1,000 full-time students on a new, but crowded, campus on Satter Drive in Northeast Salem. This is the foundation upon which the board chose to build the new community college.

The name Chemeketa was made official on December 3, 1969, after a contest conducted among the students of Salem Tech and all of the district high schools.

Construction on the Phase I building—the first permanent building in the college's expansion program—began in March of 1972 and was partially occupied in the fall of 1972. The move into the 64,000-square-foot structure, which houses the library, classrooms, seminar and conference rooms and staff offices, was completed early in 1973.

It is anticipated that the Phase II technical-vocational building will be completed by the fall of 1974. It will house mechanical and shop areas.

ACCREDITATION

Chemeketa received full accreditation by the Northwest Association of Secondary and Higher Schools in December of 1972.

In addition, all of Chemeketa's technical programs are accredited by the State Board of Education. Those programs requiring accreditation by professional associations have achieved the needed accreditation. Chemeketa technical-vocational and transfer instructors as well as transfer courses are approved by the Oregon State Board of Education.

THE STUDENTS

Chemeketa Community College strives to take a personal and individual approach to student learning problems.

Students range from just-graduated high school seniors, through young workers seeking new skills or new information in their careers, to older persons studying to enrich their lives.

The college serves a population of 233,489 distributed over 2,600 square miles. It serves approximately 14,500 persons each year. The variety of students provides a valuable social interaction not available in other institutions.

THE STAFF

There are approximately 700 full- and part-time highly qualified and carefully selected faculty members serving Chemeketa students.

THE LEARNING RESOURCE CENTER

The learning resource center is located on the first floor or the Phase I building, No. 300.

Approximately 30,000 volumes comprise the book collection and 500 periodicals are available. Many back issues of the periodicals are on microfilm. Microfilm and microfiche readers are available. One coin-operated reader/printer is available.

The learning resource center also includes the audio-visual, or media center, and the study skills center. The audio-visual section is on the southwest side of the building behind the library. It provides films, filmstrips, slides, audio and visual tapes, graphic services and other educational media resources.

The study skills center is located in rooms 301 and 302 on the first floor. Designed with the successful completion of each student's educational goals in mind, it is unique in its approach to educational problems.

The center serves as an educational diagnostic center where students can receive personal attention for specific learning problems. It provides individual tutoring assistance in the basic skill areas free of charge. The center is also designed to meet the educational needs of all Chemeketa students without additional fees.

THE PROGRAMS

Chemeketa offers one- and two-year technical-vocational programs plus concentrated short courses, transfer courses and adult education evening programs.

Technical-Education Programs

Twenty-four two-year technical courses leading to associate degrees and seven one-year programs leading to certificates of completion comprise the career programs at Chemeketa.

Transfer Courses

The lower division offerings are transferable to Oregon four-year colleges and universities. The lower division transfer courses lead to an associate degree.

High School Completion

Chemeketa Community College offers two high school diploma programs. The regular high school

completion program allows the student, in cooperation with his high school counselor, to enroll in night classes offered by Chemeketa, but the credit is applied by the student's resident high school. Students wishing to inquire about this program should contact their high school counselor.

The second program is the adult high school diploma program. This allows the student to enroll at Chemeketa as a high school completion student. Students who are interested in this program should contact their high school counselor, to discuss whether or not this is a possible option, and then secure a high school release form from the high school and have the high school send a transcript to Chemeketa. Once the student has secured a release form and a transcript has been sent to the college, the student should make an appointment with one of the college counselors to have an evaluation of the transcript so that the student may know which classes are needed in order to complete the high school diploma under the regulations established by Chemeketa.

Students who are considering high school completion either through their local high school or Chemeketa's high school diploma program are encouraged to discuss this with their local high school counselor before making inquiry to the Chemeketa counseling center.

Adult Education

Adult education classes are offered in all areas of the college district. Opportunity is provided for students to continue their education on a pre-high school, high school or post-high school level or to receive specialized training to enrich their cultural lives or improve their personal efficiency.

Programs and courses are developed whenever a special need is defined and a minimum of 12 students can be enrolled.

Persons 65 years and older who have Golden Age cards are eligible to enroll in most adult education courses free of charge.

FINANCIAL SUPPORT

Financial support for Chemeketa, a public institution, is derived from local taxes, state and federal support and tuition. A five-year serial levy for continuing construction of the permanent campus was approved by voters of the district in 1970.

ADMISSIONS AND ACADEMIC INFORMATION

ADMISSIONS POLICY

Chemeketa Community College subscribes to the "Open Door" admission policy. In general, its programs are open to any person 16 years of age or older who can benefit from the instruction offered. Students who enter without a high school diploma or its equivalent and who seek to obtain an associate degree, should become involved in a program leading to a diploma or its equivalent.

One inescapable limitation to the "Open Door" policy is the limit that may be imposed by lack of staff or space.

In special cases, high school students may be admitted if they are recommended by their high school administrator for release to enter a college program.

FULL-TIME STUDENTS

Students in full-time academic status are those who carry 12 or more credit hours per term.

PART-TIME STUDENTS

Part-time students may attend the college during the day or evening for credit or non-credit courses. Those students taking credit-bearing classes to apply to a degree should follow regular admissions procedures. Those taking non-credit and evening classes should follow registration procedures as outlined for adult community education, see page 60.

COUNSELING SERVICE

Counselors are available from 8 a.m. to 9 p.m. Mondays through Thursdays and 8 a.m. to 5 p.m. on Fridays during the regular college year. Summer counseling hours are from 8 a.m. to 5 p.m. Mondays through Fridays.

The counseling staff is committed to helping students explore options and opportunities available in working toward their educational goals. Services include educational and vocational counseling, admissions information, veterans information, test administration and interpretation and personal counseling.

Counselors are willing to assist, whenever possible in making a student's experience at Chemeketa a more meaningful one.

GENERAL ADMISSIONS PROCEDURES

Early application for admission is encouraged. Enrollment in a number of programs may be limited due to availability of staff and space. Persons planning on enrolling must:

1. File an official application for admission.*
2. Complete and submit health questionnaire (students registering for physical education classes must submit a student health form signed by a physician).
3. Provide an official transcript of all previous high school, college or GED records.

Testing provides important information that is helpful to the student in planning for college and occupational success. It also helps Chemeketa to provide suitable programs for the student.

Students applying for any program at Chemeketa, other than the health occupation programs, are not required to take a test of any kind. However, in many instances, it may be requested that the student take an aptitude or placement test to insure that he is placed in classes and programs in which he/she will be satisfied and successful.

All students should have a brief meeting with a counselor before registering for a test. At that time the counselor can explain what tests are available and help the student decide which test, if any, will best meet his/her needs.

Students are informed of the status of their application as applications are received and reviewed. The general admissions policy does not assure admittance of an individual student to a particular course or program. Some students may be advised to enroll in special courses for correction of scholastic deficiencies.

SPECIAL ADMISSIONS PROCEDURES

In addition to the general admissions requirements, some programs have special additional admissions procedures.

Health Occupations

Early application is encouraged as enrollments in health occupations programs are limited by available staff and facilities. High school students may apply after completion of their junior year. While waiting for program entry, applicants may complete general education and lower division courses.

In addition to college admission procedures (steps 1-4), health occupations applicants are to complete the following:

1. Submit the results of the General Aptitude Test Battery (GATB). The GATB is given weekly at Chemeketa Community College.
2. Submit the results of the American College Test (ACT) or the Scholastic Aptitude Test (SAT) or the Chemeketa Placement Battery (CPB). The ACT or CPB may be taken at Chemeketa.
3. Complete an individual and/or group interview as arranged by the admissions office with health occupations staff. At the time of the interview additional information may be requested including references, physical examination and personal history.

Transfer students must provide test scores as above and all transcripts including high school. Evaluation of transferable course work is completed in conference with program coordinator and/or counselor.

The applicant is notified by letter of the decision for program admission after the interview.

Upon admission to health occupation programs, the applicant is encouraged to continue planning with the program advisor and counseling center staff.

Public Services

In order to assist in determining if an applicant is qualified for entry into the public service program, the college asks that each applicant submit a personal history and letters of recommendation. Fingerprinting and limited investigation also are required.

ACADEMIC ADVISING AND VOCATIONAL PLANNING

Following notification of acceptance to Chemeketa, each student should arrange an interview with a counselor to discuss his academic and vocational plans. During this meeting, a general course of study is decided upon. An academic advisor is then assigned, based on the student's educational goal. The advisor assists the student in planning a program and selecting courses. Counselors act as academic advisors during the summer until faculty advisors return to campus in the fall. A change of advisor may be made at the student's request, if such a change becomes desirable.

INTERNATIONAL STUDENTS

Chemeketa Community College welcomes international students. Because of Federal immigration requirements, any prospective student who is a citizen of another country should write to the counselor in charge of international students at the college for application material. The counselor will assist the student in obtaining a student visa and provide other information necessary to help the student become a part of the college community.

CLASS REGISTRATION

Registration in particular classes and programs follows admission to the college. An interview with a counselor is required. Ideally, the preregistration interview follows testing and preceeds class registration.

*Students are encouraged to make application for admission and for financial aid by March 1. Most aid is awarded in the spring for the following year.

RESIDENCE

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

1. Married and a resident of the college district at least three months prior to first registration.
2. Age 18 or over and a resident of the college district at least three months prior to first registration.
3. A veteran who has established a permanent address inside the college district within three months of his separation or discharge from the service.
4. A minor whose parents or legal guardians are bona fide residents of the college district.

Those who do not meet in-district criteria and whose home or permanent address is in Oregon but outside the Chemeketa Community College District are out of district students.

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

A student who is not a citizen of the United States is classified as an international student and will pay out-of-state tuition.

TUITION AND FEES

Tuition and special fees must be paid in full at time of registration unless other arrangements have been made. Special arrangements for payment of tuition and fees may be made with the business manager. Payment of such fees entitles the student to a student body card, the use of college facilities, and other student privileges.

Tuition rates follow:

Full-time in-district students living within a radius of 14 miles	$ 97 per term
Full-time in-district students living within a radius of 14 to 24 miles	$ 87 per term
Full-time in-district students living beyond 24 miles	$ 77 per term
Part-time in-district students	$ 9 per credit hour
Full-time out-of-district students	$ 127 per term
Part-time out-of-district students	$ 12 per credit hour
Full-time out-of-state students	$ 407 per term
Part-time out-of-state students	$ 40 per credit hour

Evening courses will require separate registration and tuition.

Late Registration Fee

A fee of $1 per school day, but not to Exceed $5, is charged for late registration. Registration is closed after the day indicated in the academic calendar. This does not apply to part-time evening classes.

Other Fees

Locker Fee—Optional	$ 2.50
Laboratory fees for certain courses	Vary by course

The total of other fees generally does not exceed $15 per term.

Books and Supplies

Books and supplies may be purchased at the college store. The cost of these varies depending upon the program. Normally, they amount to $150 - $300 per year.

ACADEMIC PROBATION

Students are expected to maintain a 2.00 grade point average each term to remain in good standing. Those failing to do so will be placed on probation. If, after a student has attempted two or more terms, his cumulative grade point average is less than 2.00, the student's work will be reviewed by the academic affairs committee.

The records of students seeking to transfer into Chemeketa Community College who have attended other colleges will be evaluated. This evaluation will be made as though the complete record all had been achieved at Chemeketa, and the student's academic status will be determined by this record.

Students placed on probation for academic reasons will be removed from probation at the end of any quarter in which their cumulative grade point average reaches 2.00 or better.

Any student who consistently fails to meet the standards in class work will have his record reviewed by the academic affairs committee which may suspend the student from the college. This committee will determine the length of such a suspension and the time and conditions under which the student may apply for readmission. Students who are readmitted will be on probationary status.

ATTENDANCE

Regular class attendance and consistent study habits are attributes for success in college and in an occupation. Instructors may initiate procedures to have a student withdrawn if accumulated absences threaten his completion of the course work. In such cases the instructor will make his recommendation to the academic affairs committee for review. Final grades may be adversely affected by nonattendance.

CREDIT BY EXAMINATION

Under certain circumstances, formal credit may be earned through examination. Petitions for examination for credit may be obtained in the

registrar's office. Petitions will be considered only if the course involved is a part of the student's approved curriculum. Such examinations must be scheduled and completed during the first two weeks of a term in which the course is offered.

The exam must be passed with a grade of "C" or better for credit to be granted. The examination fee is $5 per credit hour, payable at the time the examination is scheduled.

A student is not permitted to earn more than 24 credit hours through examination for credit.

COLLEGE LEVEL EXAMINATION PROGRAM

Students who have made satisfactory scores on College Level Examination Program (CLEP) subject examinations will be granted appropriate credit.

CURRICULUM DEVIATIONS

A student may be allowed to deviate from the prescribed curriculum and still meet graduation requirements under certain circumstances.

Petitions for substitution of a course differing from the listed required course may be initiated at registrar's office. It is advisable that the substitution be discussed with the student's department chairman or academic advisor before being submitted.

Substitution is allowed upon approval of the department chairman if a student can show that such a substitution will benefit him without detracting from the quality of his preparation.

CLASS CHANGES

A change in a student's class schedule may be made during the program adjustment period. (See the academic calendar.) These changes should be approved by an academic advisor, or department chairman. Students' schedule change forms are available at the registrar's office, in the office of the department chairman, and the counseling center.

WITHDRAWAL FROM COLLEGE

Students seeking to withdraw from college must complete the withdrawal procedures. Failure to do so may result in a failing grade and forfeiture of a pro-rated refund. See the academic calendar for the withdrawal period.

Fees will be refunded in full if the college cancels the course. No refund will be granted when a student is suspended from the college.

Students who have no obligation to the business office, library, or other department of the college at the time of withdrawal are entitled to a tuition refund based upon the following schedule:

During the first week	90%
During the second week	70%
During the third week	50%
During the fourth week	40%

Non-refundable items include lab fees, ASB and activity fees, registration fees and locker fees.

Claims for refunds must be submitted on a withdrawal form at the time of withdrawal. Refunds are calculated from the date of application, not from the date the students ceased to attend classes. Amounts determined as refundable are applied as a credit against any financial obligation the student may have at the college. The refundable amount in excess of all obligations is paid by check to the student. Withdrawal forms are available at the registrar's office, department chairman or counseling center.

READMISSION

Students who have discontinued attendance may apply for readmission by completing a new application. Students who have attended another college or university during the interim should submit an official transcript from that school.

CLASS LOADS

Regular vocational-technical students are limited to the credit hours of a normal load for that term in their particular curriculum. Lower division transfer students are limited to 18 credit hours per term. Any additional credit hours in either area will require special permission.

GRADE POINTS

Final grades are issued at the end of each quarter. Letter grades are assigned points according to the following system:

A Excellent	4
B Good	3
C Average	2
D Below Average	1
F Failed	0
W Withdrawal	0
I Incomplete	0

The grade point average is computed by dividing the total quarter hours (excluding W and I) into the total points earned.

INCOMPLETES

When a student has been in regular attendance in a class, but in the judgment of the instructor has

failed to complete a minor portion of the required class work, an incomplete may be given. In order to remove an incomplete, the required class work must be made up within the three terms following the term in which the student received the incomplete. The grade will be recorded in the registrar's office. If the course work is not made up within the three terms, the course must then be repeated in its entirety for the incomplete to be removed. It is the student's responsibility to clear his record of incompletes in subjects required for graduation.

REPEATING A COURSE

A student may repeat a course in which he earned a "D", "F", "W", or "I" grade. A higher grade on the repeat attempt will be substituted in computing the student's GPA. Before repeating the course, the student must confer with a counselor and his department chairman.

TRANSFER TO OTHER INSTITUTIONS

Counselors and instructors are available to advise and assist each student who contemplates transfer to a four-year college or university. Lower division college transfer students should consult the catalog of the college or university to which applications for admission will be made and become familiar with the specific lower division requirements in his major field (see the college transfer section).

Because of the specialized nature of technical programs, a number of the career courses are not designed for transfer to four-year institutions.

TRANSFER CREDITS FROM OTHER COLLEGES

Transfer credits are not accepted for courses with less than a "C" grade. The transfer credits accepted from other collegiate institutions become a part of the student's permanent record at Chemeketa Community College. Grades earned are not indicated. Only course grades earned at Chemeketa Community College are used in computing grade point averages.

The student is responsible for initiating transfer of credits to Chemeketa Community College.

STUDENT RECORDS

Permanent student records, grade reports, and requests for transcripts are processed and maintained by the registrar's office.

TRANSCRIPTS

Upon graduation a student will be entitled to five free transcripts. Official transcripts of grades may be requested through the registrar's office for a fee of $1 each.

Additional details concerning academic regulations will be found in the student handbook.

GRADUATION REQUIREMENTS

DEGREES AND CERTIFICATES

Chemeketa Community College grants associate in science and associate in arts degrees. The associate in arts degree is a nationally recognized degree conferred upon those who complete the general requirements of the lower division transfer program. The associate in science degree is a nationally recognized degree conferred by many colleges upon students who complete an occupationally-oriented curriculum. The certificate of completion is awarded those students who complete the requirements of one-year programs.

Associate in Science Degree

General requirements for the associate in science degree are:

1. A minimum of 90 credits (see particular curriculum).
2. A cumulative grade point average of 2.00 or above in all work to be applied to the degree.
3. Completion of the required courses as listed in the specific curriculum. Eighteen credit hours of approved general education subjects must be included.
4. Completion of a minimum of 30 credit hours of regular offerings at the college.

Associate in Arts Degree

The minimum requirements for the associate in arts degrees in transfer programs recommended by the higher education committee for community colleges are employed by Chemeketa. These requirements are:

1. A minimum of 93 credit hours.
2. A cumulative grade point average of 2.00 or above in all work to be applied to the degree.
3. Six credit hours in English composition.
4. One credit hour in personal hygiene.
5. Five terms in physical education.
6. One sequence in the area of arts and letters (humanities, languages).
7. One sequence in science.
8. One sequence in social science.
9. One additional sequence in arts and letters, science or social science.
10. At least one sequence numbered from 200-299.
11. A minimum of one sequence in literature.

12. Wherever two or more sequences are taken in any one group, the sequence must be drawn from two different disciplines.
13. Completion of at least two terms, including the last one, at Chemeketa.
14. Completion of a minimum of 30 credit hours at Chemeketa.

Certificate of Completion

General requirements for the certificate of completion are:

1. Satisfactory completion of all required courses in the program.
2. A cumulative grade point average of 2.00 or above for all course work to be applied to the certificate.

APPLICATION FOR GRADUATION

Candidates apply for degrees and certificates through the registrar's office. Students who plan to graduate at the end of the spring term must make application by the fourth week of the winter term.

Students completing requirements at the end of summer, fall, or winter terms, must file an application by the end of the fourth week of the term preceding the term in which graduation requirements will be completed. For students completing their work in the summer, fall or winter terms, degrees and certificates will be official three weeks from the date that requirements have been met. These students may receive certificates for completion of one-year program requirements or degrees for completion of two-year requirements at the June graduation or have their certificates or diplomas mailed to them after commencement.

GENERAL INFORMATION

STUDENT FINANCIAL AIDS

Information concerning educational scholarships, grants, loans and part-time employment at the college is available at the financial aid office. The college's financial aid program provides assistance and advice to students who would be unable to pursue their education at Chemeketa without such help.

The financial aid staff will forward upon request a financial aid application and a pamphlet which describes the financial aid opportunities at the college.

During the 1972-73 school year more than 700 students shared $436,000 in financial aid from locally sponsored scholarships and federal, state and college funds.

JOB PLACEMENT

Chemeketa Community College offers a job placement service for its students and alumni. This provides all students and graduates with a clearing house of information about job opportunities. The placement office maintains a liaison with business, industry, and government agencies to gather information about the employment market and trends. It coordinates on-campus interviews by employers and provides information and advice to students on job-seeking and application procedures. This service is designed to help those who seek part-time employment while they are in school and also includes, for the student seeking full-time employment upon leaving Chemeketa Community College, assistance in writing resumes, developing interview skills and contacting potential employers. Students interested in part-time, occasional or permanent jobs are encouraged to apply.

COOPERATIVE WORK EXPERIENCE

Cooperative work experience is an educational partnership with business and industry whereby a college student is employed in the same career field as his studies. The student enrolled in cooperative work experience receives college credit, a grade, and sometimes is paid for his work. The college performs the role of coordinating the student-employer-college relationship into one dynamic learning program.

Cooperative work experience has been available over the last few years to only technical-vocational students. During 1974-75 it is available for a limited number of lower division students.

Information on entrance into the program is available by seeing a CWE coordinator.

STUDENT ACTIVITIES

Chemeketa Community College recognizes the educational, recreational, and social values of a well-integrated program of student activities. The program at Chemeketa Community College has been developed in response to student interests and needs.

Student organizations include the Associated Students of Chemeketa Community College, Smoke Signals (the student newspaper), American Welding Society, American Society of Civil Engineering Technicians, Bowling Club, Chess Club, Chicano Club, Christian Fellowship Association, Circle K Club, Drama Club, Early Childhood Education Club, Fire Protection Club, Forestry Club, Instrument Society of America, Karate Club, LEEP Club, Organic Gardening Club, Phi Beta Lambda, Rally

Squad, Ski Club, Student Nurses of Oregon, Table Tennis Club, Veterans Club and Writing Club.

For further information, see the student handbook or contact the student activities advisor in the activities office in the student union.

ATHLETICS

Throughout the year, Chemeketa students may participate in a variety of intramural activities, including bowling, volleyball, softball, basketball, skiing and golf.

Participation in intercollegiate sports is based on the requirements of the National Junior College Athletic Association. Chemeketa is a member of the National Association and the Oregon Community College Athletic Association. Every member of the OCCAA has agreed to abide by the rules of the NJCAA as a minimum standard. Chemeketa students participating in sports must be taking 12 credit hours and maintain a GPA of at least 1.75.

Interscholastic sports require special insurance coverage and a physical examination. These are provided at no cost to the student by the college. Participating students may obtain information at the physical education department office.

STUDENT LIVING ACCOMMODATIONS

The college does not provide living accommodations and assumes no responsibility for student living arrangements. However, there is a wide range of living accommodations available in the Salem area. Some listings are available in the counseling center.

HEALTH SERVICES

Chemeketa maintains a first aid office in the counseling center. Students are expected to have general medical needs met by their personal physician, dentist, or clinics.

STUDENT HEALTH AND ACCIDENT INSURANCE

A low-cost health and accident insurance program is available through the college for students and their dependents.

Additional information about health and accident programs may be obtained at the student services office or the business office.

VETERANS

Most programs listed are approved by the Veterans Administration and the State Department of Veterans' Affairs for payment of educational benefits to eligible veterans and eligible dependents of veterans. Prospective students eligible for veterans' benefits should contact the college for program information prior to making application for benefits at the veterans administration office. Upon receipt of application the Veterans Administration mails the veteran acknowledgement and provides a claim number. After processing the application, the Veterans Administration issues eligible veterans a Certificate of Eligibility, valid only at the institution named and only for the objective indicated. The prospective student should bring the Certificate of Eligibility to the registrar prior to or at the time of initial registration.

Veterans experiencing academic difficulties are eligible for tutorial assistance. Tutorial benefits are not charged against veteran's basic entitlement. The veterans' counselor can help the veteran establish eligibility and arrange for a tutor. Specific information is available in the counseling center.

STUDENT-INSTRUCTOR CONFERENCES

The instructors of Chemeketa Community College maintain scheduled office hours to confer with students concerning class assignments and methods of study for particular courses. Schedules of hours are posted in each faculty office area or on the office door. Faculty office directories are posted on main bulletin boards.

AUTOMOBILE USE ON CAMPUS

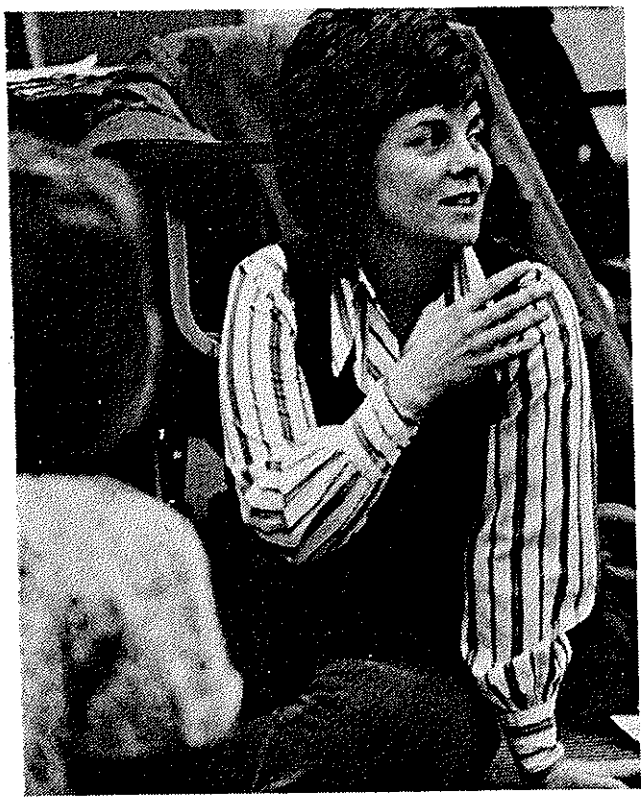
All faculty, students and visitors who have motor vehicles in their possession or control for use on the Chemeketa Community College campus at any time during the day, must obtain the appropriate permit for the area in which they are parking. Parking permits are obtained free at the time of academic registration or at the security office in building 100. Parking of a vehicle on campus without a proper parking permit may result in a fine. Faculty and students are responsible for knowing the regulations pertaining to operating a vehicle on campus and will be held responsible for any violations of these regulations in which a vehicle in their possession is involved, regardless of who operates it. Specific information on parking and traffic regulations is available at the time of registration at the security office or within the student handbook.

STUDENT CONDUCT

Chemeketa Community College expects that students who enroll in the college accept certain responsibilities as would be expected of any adult. The conduct and behavior of our students either in class or in and around the college facilities is of interest to the college. The school property is to be used with intelligence and care. All clubs and groups should secure rooms through the proper

authorities. The use of intoxicants or illegal drugs or having such in one's possession is strictly forbidden by public law and college regulations. Gambling is also prohibited by state and local regulations.

Smoking, eating and drinking are not permitted in any of the present college classroom facilities by staff or students. Since smoking would jeopardize the college's use of these facilities, students and staff are requested to adhere faithfully to this rule. Smoking is permitted in the student and administrative areas.



DIVISION OF MATH, SCIENCE ENGINEERING TECHNOLOGY AND RELATED

CADASTRAL SURVEYING TECHNICIAN

CIVIL-STRUCTURAL ENGINEERING TECHNICIAN

DRAFTING TECHNICIAN

MECHANICAL DRAFTING TECHNICIAN

ELECTRONIC ENGINEERING TECHNICIAN

TELEVISION-RADIO SERVICE (4 TERMS)

FOREST PRODUCTS TECHNICIAN

FOREST TECHNICIAN

AUTOMOTIVE TECHNICIAN

MACHINE SHOP TECHNICIAN

WELDING (ONE YEAR)

WELDING AND FABRICATION TECHNICIAN

WELL DRILLING TECHNICIAN

PRE-TECHNICAL PROGRAM

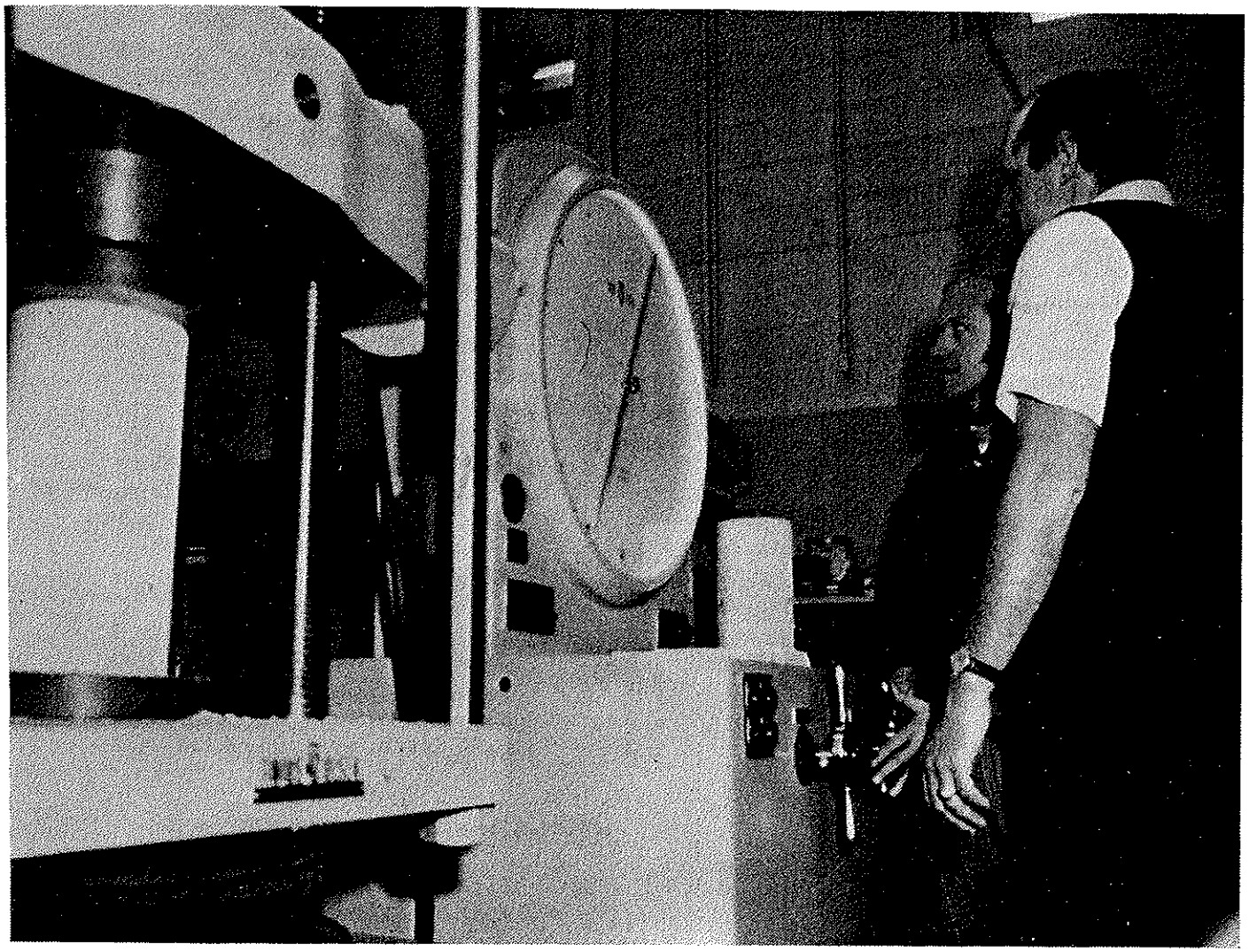
This program is designed to allow the student a chance to develop a usable background of subject matter which might assure his success on entry into a technical program.

The program can be tailored to the needs of the individual student, exposing him to the academic, as well as the occupational areas which need strengthening, are of interest to him and are in keeping with his occupational goals.

Suggested program:

Communications	9 term units
Mathematics	9 term units
Science	8 term units
Technical Electives	20 term units

Technical elective selections must meet the pre-requisite policy and be coordinated with the individual departments.



CAREERS IN CIVIL-STRUCTURAL ENGINEERING TECHNOLOGY

CADASTRAL SURVEYING TECHNICIAN

CIVIL-STRUCTURAL ENGINEERING TECHNICIAN

CHEMEKETA
COMMUNITY
COLLEGE

P.O. Box 1007
(4000 Lancaster Dr. NE)
Salem, Oregon 97308

CADASTRAL SURVEYING TECHNICIAN

The cadastral surveying curriculum provides practical training in the application of current theory and practices common to the field of land surveying, preparing the student for employment in the land surveying field.

This is a cooperative work experience program with some unique features. The student will attend the first two terms of the civil program; then, instead of attending school spring term, the student works for the cadastral surveyor's office of the Bureau of Land Management, somewhere in the western states. This employment continues through the summer. At the end of the first summer the student returns to school for two more terms. Spring and summer are again spent working for the cadastral surveyors. The student returns to school for fall term, completing the program at the end of the fall term.

Upon satisfactory completion of the requirements the student is awarded an associate in science degree, signifying that he is prepared to effectively function and advance in the many job areas of surveying.

Associate in science degree: required 103 term units.

CADASTRAL SURVEYING TECHNICIAN CURRICULUM

First Year

Class Hours	Lab Work	Course Title	Course No.	Term Units
Term 1				
2	6	Plane Surveying	6.101	4
	4	Drafting	4.101	2
	2	Slide Rule Operations	6.137	1
4		Technical Mathematics	6.261	4
3		Communication Skills	1.101	3
3		General Education Elective ..		3
Term 2				
2	6	Plane Surveying	6.103	4
	4	Project Graphics	4.135	2
	2	Engineering Problems	6.138	1
3	2	Applied Physics	6.371	4
4		Technical Mathematics	6.262	4
3		Communication Skills	1.104	3
Term 3 and Summer				
1	40	Cadastral Surveying Field Lab and Seminar I	6.141	7

Second Year

Term 4				
1	6	Route Surveying	6.507	3
2	4	Land Division and Mapping..	6.335	3
4		Technical Mathematics	6.266	4
3		Report Writing	1.106	3
3		General Education Elective ..		3
		(SELECT ONE)		
3	2	Applied Physics	6.370	4
2	2	Computer Problems for Engineering Technicians	6.929	3
Term 5				
2	2	Hydraulics	6.112	3
2	3	Construction Estimating	6.110	3
1	2	Tree Identification	3.610	2
3		General Forestry	3.600	3
3		Business Law	2.320	3
3		Introduction to Psychology..	1.606	3
Term 6 and Summer				
1	40	Cadastral Surveying Field Lab and Seminar II	6.142	7

Third Year

Term 7				
3	2	Elementary Geology	4.305	4
1	3	Earthwork Computations and Estimates	6.528	2
3		Contracts and Specifications	6.118	3
1	6	Surveying Computations	6.500	3
3		Survey Law	6.132	3
3		Public Land Survey	6.134	3

CIVIL-STRUCTURAL ENGINEERING TECHNICIAN

The civil and structural engineering technology curriculum provides practical training in the application of current theory and practices common to the field of civil engineering, preparing the student for employment in various branches of the civil and structural engineering fields and for advancement in the chosen field. The program is designed to prepare competent engineering technicians for positions in civil engineering enterprise with excellent opportunities for careers in highway, bridge, dam, factory development and construction, design drafting, estimating, inspection, material analysis, and photogrammetry. Comprehensive practical training in areas of surveying, strength of materials, and construction activities provides application of the theoretical and mathematical courses taken concurrently.

Preparation for advancement in and adaptation to the changing technological and social world are included, enabling the student to use the program as a base in general civil engineering and related work. Together with further study and sufficient experience, the graduate would have opportunity to advance to a civil engineering rating while

employed by certain federal, state or city organizations.

On a construction project that is being planned, civil and structural technicians may help in estimating costs or preparing specifications for materials. They participate in surveying, drafting, or designing work. Once the actual construction work has begun, they may assist the contractors or engineers in scheduling construction activities and inspecting the work for conformance with blueprints and specifications.

Upon satisfactory completion of the requirements in the civil and structural program, the student is awarded an associate in science degree, signifying that he is prepared to effectively function and advance in the many job areas of civil and structural engineering.

Examples of opportunities are:

Construction foreman	Instrument man, survey
Assistant engineer	Inspector
Senior draftsman	Construction estimator
Surveyor	Cost estimator
Civil engineering technician	Contractor's assistant
	Technical writer
Structural designer	Engineering aide
Supt. of construction	

Associate in science degree: required 108 term units.

CIVIL-STRUCTURAL ENGINEERING TECHNICIAN CURRICULUM

First Year

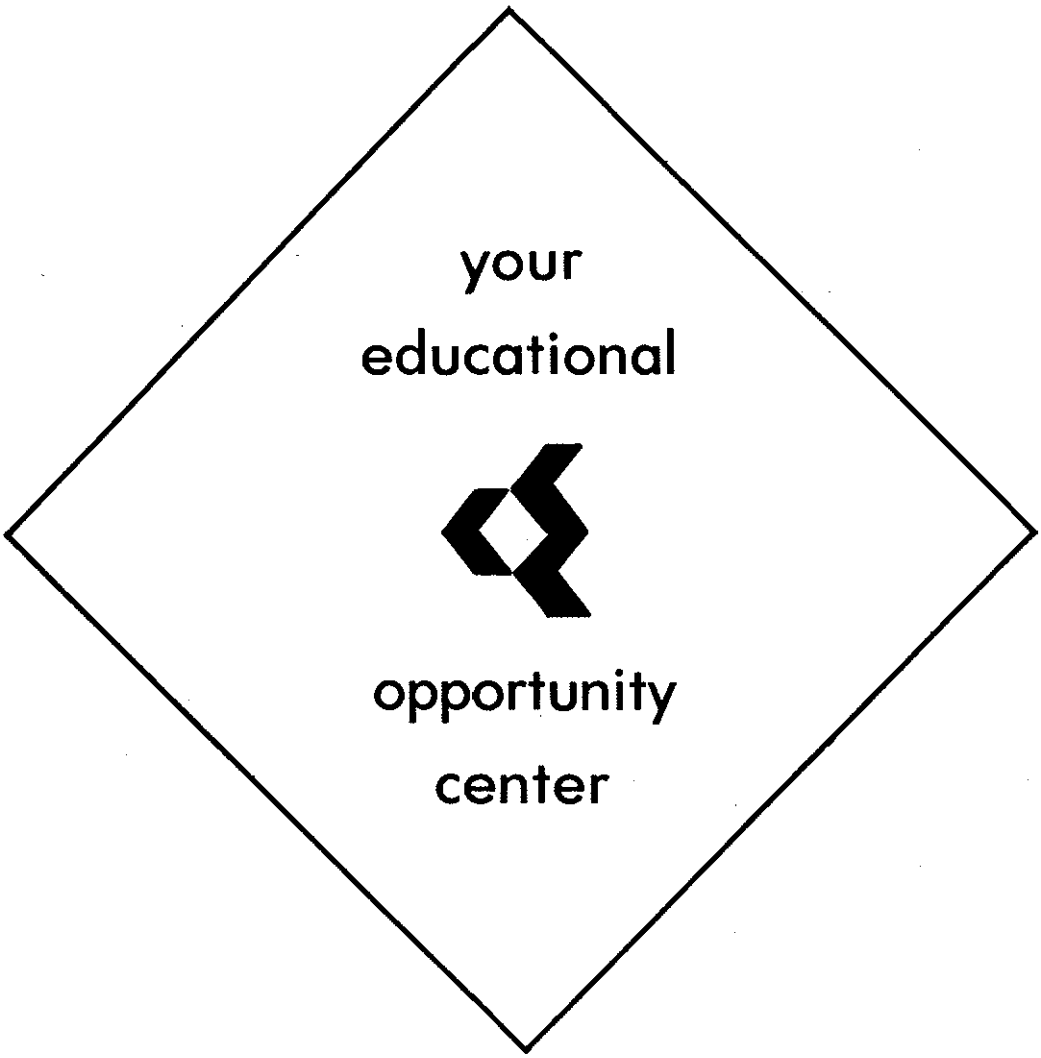
Class Hours	Lab Work	Course Title	Course No.	Term Units
Term 1				
2	6	Plane Surveying	6.101	4
	4	Drafting	4.101	2
4		Technical Mathematics	6.261	4
	2	Slide Rule Operations	6.137	1
3		Communication Skills	1.101	3
		General Education Elective		3
Term 2				
	2	Engineering Problems	6.138	1
3	2	Applied Physics	6.371	4
3		Communication Skills	1.104	3
	4	Project Graphics	4.135	2
2	6	Plane Surveying	6.103	4
4		Technical Mathematics	6.262	4
Term 3				
2	3	Applied Mechanics	6.109	3
1	6	Surveying Computations	6.500	3
2	3	Strength of Materials	6.105	3
4		Technical Mathematics	6.266	4
3		Report Writing	1.106	3
		(SELECT ONE)		
3	2	Applied Physics	6.370	4
		or		
2	2	Computer Problems for Engineering Technicians	6.929	3

Second Year

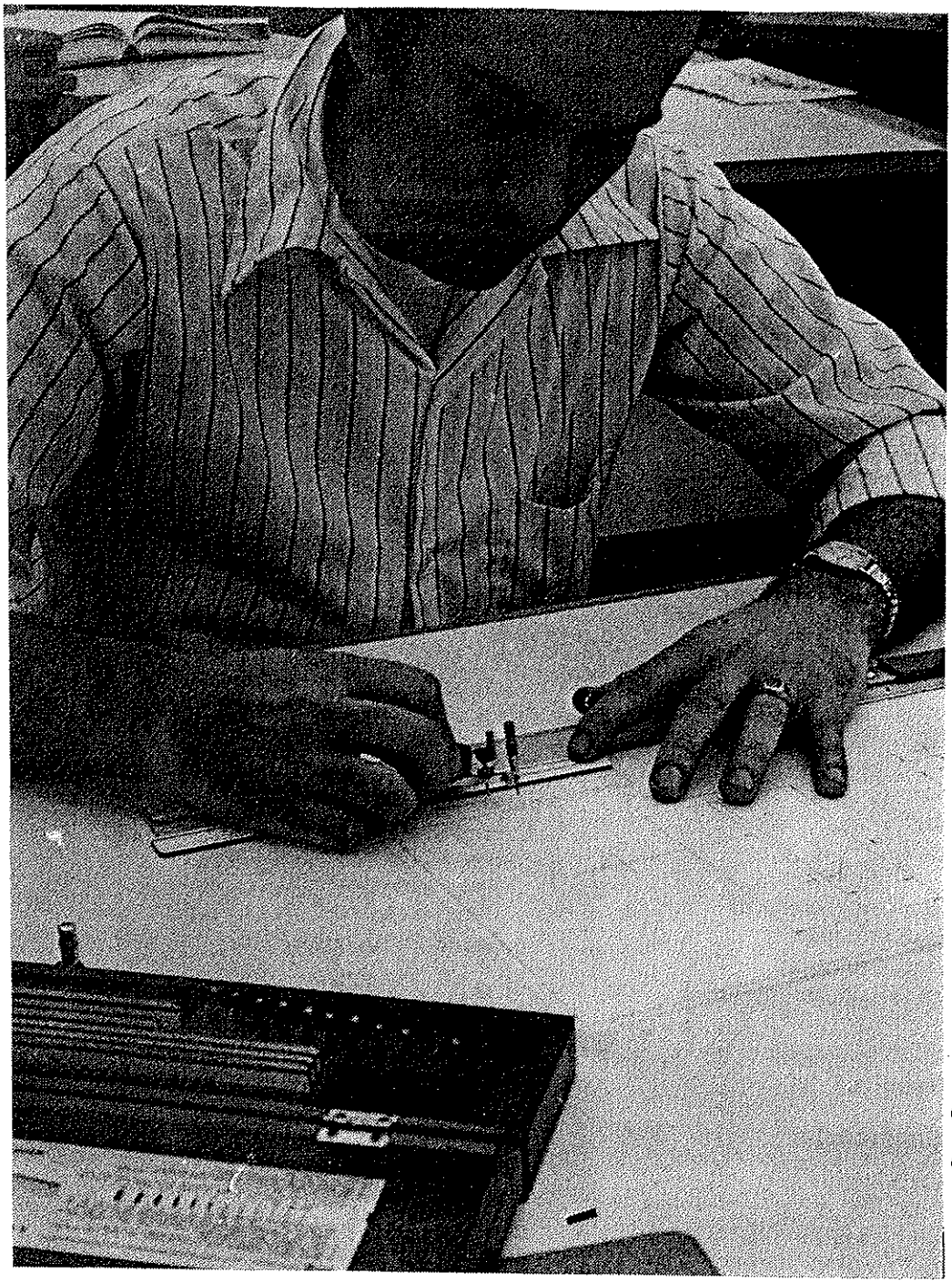
Class Hours	Lab Work	Course Title	Course No.	Term Units
Term 4				
2	4	Land Division and Mapping	6.335	3
2	3	Strength of Materials	6.128	3
3		Contracts and Specifications	6.118	3
1	3	Earthwork Computation and Estimates	6.528	2
1	3	Structural Analysis and Design	6.130	2
3		Introduction to Psychology	1.606	3
Term 5				
2	2	Hydraulics	6.112	3
2	3	Construction Estimating	6.110	3
3	3	Timber and Steel Construction	6.125	4
2	3	Environmental Quality Control	6.139	3
1	2	Practical Descriptive Geometry	6.127	2
		General Education Elective		3
Term 6				
2	2	Hydraulics	6.114	3
2	3	Concrete Construction and Design	6.123	3
2	2	Sanitary Engineering	6.140	3
2	3	Soil Mechanics	6.124	3
1	6	Route Survey	6.507	3
3		Methods of Supervision	4.287	3

Cooperative work experience in lieu of selected technical courses may be used to complete program requirements. Cooperative work experience requires departmental approval.

CHEMEKETA



COMMUNITY COLLEGE



CHEMEKETA
COMMUNITY
COLLEGE

P.O. Box 1007
(4000 Lancaster Dr. NE)
Salem, Oregon 97308

CAREERS IN DRAFTING TECHNOLOGY

DRAFTING TECHNICIAN

MECHANICAL DRAFTING TECHNICIAN

DRAFTING TECHNICIAN AND MECHANICAL DRAFTING TECHNICIAN

The drafting technology programs prepare individuals for positions in engineering departments in the areas of mechanical drafting, design, technical illustration, and other drafting-oriented positions.

The courses within the programs are specifically selected and planned to train technicians for drawing preliminary sketches, making layouts from technical information, rendering drawings in pencil and ink, making overlays and pasteups, and detailed drawing of complete and final plans.

The curricula is centered around occupational elements that normally cannot be obtained through experience alone—elements such as principles of design, materials and processes, mathematics, and physical science concepts as applied to the technical drafting area.

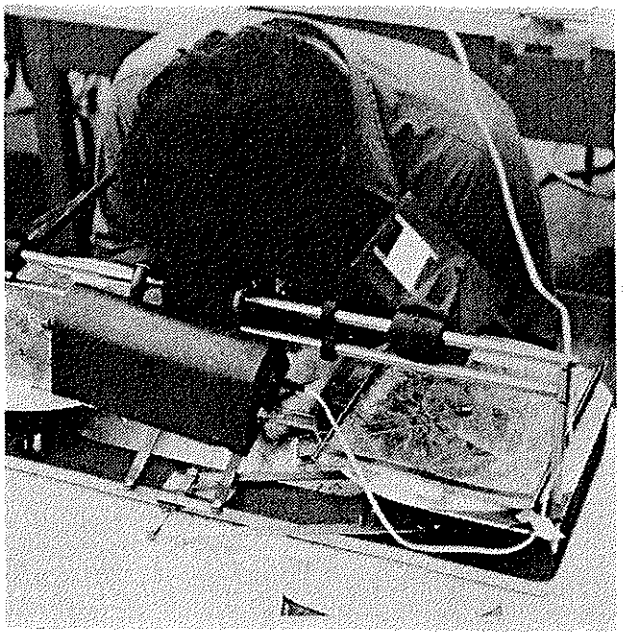
Upon satisfactory completion of the requirements in the drafting technician or mechanical drafting technician program, the student is awarded an associate in science degree.

Examples of opportunities are listed below:

- Technical illustrator
- Sheetmetal layout draftsman
- Machine drafting technician
- Structural drafting technician
- Aeronautical draftsman
- Electronics and electrical drafting technician
- Topographical and mapping draftsman
- Engineering graphics drafting technician

Drafting technician: associate in science degree: required 99 term units.

Mechanical drafting technician: associate in science degree: required 95 term units.



DRAFTING TECHNICIAN CURRICULUM

First Year

Class Hours	Lab Work	Course Title	Course No.	Term Units
Term 1				
1	6	Machine Drafting	4.221	3
	3	Sketching	4.118	1
2	2	Mathematics	4.202	3
2	6	Plane Surveying	6.101	4
3		Communication Skills	1.101	3
		General Education Elective		3
Term 2				
1	6	Machine Drafting	4.222	3
4		Technical Mathematics	6.261	4
2	6	Plane Surveying	6.103	4
2	3	Manufacturing Processes	6.606	3
3		Communication Skills	1.104	3
Term 3				
1	6	Machine Drafting	4.223	3
1	5	Descriptive Geometry	4.115	3
	2	Drafting Room Computation	4.126	1
1	7	Mapping and Platting	4.131	3
4		Technical Mathematics	6.262	4
		General Education Elective		3

Second Year

Term 4				
	8	Architectural Drafting	4.226	3
	8	Electronic Drafting	4.100	3
3	2	Physical Science Survey	6.372	4
		General Education Elective		3
		(SELECT ONE)		
	8	Cam and Gear Drafting	4.225	3
	8	Civil Engineering Drafting	4.236	3
Term 5				
	8	Technical Illustration	4.228	3
3	2	Physical Science Survey	6.373	4
		General Education Elective		3
		(SELECT TWO)		
	8	Structural Drafting	4.111	3
	8	Architectural Drafting	4.227	3
	8	Machine Design Lab	4.232	3
	8	Photogrammetry	4.235	3
Term 6				
	8	Sheet Metal Drafting	4.230	3
3		Introduction to Specifications	4.102	3

3	2	Physical Science Survey	6.374	4
		(SELECT TWO)		
	8	Technical Illustration	4.229	3
	8	Jig and Fixture Drafting	4.231	3
	8	Machine Design Lab	4.233	3
	8	Architectural Design	4.234	3
	8	Photogrammetry	4.237	3

Cooperative work experience in lieu of selected technical courses may be used to complete program requirements. Cooperative work experience requires departmental approval.

See Appendix A for LDC courses which may be taken in lieu of general education, math and science courses to complete program requirements. Any other program deviations must be approved by the drafting department chairman.

MECHANICAL DRAFTING TECHNICIAN CURRICULUM

First Year

Class Hours	Lab Work	Course Title	Course No.	Term Units
Term 1				
1	6	Machine Drafting	4.221	3
	3	Sketching	4.118	1
2	3	Machine Tool Processes	4.802	3
4		Technical Mathematics	6.261	4
3		Communication Skills	1.101	3
		General Education Elective ..		3
Term 2				
1	6	Machine Drafting	4.222	3
2	3	Industrial Materials	4.122	3
3	2	Applied Physics	6.371	4
4		Technical Mathematics	6.262	4
3		Communication Skills	1.104	3
Term 3				
1	6	Machine Drafting	4.223	3
1	5	Descriptive Geometry	4.115	3
3	2	Science Elective		4
4		Technical Mathematics	4.266	4
		General Education Elective ..		3
	2	Drafting Room Computations	4.126	1

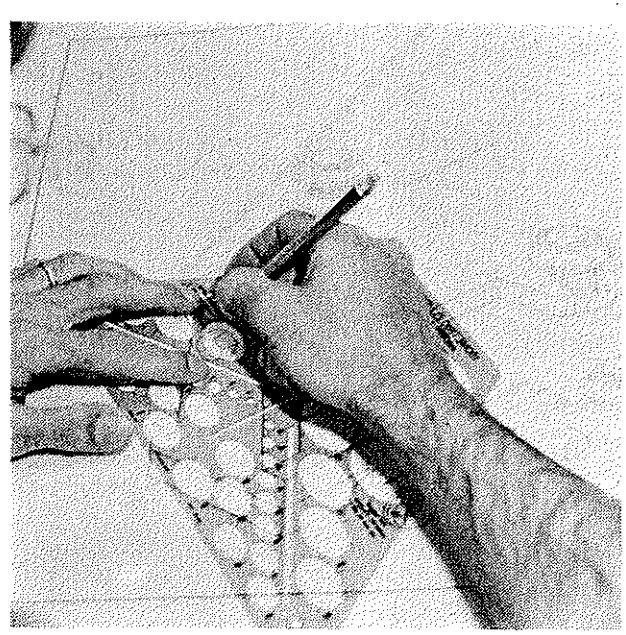
Second Year

Term 4				
	8	Electronic Drafting	4.100	3
	8	Cam and Gear Drafting	4.225	3
3	2	Electricity	6.208	4
3	2	Science Elective		4
Term 5				
	8	Technical Illustration	4.228	3
	8	Machine Design Lab	4.232	3
2	3	Applied Mechanics	6.109	3
2	3	Metallurgy	6.602	3
3		General Education Elective ..		3
Term 6				
	8	Sheet Metal Drafting	4.230	3
2	2	Applied Fluid Power	6.117	3
		General Education Elective ..		3
		(SELECT TWO)		
	8	Technical Illustration	4.229	3
	8	Jig and Fixture Drafting	4.231	3
	8	Machine Design Lab	4.233	3

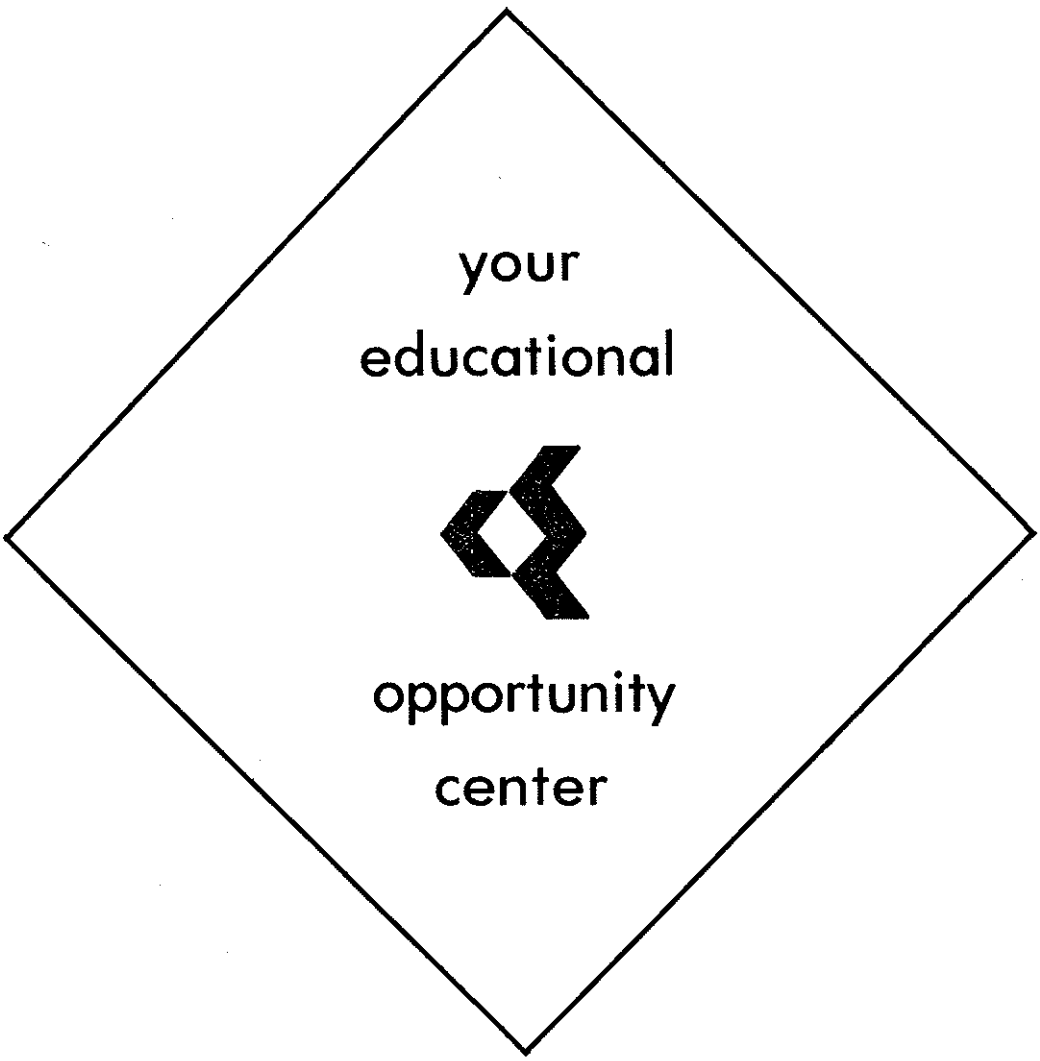
Cooperative work experience in lieu of selected technical courses may be used to complete program requirements. Cooperative work experience requires departmental approval.

See Appendix A for LDC courses which may be taken in lieu of general education, math and science courses to complete program requirements. Any other program deviations must be approved by the drafting department chairman.

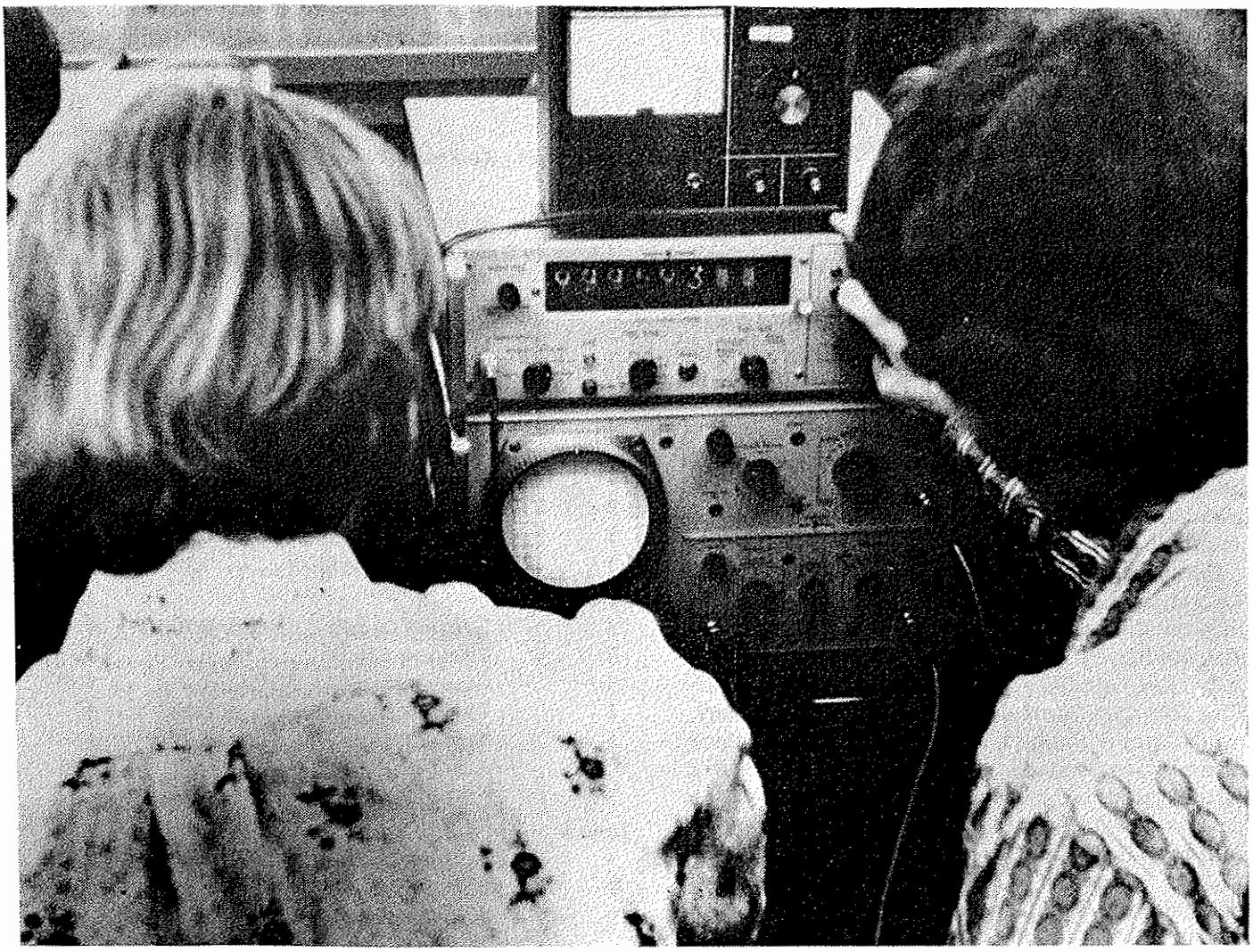
For students who have not completed high school chemistry, Introductory Chemistry 6.275 should be taken as one science elective.



CHEMEKETA



COMMUNITY COLLEGE



CAREERS IN ELECTRONICS TECHNOLOGY

ELECTRONIC ENGINEERING TECHNICIAN

TELEVISION-RADIO SERVICE (4 terms)

CHEMEKETA COMMUNITY COLLEGE

P.O. Box 1007
(4000 Lancaster Dr. NE)
Salem, Oregon 97308

ELECTRONIC ENGINEERING TECHNICIAN

This curriculum offers a broad technical background in electronics, balancing theory understanding with technique capabilities. It is a comprehensive program planned to prepare graduates for a diversity of high level, specialized technician positions in the electronic industry. These include the areas of research and development, radio and television, microwave station operations and maintenance, calibration, commercial and domestic maintenance and other areas using vacuum tubes and semiconductor circuits. A strong background of electronic theory, math, and physics to enable the student to handle complex technical work is included.

The student gains proficiency in the practical application of theory, analyzing circuits, developing elementary electronic units, working with modern test and measuring equipment, trouble shooting and evaluating operating characteristics of electronic equipment.

Graduate electronic technicians employed in research and development activities usually assist physical scientists or engineers in designing, testing and modifying experimental electronic devices. They may be called upon to devise practical solutions to problems of design, select suitable materials, determine the best method of building a piece of equipment and test and evaluate the operating characteristics of the electronic device. They also may be called upon to make necessary modifications in the experimental equipment.

Upon satisfactory completion of the requirements in the electronic technician program, the student is awarded an associate in science degree, signifying that the student is prepared to effectively function and advance in the many employment areas of electronic technology.

Examples of opportunities are:

- Radio communications technician (aircraft, etc.)
- Radio operator and dispatcher
- Electronics technician
- Laboratory technician (electronic)
- Electronic instrument technician (mfg.)
- Guided missile technician
- Electronic computer technician
- Microwave radio technician
- Electronic instrument service technician
- Industrial electronic technician supervisor
- Electronic equipment designer
- Electronic engineering technician

Associate in science degree: required 113 term units.

ELECTRONIC ENGINEERING TECHNICIAN CURRICULUM

First Year

Class Hours	Lab Work	Course Title	Course No.	Term Units
Term 1				
3	3	Electrical Theory DC	6.200	4
	2	Slide Rule Operations	6.137	1
4		Technical Mathematics	6.261	4
	4	Drafting	4.101	2
3	2	Introductory Chemistry	6.275	4
3		Communication Skills	1.101	3
Term 2				
3	3	Electrical Theory AC	6.202	4
	2	Engineering Problems	6.138	1
4		Technical Mathematics	6.262	4
3	3	Transistor Fundamentals	6.210	4
3	2	Applied Physics	6.370	4
3		Communication Skills	1.104	3
Term 3				
3	3	Electrical Circuits	6.206	4
3	6	Transistor Circuits	6.211	5
3		Report Writing	1.106	3
4		Technical Mathematics	6.266	4
3	2	Applied Physics	6.371	4

Second Year

Term 4				
3		Electrical Mathematics	6.115	3
2	6	Electronic Circuit Concepts	6.212	4
2	3	Wave Generation and Shaping	6.234	3
2	3	Semiconductors	6.237	3
2		Network Analysis	6.230	2
3		General Education Elective		3
Term 5				
	4	Electrical Drafting	4.103	2
3	3	Industrial Electronics	6.218	4
3	6	Industrial Television	6.228	5
3		Electronic Data Processing	6.240	3
2		Antennas and Transmission Lines	6.231	2
3		General Education Elective		3
Term 6				
1	3	Advanced Electronic Circuits	6.216	2
2	2	Electronic Instruments	6.220	3
3	3	Industrial Television	6.235	4
2	3	Advanced Industrial Electronics	6.248	3
2	3	Microwaves	6.242	3
3		General Education Elective		3

TELEVISION-RADIO SERVICE

The television-radio service program prepares students for employment in the field of radio and television servicing.

The Chemeketa radio-television service curriculum implements the student-centered individualized curriculum for electronics (ICE) program in which the student progresses at his own pace and receives credit for prior education and experience based on demonstrated competence. This new educational approach, co-sponsored by Chemeketa instructors, stimulates enthusiasm and initiative in students.

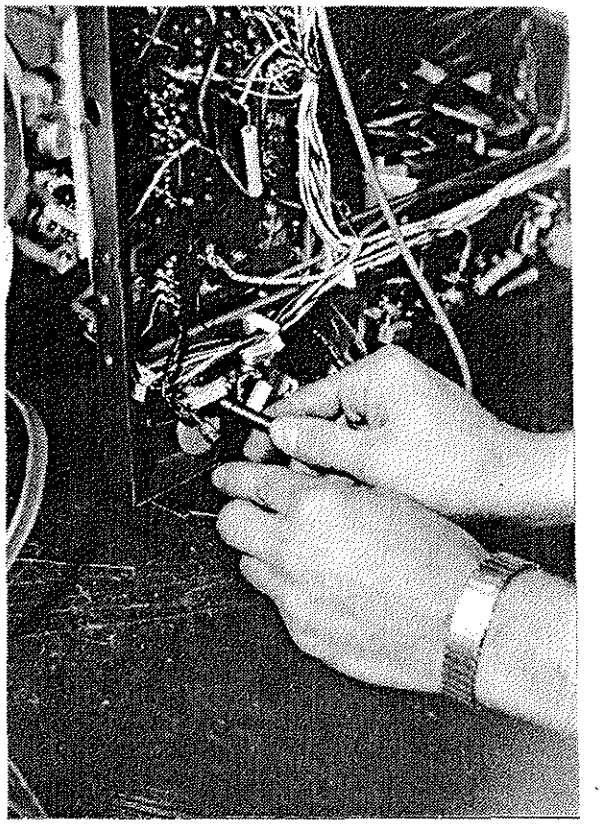
This program provides basic principles, theory and laboratory experience in the practical phases of radio and television service work. Basic mathematics and communication skills necessary to the technician are included in the theory courses as needed.

Applicants must have a high school diploma or equivalent and be in good physical condition.

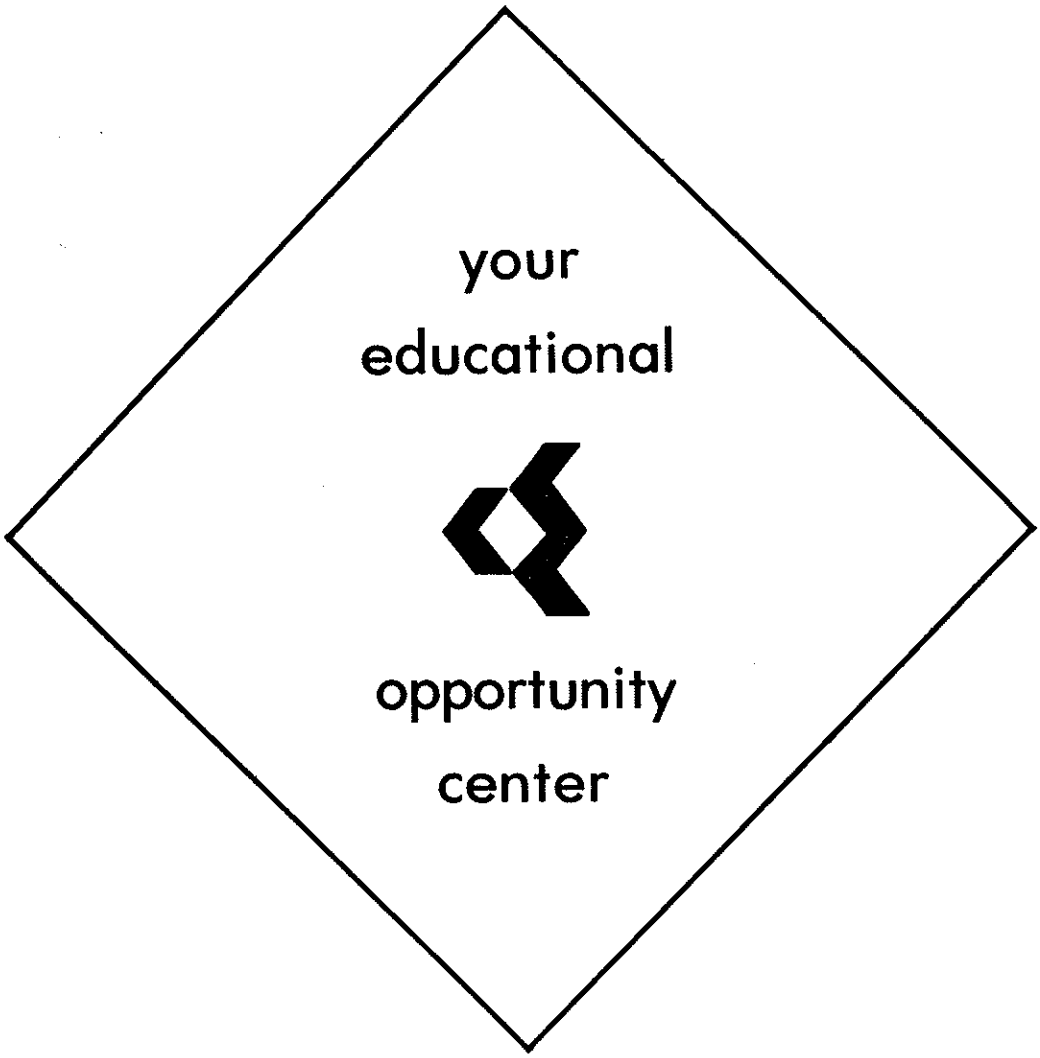
A certificate of completion is awarded to those individuals who have satisfactorily completed the required courses within the curriculum.

TELEVISION-RADIO SERVICE CURRICULUM

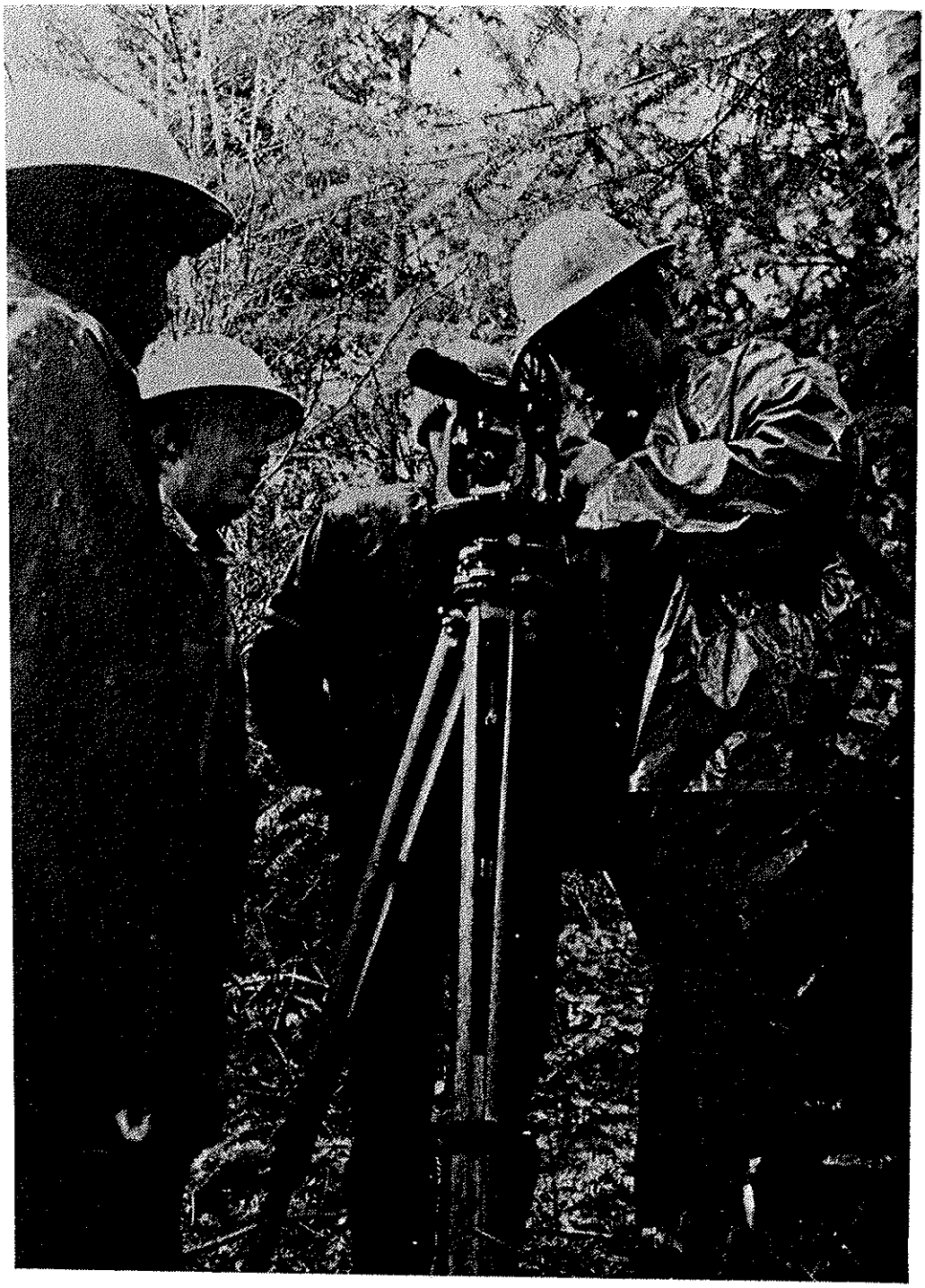
Class Hours	Lab Work	Course Title	Course No.	Term Units
Term 1				
12		DC Theory and AC Theory ..	4.255	9
	6	DC Theory and AC Theory Lab	4.256	2
6		Electronic Devices	4.257	5
	6	Electronic Devices Lab	4.258	2
Term 2				
3	6	Transistors and Circuits Theory	4.259	5
2		Electronic Principles	4.262	2
	6	Electronic Principles Lab	4.263	2
2		Use of Instruments I	4.260	2
3		Television Principles	4.266	3
	8	Television Principles Lab	4.267	3
Term 3				
2		Radio Servicing	4.264	2
	6	Radio Servicing Lab	4.265	2
3		Television Servicing	4.268	3
	8	Television Servicing Lab	4.269	3
2		Use of Instruments II.....	4.261	2
3		FM and HIFI Theory	4.270	3
	3	FM and HIFI Theory Lab	4.271	1
3		Electronic Management Orientation	2.275	3
Term 4				
3	6	Color Television Servicing ...	4.273	5
3	3	Solid State Servicing	4.272	4
3	3	Logical Trouble Shooting	4.274	4
1	8	Cooperative Work Experience	2.687	3



CHEMEKETA



COMMUNITY COLLEGE



CHEMEKETA COMMUNITY COLLEGE

P.O. Box 1007
(4000 Lancaster Dr. NE)
Salem, Oregon 97308

CAREERS IN FOREST TECHNOLOGY

FOREST PRODUCTS TECHNICIAN

FOREST TECHNICIAN

FOREST TECHNICIAN

The forest technician curriculum provides the student with the necessary knowledge and technical skills required for employment as a forest technician.

Job opportunities are available in the areas of log scaling, timber management, fire control, recreation, timber stand improvement and as forest engineering technicians.

Upon satisfactory completion of the requirements of the forest technician curriculum, the student is awarded an associate in science degree.

Associate in science degree: required 106 term units.

FOREST TECHNICIAN CURRICULUM

First Year

Class Hours	Lab Work	Course Title	Course No.	Term Units
Term 1				
3		Communication Skills	1.101	3
	4	Drafting	4.101	2
3		General Forestry	3.600	3
2	2	Mathematics*	4.200	3
2	6	Plane Surveying	6.101	4
	2	Slide Rule Operations	6.137	1
1	2	Tools and Equipment	3.605	2
Term 2				
3		Communication Skills	1.104	3
	4	Project Graphics	4.135	2
3	2	Analysis (Mathematics)	4.207	4
2	6	Plane Surveying	6.103	4
1	2	Tree Identification	3.610	2
3	3	Forest Products	4.280	4
Term 3				
3		Report Writing	1.106	3
3	4	Forest Mensuration	6.300	4
1	2	Tree Identification	3.611	2
1	2	Accident Prevention and First Aid	4.190	2
2	2	Forest Photogrammetry	3.624	3
3		General Education Elective		3

*Student may enroll in a higher mathematics course.

Second Year

Class Hours	Lab Work	Course Title	Course No.	Term Units
Term 4				
3	2	Natural Cover Fire Protection	5.151	4
1	6	Forest Road Surveying	6.510	3
2	6	Logging and Milling	4.282	4
3	2	Science Elective		4
3		Introduction to Psychology	1.606	3
3		Consumer Economics	1.525	3
Term 5				
1	6	Wood Structure and Identification	6.280	3
2	6	Scaling Practices	3.617	4
3		Wood Industry Economics	4.286	3
3		General Education Elective		3
3	2	Practical Physics	4.302	4
Term 6				
2	2	Wood Products Marketing	3.614	3
3		Methods of Supervision	4.287	3
3	4	Power Systems	4.172	4
	2	Forest Pathology	3.607	1
3		General Education Elective		3

Cooperative work experience in lieu of selected technical courses may be used to complete program requirements. Appropriate summer employment may be used for CWE by arrangement before the end of spring term. CWE requires departmental approval.

FOREST PRODUCTS TECHNICIAN

The forest products technician program qualifies technicians for employment in a variety of forest product manufacturing operations and prepares them for responsible positions in Oregon's largest industry.

Job opportunities are available for the qualified graduate in plant operations, research and development, quality control and sales.

Upon satisfactory completion of the requirements of the forest products technician curriculum, the student is awarded an associate in science degree.

Associate in science degree: required 108 term units.

FOREST PRODUCTS TECHNICIAN CURRICULUM

First Year

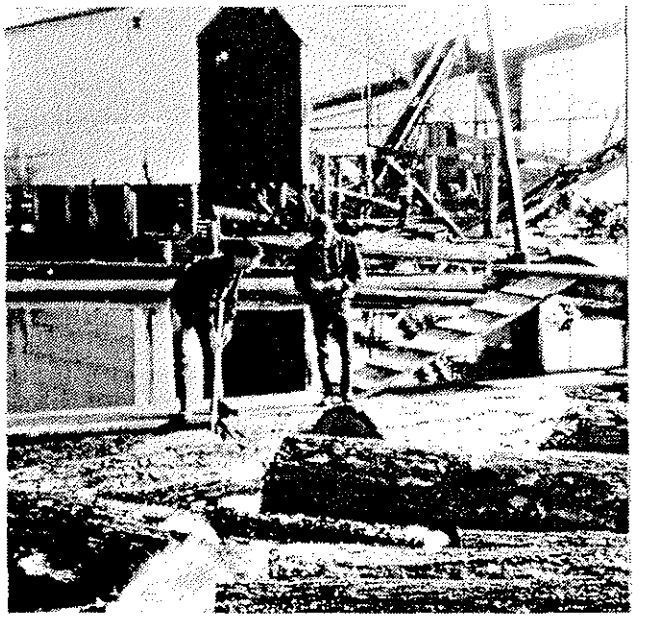
Class Hours	Lab Work	Course Title	Course No.	Term Units
Term 1				
3		General Forestry	3.600	3
3		Communication Skills	1.101	3
	4	Drafting	4.101	2
2	2	Mathematics*	4.200	3
2	6	Plane Surveying	6.101	4
	2	Slide Rule Operations	6.137	1
1	2	Tools and Equipment	3.605	2
Term 2				
3		Communication Skills	1.104	3
	4	Project Graphics	4.135	2
3	2	Analysis (Mathematics)	4.207	4
2	6	Plane Surveying	6.103	4
1	2	Tree Identification	3.610	2
3	3	Forest Products	4.280	4
Term 3				
3		Report Writing	1.106	3
3	4	Forest Mensuration	6.300	4
1	2	Tree Identification	3.611	2
1	2	Accident Prevention and First Aid	4.190	2
3	2	Introductory Chemistry	6.275	4
3		General Education Elective		3

*Student may enroll in a higher level mathematics course.

Second Year

Term 4				
3	3	Pulp and Paper Technology	4.281	4
2	3	Plywood, Composite and Laminated Wood Products	6.285	3
3	2	Practical Physics	4.300	4
3	2	Chemistry	6.276	4
3		Introduction to Psychology	1.606	4
3		Consumer Economics	1.525	3
Term 5				
1	6	Wood Structure and Identification	6.280	3
3	2	Wood Adhesives and Coatings	6.279	4
3	2	Wood Preservation and Drying	6.282	4
3		Wood Industry Economics	4.286	3
3		General Education Elective		3
Term 6				
2	2	Wood Products Marketing	3.614	3
2	6	Logging and Milling	4.282	4
3		Methods of Supervision	4.287	3
2	3	Building Materials	6.281	3
2	2	Industrial Quality Control	6.287	3

Cooperative work experience in lieu of selected technical courses may be used to complete program requirements. Appropriate summer employment may be used for CWE by arrangement before the end of spring term. CWE requires departmental approval.



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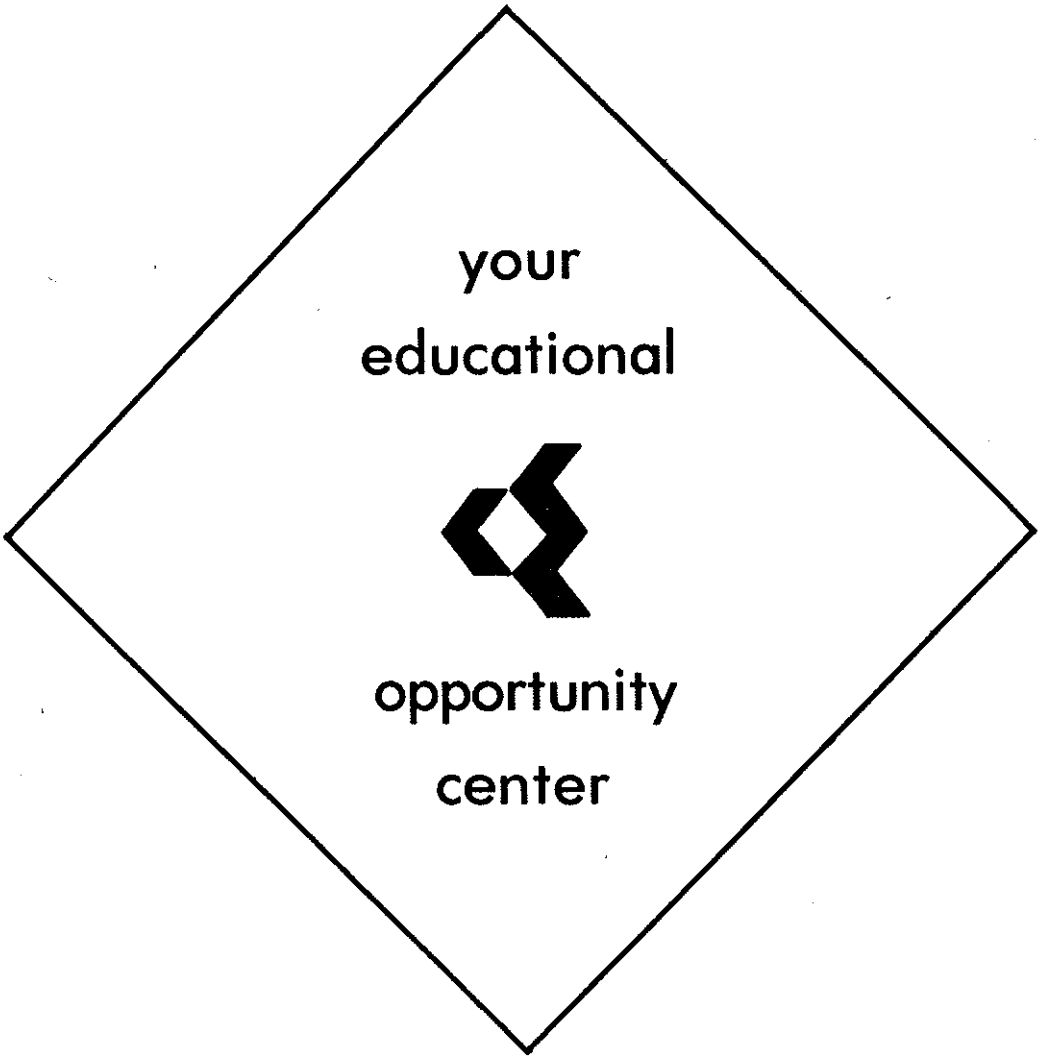
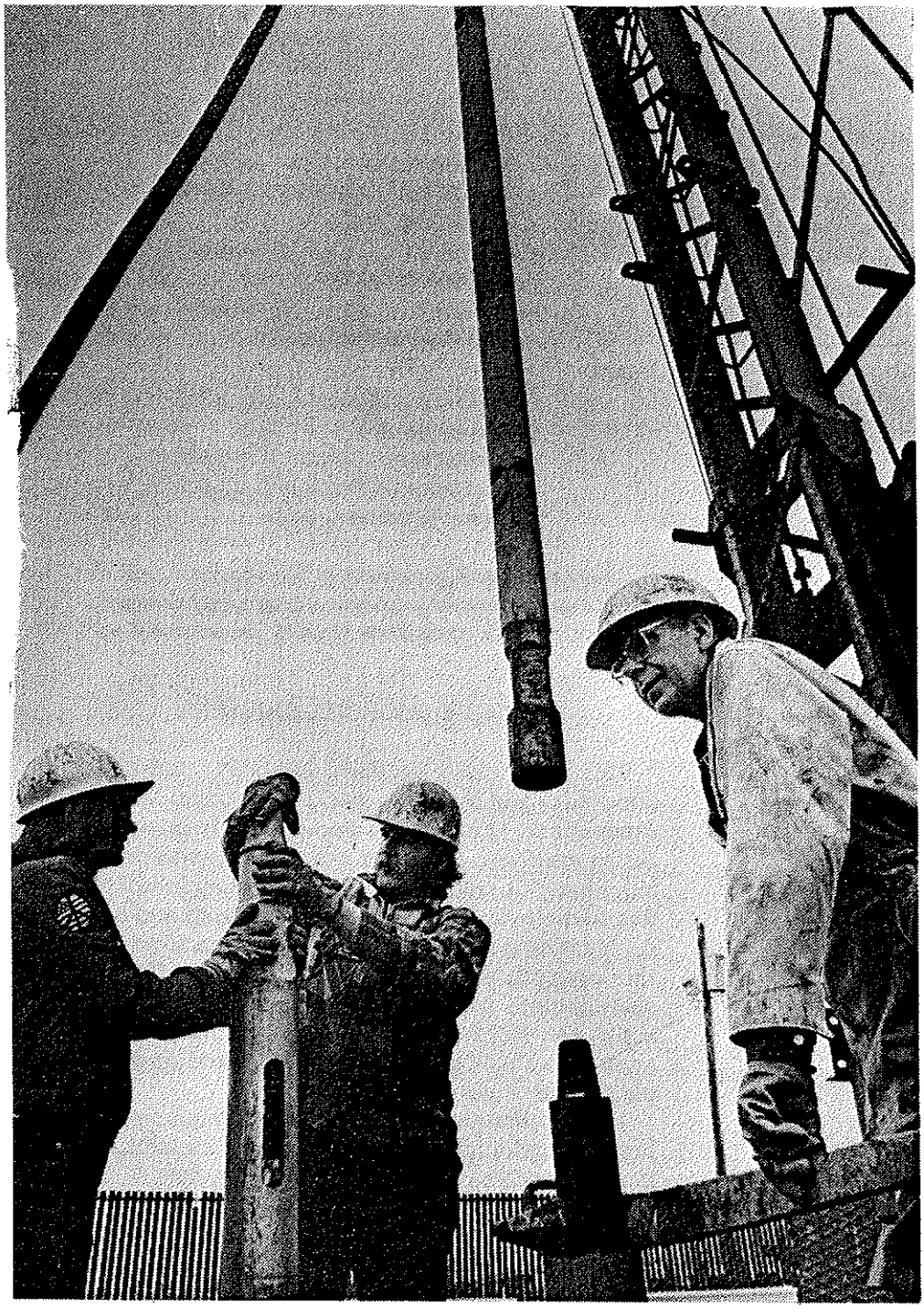


COMMUNITY COLLEGE



CHEMEKETA COMMUNITY COLLEGE

P.O. Box 1007
(4000 Lancaster Dr. NE)
Salem, Oregon 97308

CAREERS IN MACHINE-MECHANICAL TECHNOLOGY

AUTOMOTIVE TECHNICIAN

MACHINE SHOP TECHNICIAN

WELDING (One Year)

WELDING AND FABRICATION TECHNICIAN

WELL DRILLING TECHNICIAN

AUTOMOTIVE TECHNICIAN

This curriculum provides required technical knowledge and skills for automotive maintenance and repair occupations. It includes comprehensive experience based on understanding and skills developed in study of component systems and specialities. Written and oral communications, along with other general education courses are included to prepare for effective participation in occupational, social and public activities. Related scientific, mathematical and general mechanical principles are stressed throughout the curriculum.

Upon satisfactory completion of the program, the student is awarded an associate in science degree in automotive technology.

Associate in science degree: required 93 term units.

AUTOMOTIVE TECHNICIAN CURRICULUM

First Year

Class Hours	Lab Work	Course Title	Course No.	Term Units
Term 1				
3	9	Internal Combustion Engines	3.300	6
3	4	Automotive Electrical Systems I	3.304	4
1		Automotive Shop Safety	3.303	1
1	3	Welding	4.153	2
3		Communication Skills	1.101	3
Term 2				
2	3	Applied Fluid Mechanics	3.306	3
3	6	Power Trains	3.305	5
1	3	Technical Diagram Interpretation	3.309	2
3		Communication Skills	1.104	3
2	2	Mathematics	4.200	3
Term 3				
2	3	Automotive Chassis	3.307	3
2	3	Fuel Systems and Carburetion I	3.301	3
1	9	Automotive Repair I	3.327	4
2	3	Automotive Machine Shop	3.308	3
2		Automotive Materials	3.302	2

Second Year

Term 4				
3	4	Fuel Systems and Carburetion II	3.316	4
3	4	Automotive Electrical Systems II	3.317	4
1	9	Automotive Repair II	3.328	4
3		General Education Elective		3
Term 5				
1	9	Automotive Repair III	3.329	4
2	3	Automatic Transmissions	3.325	3
3	2	Automotive Auxiliary Systems	3.319	4
2		Automotive Service Operations	3.320	2
		General Education Elective		3
Term 6				
3	9	Tune-up and Diagnosis	3.330	6
3		New Automotive Developments	3.326	3
3		Introduction to Psychology	1.606	3
3		General Education Elective		3

Cooperative work experience in lieu of selected technical courses may be used to complete program requirements. Cooperative work experience requires departmental approval.

MACHINE SHOP TECHNICIAN

This curriculum provides required technical knowledge and skills for machine shop and related occupations. It includes a background in manufacturing materials, processes and systems with drafting, blueprint reading and shop sketching for effective participation in the industry. Written and oral communications, along with other general education subjects, are included to prepare for effective participation in occupational, social and public activities. Related scientific, mathematical and general mechanical principles are stressed throughout the curriculum.

Upon satisfactory completion of requirements in this program, the student is awarded an associate in science degree in machine shop technology.

A machine shop technician sets up and operates drill presses, engine and turret lathes, milling machines, surface, cylindrical and tool grinders. He works from blueprints or sketches to produce specified items. This may require handling related bench and layout operations, jigs, fixtures, patterns or automated control equipment.

The machine shop technician can choose from several types of positions in business and industry. Typical examples are:

Machine tool operator
Grinder operator, external
Gear cutting machine operator
Millwright (machinist)
Setup man (machine tool)
Plant maintenance (machinist)

Associate in science degree: required 97 term units.

MACHINE SHOP TECHNICIAN CURRICULUM

First Year

Class Hours	Lab Work	Course Title	Course No.	Term Units
Term 1				
2	2	Mathematics	4.200	3
3		Communication Skills	1.101	3
3		Introduction to Psychology	1.606	3
	4	Drafting	4.101	2
2	3	Machine Tool Processes	4.802	3
1		Shop Safety	4.253	1
2	3	Industrial Materials and Processes	4.170	3
Term 2				
2	2	Mathematics	4.202	3
3	2	Practical Physics	4.300	4
	4	Drafting	4.105	2
2	3	Machine Tool Processes	4.804	3
1	3	Welding	4.150	2
Term 3				
2	2	Mathematics	4.204	3
3		Communication Skills	1.104	3
2	3	Machine Tool Processes	4.806	3
3	2	Practical Physics	4.302	4
2	3	Blueprint Reading and Layout	4.810	3

Second Year

Term 4				
3	3	Mechanical Systems	4.171	4
3	4	Power Systems	4.172	4
3		Machine Shop Problems	4.820	3
3	6	Machine Shop Practice	4.841	5
3		General Education Elective		3
Term 5				
2	3	Hydraulic and Pneumatic Systems	4.173	3
2	4	Metal Fabrication and Finishing	4.174	3
2	4	Advanced Lathe Practices	4.833	3
2	4	Advanced Milling Machine Practices	4.837	3
3		General Education Elective		3
Term 6				
2		Machine Shop Automation	4.824	2
3	12	Job Machining Practices	4.845	7
2	4	Tool and Fixture Design and Application	4.847	3
3		Employer-Employee Relations	4.500	3

Cooperative work experience in lieu of selected technical courses may be used to complete program requirements. Appropriate summer employment may be used for CWE by arrangement before the end of spring term. CWE requires departmental approval.

WELDING

The courses in the welding program are designed for skill development in varied welding processes and to provide the necessary knowledge and information required in welding occupations.

This one-year program provides laboratory time for developing and practicing welding skills.

After satisfactory completion of the welding program, the student is awarded a certificate of completion.

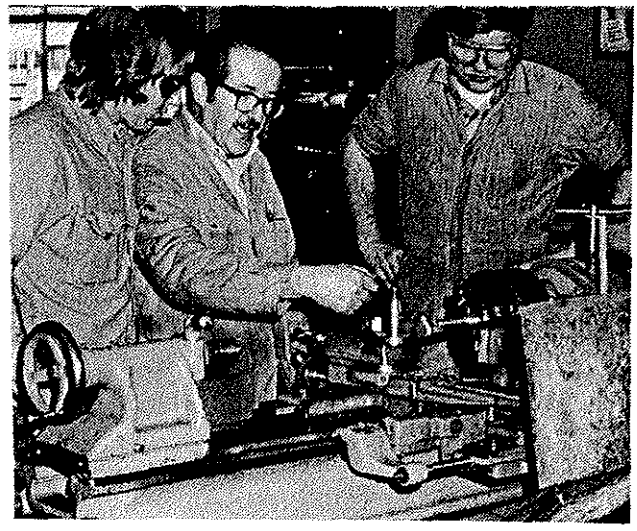
An opportunity is provided for certification in arc welding by the Oregon State Bureau of Labor. An extra fee for this test is determined by the number of students involved and the type of test.

Graduates of the Chemeketa Welding program find employment in job, specialty, production and mainentance shops. They may choose from a variety of positions including:

- Oxyacetylene burner
- Oxyacetylene weldor
- Semiautomatic welding equipment operator
- MIG weldor
- Arc weldor
- TIG weldor

WELDING CURRICULUM

Class Hours	Lab Work	Course Title	Course No.	Term Units
Term 1				
2	9	Basic Arc Welding	4.240	5
2	6	Basic Oxyacetylene Welding	4.161	4
1	3	Blueprint Reading and Sketching	4.244	2
2	2	Shop Arithmetic	4.246	3
1		Shop Safety	4.253	1
	2	Oxyacetylene Cutting	4.242	1
Term 2				
2	12	Intermediate Arc Welding	4.241	6
2	3	Layout Practices	4.245	3
1	4	Basic MIG Welding	4.250	2
1	3	Basic TIG Welding	4.251	2
2		Welding Metallurgy I	4.247	2



Term 3				
1	6	Advanced MIG Welding	4.252	3
1	6	Advanced Arc Welding	4.166	3
2	12	Weld Shop Problems	4.249	6
2		Welding Metallurgy I	4.248	2

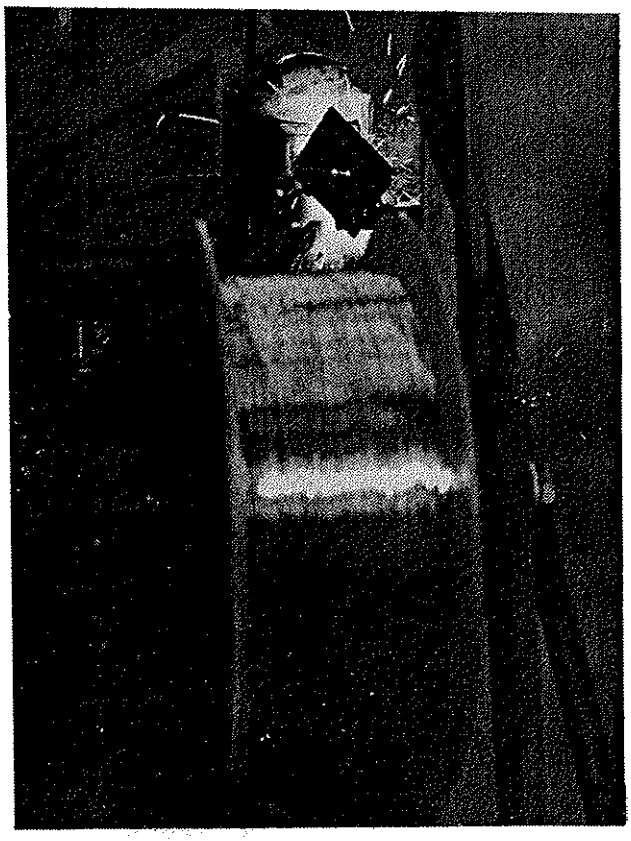
Cooperative work experience in lieu of selected technical courses may be used to complete program requirements. Appropriate summer employment may be used for CWE by arrangement before the end of spring term. CWE requires departmental approval.

WELDING AND FABRICATION TECHNICIAN

This curriculum provides required technical knowledge and skills for welding, fabrication, and related occupations. It includes a background in manufacturing materials, processes and systems with drafting, blueprint reading and shop sketching for effective participation in the industry. Written and oral communications, along with other general education subjects are included. Related scientific, mathematical, and general mechanical principles are stressed throughout the curriculum.

Upon satisfactory completion of this program, the student is awarded an associate in science degree in welding and fabrication.

A welding and fabrication technician is skilled in the use of oxyacetylene welding and cutting equipment, manual arc, tungsten inert gas and metallic inert gas processes. He has a good working knowledge of shop blueprints and welding symbols, jig fabrication and assembly processes.



At the end of the sixth term, welding and fabrication students have an opportunity to take the plate and/or pipe certification test administered by the State of Oregon, Bureau of Labor, Division of Boiler Inspection. An extra fee for this test is determined by the number of students involved and the type of test.

The welding and fabrication technician can choose from several types of positions in business and industry. Typical examples are:

Machinery fabrication
Structural fabrication
Welding fitter and layout weldor
Automatic and semiautomatic weldor
Automatic flame cutter operator
Millwright weldor
Plant maintenance man
Quality control and development personnel

Associate in science degree: required 105 term units.

WELDING AND FABRICATION TECHNICIAN CURRICULUM

First Year

Class Hours	Lab Work	Course Title	Course No.	Term Units
Term 1				
2	6	Electric Arc Welding	4.160	4
1	3	Blueprint Reading and Sketching	4.244	2
2	3	Machine Tool Processes	4.802	3
2	2	Mathematics	4.200	3
3		Communication Skills	1.101	3
	4	Drafting	4.101	2
1		Shop Safety	4.253	1
Term 2				
2	6	Basic Oxyacetylene Welding..	4.161	4
3		Introduction to Psychology..	1.606	3
2	2	Mathematics	4.202	3
3		Communication Skills	1.104	3
2	3	Fabrication Practices I	4.155	3
3	2	Practical Physics	4.300	4
Term 3				
1	4	Basic MIG Welding	4.250	2
1	3	Basic TIG Welding	4.251	2
2	3	Heat Treatment of Steel	4.849	3
2	2	Mathematics	4.204	3
3	2	Practical Physics	4.302	4
3		Employer-Employee Relations	4.500	3
2	3	Fabrication Practices II	4.156	3

Second Year

Term 4				
2	9	Electric Arc Welding	4.162	5
	4	Oxyacetylene Welding	4.163	2
2	3	Blueprint Reading for Construction	4.159	3
1	4	Fabrication Shop Problems	4.168	3
3		Elements of Metallurgy	6.600	3
Term 5				
1	4	Fabrication Practices III	4.157	3
	8	Fabrication Problems	4.169	3
1	6	Advanced MIG Welding	4.252	3
2	3	Machine Tool Processes	4.804	3
3		General Education Elective		3
Term 6				
1	9	Welding for Certification	4.167	4
2	6	Fabrication Practices IV	4.158	4
1	6	Production MIG Welding	4.165	3
1	2	Shop Projects	4.254	2
3		General Education Elective		3

Cooperative work experience in lieu of selected technical courses may be used to complete program requirements. Appropriate summer employment may be used for CWE by arrangement before the end of spring term. CWE requires departmental approval.

WELL DRILLING TECHNICIAN

Chemeketa's unique well drilling program is a preparation for an outdoor mechanical occupation.

The well drilling technician sets up and operates earth drilling machines. He hoists and positions tubular casing over the hole, lowers the drill stem into the casing, manipulates the drill, removes samples of subterrain, repairs and maintains the drilling and accessory equipment. The student receives a background in geology, ground water location and quality, pumping and drilling techniques and equipment.

Other job opportunities for the graduate of this program are found in doing test holes, and earth sampling for subterranean water resources, sales, installation and repair of pumping equipment, sales engineering for equipment manufacturers, inspection and quality control for state or regional ground water resources.

Associate in science degree: required 106 term units.

WELL DRILLING TECHNICIAN CURRICULUM

First Year

Class Hours	Lab Work	Course Title	Course No.	Term Units
Term 1				
2	2	Mathematics	4.200	3
3		Communication Skills	1.101	3
	4	Drafting	4.101	2
3	2	Elementary Geology	4.305	4
1	3	Welding	4.150	2
3	2	Drilling Equipment, Tools and Terminology	4.290	4
Term 2				
2	2	Mathematics	4.202	3
3		Communication Skills	1.104	3
3	2	Practical Physics	4.302	4
2	3	Machine Tool Processes	4.802	3
2	6	Intermediate Arc Welding	4.154	4
1		Shop Safety	4.253	1
Term 3				
2	3	Machine Tool Processes	4.804	3
1	9	Welding for Certification	4.167	4
2	3	Industrial Materials and Processes	4.170	3
3	4	Drilling Setups and Operations	4.292	4
3		General Education Elective		3

Second Year

Term 4				
3		Business Economics	1.524	3
3		State Drilling Standards and Recordkeeping	4.293	3
2	2	Topographic Map Interpretation	4.130	3
3	4	Power Systems	4.172	4
2	3	Hydraulic and Pneumatic Systems	4.173	3
2	3	Blueprint Reading and Layout	4.810	3
Term 5				
3	3	Mechanical Systems	4.171	4
3	4	Drilling Machine Maintenance and Repair	4.296	4
2	4	Engine Theory and Maintenance	4.291	3
3		Finance, Contracts and the Law	2.340	3
2	3	Heat Treatment of Steel	4.849	3
Term 6				
3		Psychology of Human Relations	1.608	3
3	4	Small Pump Installation	4.295	4
3	2	Hydrology for Drillers	4.294	4
3		Special Drilling Problems	4.297	3
3		General Education Elective		3

Cooperative work experience in lieu of selected technical courses may be used to complete program requirements. Appropriate summer employment may be used for CWE by arrangement before the end of spring term. CWE requires departmental approval.

DIVISION OF SOCIAL SCIENCE, BUSINESS, COMMUNICATIONS AND RELATED

BUSINESS—MID—MANAGEMENT
- Accounting
- Management
- Marketing

CLERICAL TECHNOLOGY (One Year)

DATA PROCESSING TECHNOLOGY
- Computer Operations (One Year)
- Computer Programming

INSURANCE TECHNOLOGY

REAL ESTATE TECHNOLOGY

SECRETARIAL SCIENCE
- Professional Secretary
- Medical Secretary

EARLY CHILDHOOD EDUCATION

FOOD SERVICE (One Year)

DENTAL ASSISTANT (One Year)

HUMAN RESOURCE TECHNOLOGY (MENTAL HEALTH)

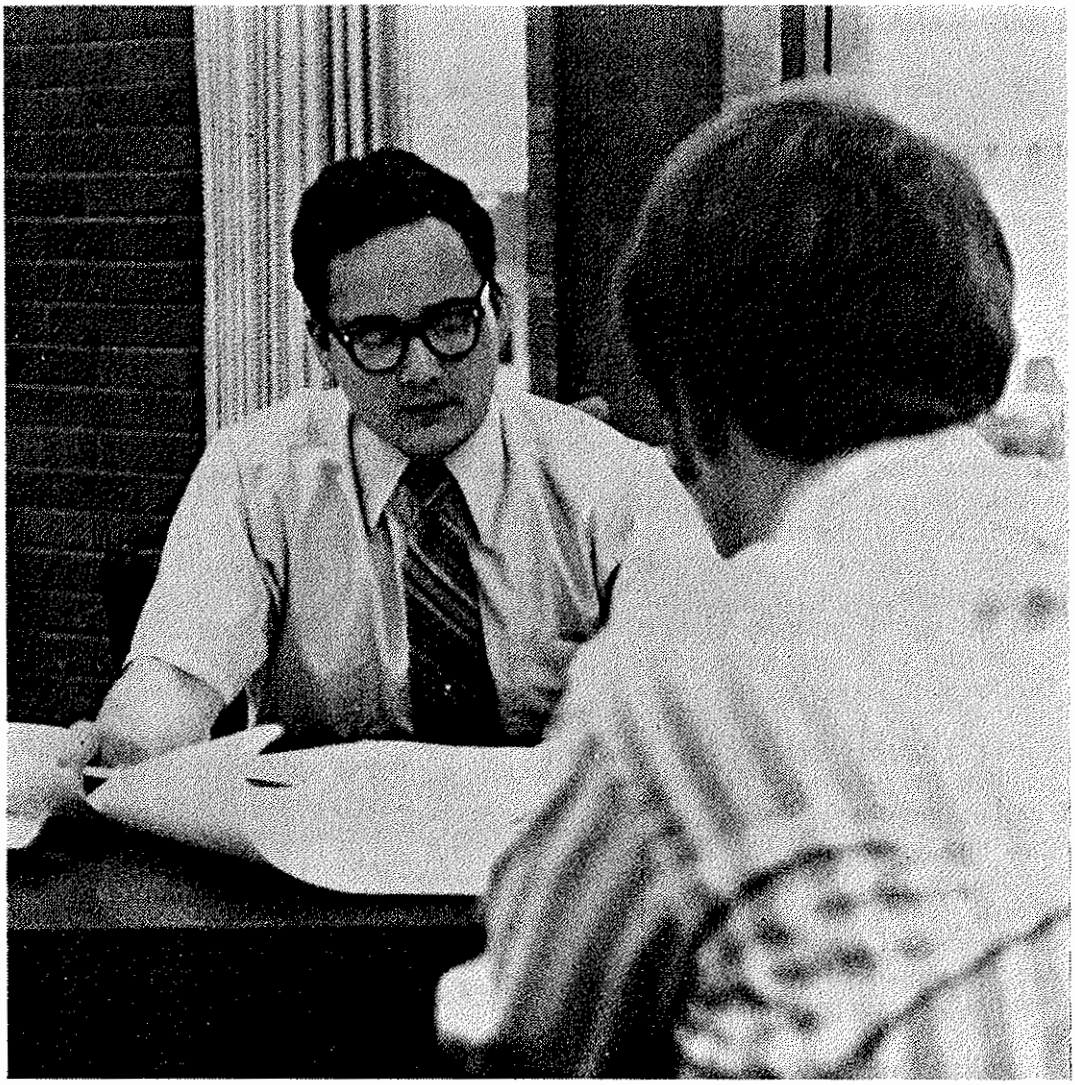
MEDICAL ASSISTANT (One Year)

PRACTICAL NURSING (One Year)

ASSOCIATE DEGREE NURSING (REGISTERED NURSING)

FIRE PROTECTION

LAW ENFORCEMENT
- Police Science
- Undergraduate General Studies In Law Enforcement
- Adult Law Enforcement



CAREERS IN BUSINESS TECHNOLOGY

BUSINESS—MID—MANAGEMENT
- Accounting
- Management
- Marketing

CLERICAL TECHNOLOGY (One Year)

DATA PROCESSING TECHNOLOGY
- Computer Operations (One Year)
- Computer Programming

INSURANCE TECHNOLOGY

REAL ESTATE TECHNOLOGY

SECRETARIAL SCIENCE
- Professional Secretary
- Medical Secretary

CHEMEKETA COMMUNITY COLLEGE

P.O. Box 1007
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BUSINESS–MID-MANAGEMENT

The two-year mid-management program offers an opportunity to specialize in the fields of accounting, management or marketing. These programs contain a core of essential business and general education courses for professional careers in business, industry or government.

Two-year options:

Accounting
Management
Marketing

Through individual counseling, through discussion with faculty advisors, through class contacts, and through cooperative work experience, staff members seek to make each student aware of his potentialities, his needs, and his interests.

The options prepare students for entry-level positions as junior executives, junior accountants, supervisory trainees and other business-oriented employment. The selection of courses helps a student to become familiar with varied aspects of the business world.

The combination of courses in each program is designed to give students the opportunity to begin and advance their careers, prepare for future educational opportunities and take more responsible positions in the community.

The student should follow the sequence of courses under each program. If a student desires a change in sequence, he should consult with the department chairman, a program coordinator or a counselor.

Chemeketa Community College adheres to the principles of an open door college. Many courses and programs are available—some within the range of the student's interests and abilities, some outside his interests, and some beyond his abilities. He need not choose what lies outside his interests, but on the other hand he should not choose what lies beyond his abilities. Being an open door college does not imply there is an open door curriculum. Some students may find it necessary to take longer than the two-year schedule because of work requirements or a lapse of time away from school necessitating a relearning of study skills.

Math Requirements—Proficiency in math is required for graduation. Business Mathematics 6.918 is the minimum achievement level. Placement in the initial math course is based on a math placement test. Any transfer math, Math 95 or higher, will be accepted in place of the business math.

English Requirements—Proficiency in English is required for graduation. The minimum achievement level is business correspondence. Placement in the initial course is based on an English placement test.

Typing Requirements—Proficiency in typing is required for graduation. Minimum achievement level is 30 words per minute. Students having no previous typing or students typing fewer than 30 words per minute must take typing. A typing test is given to determine proficiency. Students who have minimum typing skills may take an elective in place of typing.

Upon satisfactory completion of the requirements of one of the business mid-management options, the student is awarded an associate in science degree: required number of term units are shown following each option.

BUSINESS TECHNOLOGY–ACCOUNTING CURRICULUM

First Year

Class Hours	Lab Work	Course Title	Course No.	Term Units
Term 1				
3		English Variable (based on placement test) or General Education Elective (see above)		3
3		Math Variable (based on placement test) (see above)		3
3		Accounting Principles	BA 211	3
	2	Accounting Lab	6.926	1
4		Introduction to Business	2.502 or BA 101	4
	2	Introduction to Calculators	2.658	1
2	2	Introduction to Data Processing	6.940 or BA 131	3
2		Introduction to Real Estate	2.401	2
Term 2				
3		English Variable or General Education Elective		3
1	3	Typing or Elective (see above)	2.606 or SS 121	3
3		Math Variable (see above)		3
3		Accounting Principles	BA 212	3
	2	Accounting Lab	2.626	1
3		Introduction to Psychology	1.606 or PSY 201	3
Term 3				
1	3	Business Machines	2.660	2
3		Business Correspondence	2.672 or BA 214	3
3		Accounting Principles	BA 213	3
	2	Accounting Lab	6.926	1
3		Sociology	1.310 or SOC 204	3

3		Psychology of Human Relations	1.608 or PSY 202	3
3		Municipal and Governmental Accounting or Business Elective	2.559	3

Second Year

Term 4

3		Intermediate Accounting	2.551	3
3		Business Elective		3
3		Business Law	2.320 or BA 226	3
3		Finance	2.556 or BA 222	3
3		Income Tax Accounting	2.554 or BA 216	3

Term 5

3		Intermediate Accounting	2.552	3
3		Business Economics	1.524 or EC 201	3
3		Business Management Principles	2.501 or BA 206	3
3		Cost Accounting	2.576 or BA 215	3
1	8/12	Cooperative Work Experience or Business Elective	2.687 or 2.688 or FE 201	3/4

Term 6

3		Intermediate Accounting	2.553	3
3		Auditing	2.555	3
3		Report Writing	1.106 or WR 227	3
3		Speech	1.610 or SP 111	3
1	8/12	Cooperative Work Experience or Business Elective	2.687 or 2.688 or FE 201	3/4

98 hours required for an associate in science degree.

Maximum of 12 hours CWE may be applied toward graduation.

BUSINESS TECHNOLOGY–MANAGEMENT CURRICULUM

First Year

Class Hours	Lab Work	Course Title	Course No.	Term Units
Term 1				
3		English Variable (based on placement test) or General Education Elective (see above)		3
3		Math Variable (based on placement test) (see above)		3
3		General Accounting or Accounting Principles	6.923 BA 211	3
	2	Accounting Lab	6.926	1
4		Introduction to Business	2.502 or BA 101	4
	2	Introduction to Calculators	2.658	1
2	2	Introduction to Data Processing	6.940 or BA 131	3
2		Introduction to Real Estate	2.401	2
Term 2				
3		English Variable or General Education Elective (see above)		3
1	3	Typing or Elective (see above)	2.606 or SS 121	2
3		Math Variable (see above)		3
3		General Accounting or Accounting Principles	6.924 BA 212	3
	2	Accounting Lab	6.926	1
3		Psychology	PSY 201	3
Term 3				
1	3	Business Machines	2.660	2
3		Business Correspondence	2.672 or BA 214	3
3		General Accounting or Accounting Principles	6.925 BA 213	3
	2	Accounting Lab	6.926	1
2	2	Records Management	2.642	3
3		Sociology	SOC 204	3
3		Psychology	PSY 202	3

Second Year

Term 4

3		Business Management Principles	2.501 or BA 206	3
3		Business Economics	1.524 or EC 201	3
3		Business Law	2.320 or BA 226	3
3		Sociology	SOC 205	3
3		Business Elective		3

Term 5

3		Finance	2.556 or BA 222	3
3		Office Management	2.643	3
3		Report Writing	1.106 or WR 227	3
3		Cost Accounting	2.576 or BA 215	3
1	8/12	Cooperative Work Experience or Business Elective	2.687 or 2.688 or FE 201	3/4

Term 6				
3		Small Business Management..	2.557 or BA 250	3
3		Personnel Principles and Supervision	2.685	3
3		Credit Procedures	2.558	3
3		Public Speaking	1.610 or SP 111	3
3		Municipal and Governmental Accounting or Business Elective	2.559	3

98 hours required for an associate in science degree.

Maximum of 12 hours CWE may be applied toward graduation.

BUSINESS TECHNOLOGY–MARKETING CURRICULUM

First Year

Class Hours	Lab Work	Course Title	Course No.	Term Units
Term 1				
3		English Variable (based on placement test) or General Education Elective (see above)		3
3		Math Variable (based on placement test) (see above)..		3
3		General Accounting	6.923	
		or Accounting Principles	BA 211	3
	2	Accounting Lab	6.926	1
4		Introduction to Business	2.502 or BA 101	4
	2	Introduction to Calculators..	2.658	1
2	2	Introduction to Data Processing	6.940 or BA 131	3
2		Introduction to Real Estate..	2.401	2
Term 2				
3		English Variable or General Education Elective (see above)		3
3		Math Variable (see above) ...		3
3		General Accounting	6.924	
		or Accounting Principles	BA 212	3
	2	Accounting Lab	6.926	1
3		Psychology	PSY 201	3
3		Sociology	SOC 204	3
Term 3				
1	3	Business Machines	2.660	2
3		Business Correspondence	2.672 or BA 214	3
3		General Accounting	6.925	
		or Accounting Principles	BA 213	3
	2	Accounting Lab	6.926	1
3		Psychology	PSY 202	3
3		Principles of Marketing	2.104 or BA 223	3
		Typing or Elective		3

Second Year

Term 4				
3		Principles of Advertising	2.100 or BA 239	3
3	2	Retailing	2.108	4
3		Economics	1.524 or EC 201	3
1	8/12	Cooperative Work Experience or Business Elective	2.687 or 2.688 or FE 201	3/4
3		Sociology	SOC 205	3
Term 5				
3		Salesmanship	2.109	3
2	3	Merchandising	2.105	3
3		Business Law	2.320 or BA 226	3
3		Report Writing	1.106 or WR 227	3
3		Elective		3
1	8/12	Cooperative Work Experience or Business Elective	2.687 or 2.688 or FE 201	3/4
Term 6				
2	3	Buying	2.102	3
3		Case Problems in Marketing..	2.107	3
3		Public Speaking	1.610 or SP 111	3
3		Business Elective		3
1	8/12	Cooperative Work Experience or Business Elective	2.687 or 2.688 or FE 201	3/4

103 hours required for an associate in science degree.

Maximum of 12 hours CWE may be applied toward graduation.

CLERICAL TECHNOLOGY

The following curriculum has been designed to provide practical training for the person interested in working in one of the following occupations: general office clerk, receptionist, typist, stenographer, file clerk, dictating machine operator, or bookkeeper. It is recommended for those who like dealing with people and wishing to prepare for work in a minimum of time.

An advisor will work with student to develop a complete program to fit the student's needs for desired occupation.

It is recommended for those who like dealing with people and wishing to prepare for work in a minimum of time.

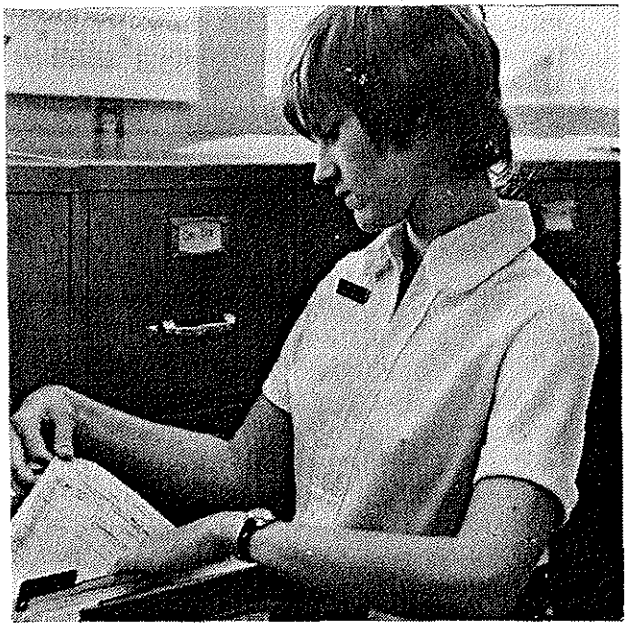
A certificate of completion is awarded to those students satisfactorily completing the required curriculum including core courses as listed and approved electives to prepare the student for the occupation of his choice for a minimum of 45 term units.

CLERICAL TECHNOLOGY CURRICULUM

Class Hours	Lab Work	Course Title	Course No.	Term Units
Term 1				
3		Math Variable (based on placement test)*		3
3		Business PAR	2.703	3
1	4	Typing, Basic	2.606 or SS 111	3
		Approved Electives		6
Term 2				
3		Business English	2.673	3
1	4	Typing, Intermediate	2.607 or SS 112	3
	2	Introduction to Calculators	2.658	1
3		Introduction to Psychology	1.606	3
		Approved Electives		6
Term 3				
3		Business Correspondence	2.672	3
1	1	Personal Development	2.518 or HE 250	1
2	2	Office Procedures	2.641	3
		Approved Electives		9

*Business Mathematics 2.653 required for graduation.

Approved electives: (A minimum of 21 required for graduation.) Approved electives will be selected from all business courses offered, cooperative work experience, or general education courses with approval of assigned advisor.



DATA PROCESSING TECHNOLOGY

The objective of the data processing curricula is to provide training for individuals preparing for entry-level positions in the field of data processing and for those already engaged in the field who desire additional training. The two programs of study are: computer operations (one-year curriculum) and computer programming technology (two-year curriculum).

The student-operated computer center, equipped with unit record equipment and an IBM/370 Model 125 computing system, provides training for students in a professional data processing environment with current technology.

Computer Operations

The computer operations curriculum provides for concentrated study and hands-on experience in computer center operation.

The college computer center is equipped with an IBM/370 Model 125 computing system and is operated by computer operations students. In this way, students receive hands-on experience in all positions of computer center operation, including: control clerk, console operator, scheduler, peripheral equipment operator, librarian and operations supervisor. Emphasis is placed on professional performance, including advanced operating standards and techniques, problem solving, recovery procedures and coordination with other people to achieve efficiency and reliability of results in a professional computer center.

During the second and third terms, students may be eligible for cooperative work experience, which allows students to gain computer operations experience at a local employer's installation and receive college credit.

A certificate of completion is awarded to individuals who satisfactorily complete the required courses. This certificate meets the minimum education/experience requirement to qualify for employment classification at the State of Oregon as a Computer Operator I.

Students must demonstrate an English and a math proficiency level equal to satisfactory completion of Communication Skills 1.101 and Business Mathematics 2.653, respectively. This may be demonstrated by achieving comparable scores on the English and math placement tests. Alternatively, successful completion of Communication Skills 1.101 or English Composition WR 111 fulfills the English proficiency requirement. The math requirement may be met by successful completion of Business Mathematics 2.653 or an equivalent approved by the student's academic advisor.

The minimum number of term units required for a certificate of completion is 55.

COMPUTER OPERATIONS CURRICULUM

Class Hours	Lab Work	Course Title	Course No.	Term Units
Term 1				
3		English Variable (based on placement test) or General Education Elective*		3
3		Math Variable (based on placement test) or General Education Elective*		3
3		General Accounting	6.923	
		or Accounting Principles	BA 211	3
	2	Accounting Lab	6.926	1
2	2	Introduction to Data Processing	6.940 or BA 131	3
	2	Introduction to Calculators	2.658	1
2	6	Computer Center Operation I	6.950	4
Term 2				
3		Technical Report Writing	1.106	
		or English Composition	WR 112	3
3		System 370 Concepts and Facilities	6.956	3
3		Computer Center Operation II (Select 6.993 or both 6.991 and 2.688)	6.951	3
	18	Computer Center Lab II	6.993	6
	9	Computer Center Lab II	6.991	3
1	12	Cooperative Work Experience**	2.688 or FE 201	4
		(Select One)		
2	2	Records Management	2.642	3
3		Office Management	2.643	3
3		Small Business Operation	2.557	3
Term 3				
4		Computer Center Operation III	6.952	4
3		DOS/VS Utility and Librarian Programs	6.975	3
3		Introduction to Systems and Procedures	6.944	3
2	3	Introduction to RPG II (Select 6.994 or both 6.992 and 2.688)	2.679	3
	18	Computer Center Lab III	6.994	6
	9	Computer Center Lab III	6.992	3
1	12	Cooperative Work Experience**	2.688 or FE 201	4

*See above discussion on English and math requirements.

**Students are eligible for CWE only if they have a grade average of 2.5 or better in all data processing courses completed and have the recommendation of the CWE instructor-coordinator for computer operations.

Computer Programming Technology

The computer programming technology curriculum provides for concentrated study and experience in all aspects of computer programming, including: programming languages (ANS COBOL, RPG II, Assembler and optionally, FORTRAN IV), systems analysis, problem solving, documentation standards, operating systems, accounting and management procedures.

This two-year program is designed to produce a professional computer programmer. For this reason, the courses are not simply comprised of theory and technical details. Emphasis is placed on performance of actual programming tasks designed to prepare the student for professional employment. With this in mind, it becomes apparent why accounting and management principles are also stressed, as well as systematic problem solving and working effectively with people.

During the second year of study, students may be eligible for cooperative work experience, which allows students to gain computer programming experience at a local employer's installation and receive college credit.

An associate in science degree is awarded to individuals who satisfactorily complete the required courses. This degree meets the minimum education/

experience requirement to qualify for employment classification at the State of Oregon as a Computer Programmer I.

There are three English requirements:

1. Students must demonstrate a proficiency level equal to satisfactory completion of Communication Skills 1.101. This may be demonstrated by achieving a comparable score on the English placement test or by successful completion of Communication Skills 1.101 or English Composition WR 111.
2. Students must successfully complete one of the following speech courses:
   Public Speaking 1.610
   Fundamentals of Speech SP 111 or SP 112
3. Students must successfully complete one of the following writing courses:
   Technical Report Writing 1.106
   English Composition WR 112 or WR 113

A math proficiency level equal to satisfactory completion of Math 10 Beginning Algebra must be demonstrated prior to enrolling in Data Processing Math 6.941. This may be demonstrated by achieving a comparable score on the math placement test.

The minimum number of term units required for the associate in science degree is 101.

COMPUTER PROGRAMMING TECHNOLOGY CURRICULUM

First Year

Class Hours	Lab Work	Course Title	Course No.	Term Units
Term 1				
3		English Variable (based on placement test) or General Education Elective*		3
3		Math Variable (based on placement test) or General Education Elective*		3
3		General Accounting	6.923	
		or Accounting Principles	BA 211	3
	2	Accounting Lab	6.926	1
2	2	Introduction to Data Processing	6.940 or	
			BA 131	3
4		Introduction to Business	2.502	4
2		Fundamentals of Computer Programming	6.948	2
Term 2				
3		English Variable (based on placement test) or General Education Elective*		3
3		General Accounting	6.924	
		or Accounting Principles	BA 212	3
	2	Accounting Lab	6.926	1
3		Data Processing Math	6.941	3
3		System 370 Concepts and Facilities	6.956	3
		(Select One)		
3	6	COBOL I	6.961	5
3	3	Business Data Processing	BA 231	4
Term 3				
3		English Variable (based on placement test) or General Education Elective*		3
3		General Accounting	6.925	
		or Accounting Principles	BA 213	3
	2	Accounting Lab	6.926	1
3		Introduction to Systems and Procedures	6.944	3
3		System 370 DOS/VS Job Control	6.949	3
3	6	COBOL II	6.963	5

Second Year

Term 4				
3		Cost Accounting	2.576	3
2	2	Utilities and Data Management	6.965	3
3	6	Assembler I	6.969	5
3		Systems Analysis	6.945	3
		(Select One)		
3		Business Elective		3
1	8	Cooperative Work Experience**	2.687 or	
1	12	Cooperative Work Experience**	2.688 or	
			FE 201	4

Class Hours	Lab Work			
Term 5				
3		General Education Elective..		3
3		Business Economics	1.525	
		or Principles of Economics ..	EC 201	3
3	6	COBOL III	6.964	5
1	5	Systems Generation	6.973	3
		(Select One)		
3		Business Elective		3
1	8	Cooperative Work Experience**	2.687 or FE 201	3
1	12	Cooperative Work Experience**	2.688 or FE 201	4
Term 6				
3		Social Science Elective		3
2	2	RPG II for Programmers	6.988	3
2		Data Communications	6.976	2
3	6	Assembler II	6.970	5
		(Select One)		
3		Business Elective		3
1	8	Cooperative Work Experience**	2.687 or FE 201	3
1	12	Cooperative Work Experience**	2.688 or FE 201	4

*See above discussion on English and math requirements.

**Students are eligible for CWE only if they have a grade average of 2.5 or better in all data processing courses completed and have the recommendation of the CWE instructor-coordinator for computer programming.

Note: The following courses may be offered, depending on demand, and could satisfy business education electives.

3		FORTRAN IV	6.962	3
3	3	FORTRAN Programming	CS 233	4
3		FORTRAN for Users	2.678	3
3		PL/I	6.959	3
1	4	Keypunch I	6.979	3
1	4	Keypunch II	6.980	3
3		Data Processing Management	6.946	3
3		Introduction to Operations Research	6.981	3
3		OS Concepts and Facilities ..	6.971	3
3		OS Job Control Language	6.972	3
3		OS Utilities and Data Management	6.985	3
3		Forms Design and Procedure Writing	6.982	3
2	3	Applied RPG II	2.681	3

INSURANCE

This program is designed primarily for persons who are seeking full-time employment in the insurance industry immediately upon completion of the program. The person seeking his first employment in insurance as well as the person presently in insurance will benefit from the curriculum.

Some of the opportunities in industry are in the following areas:

Operations:
- Underwriter trainee

Claims:
- Property and liability adjuster trainee
- Physical damage appraiser
- Office claims representative

Agency:
- Agent—life and health
- Agent—multiple line

Math requirements—Proficiency in math is required for graduation. Business Mathematics 6.918 is the minimum achievement level. Placement in the initial math course is based on a math placement test. Any transfer math, Math 95 or higher, will be accepted in place of the business math.

English requirements—Proficiency in English is required for graduation. The minimum achievement level is business correspondence. Placement in the initial course is based on an English placement test.

Typing requirements—Proficiency in typing is required for graduation. Minimum achievement level is 30 words per minute. Students having no previous typing or students typing fewer than 30 words per minute must take typing. A typing test is given to determine proficiency. Students who have minimum typing skills may take an elective in place of typing.

Cooperative work experience or elective requirements—The maximum CWE applied toward graduation is six credits.

INSURANCE CURRICULUM

First Year

Class Hours	Lab Work	Course Title	Course No.	Term Units
Term 1				
3		English Variable or General Education Elective (see above)		3
3		Math Variable (see above) ...		3
3		General Accounting	6.923	
		or Accounting Principles	BA 211	3
	2	Accounting Lab	6.926	1
4		Introduction to Business	2.502 or BA 101	4

2	2	Introduction to Data Processing	6.940 or BA 131	3
	2	Introduction to Calculators	1.658	1
Term 2				
3		English Variable or General Education Elective (see above)		3
3		Math Variable (see above)		3
1	3	Typing or Elective	2.606 or SS 111	2
3		Introduction to Insurance	2.341	3
3		Economics	1.524 or EC 201	3
3		Psychology	1.606 or PSY 201	3
Term 3				
3		Insurance—Life and Health	2.343	3
1		Insurance Occupational Survey Seminar	2.344	1
3		Sociology	1.310 or SOC 204	3
3		Business Law	2.320 or BA 226	3
3		Principles of Marketing	2.104 or BA 223	3
3		Speech	1.610 or SP 111	3

Second Year

Term 4				
3		IIA—Insurance 21	2.342	3
3		Policies and Forms I Property and Liability	2.227	3
3		Investments	2.230	3
2		Introduction to Real Estate	2.401	2
3		Psychology or Sociology	1.608 or PSY 202 or 1.310 or SOC 205	3
1		Regulations/Law (Oregon Insurance Code)	2.226	1
		Cooperative Work Experience or Elective (see above) (optional)		3/4
Term 5				
3		IIA—Insurance 22—Property	2.120	3
3		Policies and Forms II Life and Health	2.228	3
3		Insurance Marketing	2.229	3
3		Management by Objectives	2.644	3
3		Rating and Underwriting I Property and Liability	2.223	3
		Cooperative Work Experience or Elective (see above)		3/4
Term 6				
3		IIA—Insurance 23	2.121	3
3		Rating and Underwriting II Life and Health	2.222	3
3		Group and Social Insurance	2.225	3
3		Risk/Management Analysis	2.231	3
3		State and Local Governments	PS 203	3
		Cooperative Work Experience or Elective (see above)		3/4

105 hours required for graduation.

REAL ESTATE

This curriculum places emphasis on developing a broad background in real estate. The student is exposed to principles, law, zoning, appraising, escrow, subdivision, finance and taxation. The graduate will have an understanding of the industry as a whole and no matter which phase of the industry he may choose, he will understand the overall complexity of any real estate transactions.

Men and women with technical training in this curriculum serve in many capacities. They may find employment in county assessors' offices, county recorders' offices, city planning departments, federal housing administration, veterans

affairs, title insurance companies, escrow departments, engineering and sanitation departments, state highway departments, mortgage companies, mutual savings banks, insurance companies, savings and loan associations, commercial banks, state tax commissions, federal land banks, farm credit administration, building and subdivision firms, work in real estate counseling, real estate brokerage and appraising offices.

Math requirements—Proficiency in math is required for graduation. Applied Mathematics in Real Estate 2.405 is the minimum achievement level. Placement in an initial math course is based on a math placement test. The normal sequence is Business Mathematics 2.650, Business Mathematics 2.653 and Applied Mathematics in Real Estate 2.405.

English requirements—Proficiency in English is required for graduation. The minimum achievement level is Business English Fundamentals 2.673. The normal sequence would be Communication Skills 1.101, Business English Fundamentals 2.673. Placement in the initial course is based on an English placement test.

Typing requirements—Proficiency in typing is required for graduation. Minimum achievement level is 30 words per minute. Students having no previous typing or students typing fewer than 30 words per minute must take typing. A typing test is given to determine proficiency. Students who have minimum typing skills may take an elective in place of typing.

REAL ESTATE CURRICULUM

First Year

Class Hours	Lab Work	Course Title	Course No.	Term Units
Term 1				
3		English Variable (based on placement test) General Education Elective (Communication Skills 1.101 or WR 111)		3
3		Math Variable (based on placement test)		3
3		General Accounting	6.923	
		or Accounting Principles	BA 211	3
	2	Accounting Lab	6.926	1
4		Introduction to Business	2.502 or BA 101	4
	2	Introduction to Calculators	2.658	1
2	2	Introduction to Data Processing	6.940 or BA 131	3
2		Introduction to Real Estate	2.401	2
Term 2				
3		English Variable		3
3		Math Variable		3
1	3	Typing or Elective	2.606 or SS 121	3
3		Business Law	2.320 or BA 226	3
3		Real Estate Principles and Practices I	2.400	3
3		Psychology	1.606 or PSY 201	3
Term 3				
3		Real Estate Law	2.402	3
3		Real Estate Finance	2.406	3
3		Applied Mathematics in Real Estate	2.405	3
3		Real Estate Principles and Practices II	2.414	3
3		Speech	1.610 or SP 111	3

Second Year

Term 4				
3		Escrow Procedures I	2.423	3
3		Real Estate Appraisal I	2.408	3
3		Real Estate Salesmanship and Promotion	2.420	3
1	4	Elements of Design and Construction	2.418	3
		Cooperative Work Experience or Elective		3/4
Term 5				
3		Escrow Procedures II	2.424	3
3		Real Estate Appraisal II	2.409	3
3		Zoning, Community Planning and Subdivision	2.425	3
3		Fundamentals of Real Estate Taxation	2.416	3
2		Property Management	2.422	2
		Cooperative Work Experience or Elective		3/4
Term 6				
3		Escrow Procedures III	2.426	3
3		Real Estate Appraisal III	2.411	3
3		Fundamentals of Exchanging	2.417	3
2	3	Construction Estimating	6.110	3
3		Commercial and Investment Properties	2.419	3
		Cooperative Work Experience or Elective		3/4

103 hours required for graduation.

Maximum of 12 hours CWE may be applied toward graduation.

SECRETARIAL SCIENCE

Associate in science degree curriculums:
Professional Secretary
Medical Secretary

The two-year curriculums in secretarial science are designed to meet the needs of persons preparing for employment in the stenographic or secretarial field. The programs also provide opportunities for those persons already engaged in business to obtain further training that will help them advance in their employment. A selection of courses is offered enabling students interested in secretarial work to become highly skilled.

Those students choosing to complete two years of training have the option of professional secretary or medical secretary. The responsibilities of both of these secretaries are varied and vital to the inner workings of the company or institution for which he or she works. Jobs are interesting and challenging. The importance of the job increases because the secretary works closely with management-level personnel and is exposed to policy-making decisions.

Upon satisfactory completion of the requirements in the secretarial science program, the student is awarded an associate in science degree. Required term units are indicated following the program curriculum.

PROFESSIONAL SECRETARY CURRICULUM

First Year

Class Hours	Lab Work	Course Title	Course No.	Term Units
Term 1				
3		English Variable (based on placement test) or General Education Elective*		3
3		Math Variable (based on placement test)**		3
2	3	Shorthand	2.620 or SS 111	3
1	4	Typing, Basic	2.606 or SS 121	3
4		Introduction to Business	2.502 or BA 101	4
Term 2				
3		English Variable or General Education Elective		3
2	3	Shorthand and Transcription	2.621 or SS 112	3
1	3	Copying Processes	2.661	2
2	2	Records Management	2.642	3
3		Introduction to Psychology	1.606 or PSY 201	3
	2	Introduction to Calculators	2.658	1
1	4	Typing, Intermediate	2.607 or SS 122	3
Term 3				
3		Business Correspondence	2.672 or BA 214	3
2	3	Shorthand and Transcription	2.622 or SS 113	3
1	4	Typing, Advanced	2.608 or SS 123	3
2	2	Office Procedures	2.641	3
1	1	Personal Development	2.518 or HE 250	1
2	2	Introduction to Data Processing	6.940 or BA 131	3

Second Year

Term 4				
2	2	Secretarial Practicum	2.710	3
3		General Accounting or Accounting Principles	6.923 BA 211	3
	2	Accounting Lab	6.926	1
1	4	Transcribing Machine Operation	2.663	3
1	4	Business Machines	2.660	3
3		Business Law	2.320 or BA 226	3
2	3	Speed Building	2.549 or SS 211	3
Term 5				
2	3	Special Dictation and Transcription	2.537 or SS 212	3
3		Business Economics	1.524 or EC 201	3
3		General Accounting or Accounting Principles	6.924 BA 212	3
	2	Accounting Lab	6.926	1
1	8	Cooperative Work Experience or Business Elective***	2.687	3
3		Report Writing	1.106	3
3		Office Management	2.643	3
Term 6				
2	3	Special Dictation and Transcription	2.538 or SS 213	3
3		Psychology of Human Relations	1.608	3
3		General Education Elective		3
3		General Accounting or Accounting Principles	6.925 BA 213	3
	2	Accounting Lab	6.926	1
1	8	Cooperative Work Experience or Business Elective***	2.687	3

*Proficiency in the following prerequisites to business correspondence must be demonstrated.

. . . Communication Skills	1.101
. . . Business English	2.673

Placement in the initial course is based on an English placement test.

**Business Mathematics 2.653 required for graduation.

***Cooperative Work Experience recommended for one term only.

Minimum term units required for an associate in science degree—105.

MEDICAL SECRETARY CURRICULUM

First Year

Class Hours	Lab Work	Course Title	Course No.	Term Units
Term 1				
3		English Variable (based on placement test) or General Education Elective*		3
3		Math Variable (based on placement test)**		3
2	3	Shorthand	2.620 or SS 111	3
1	4	Typing, Basic	2.606 or SS 121	3
4		Introduction to Business	2.502 or BA 101	4
Term 2				
3		English Variable or General Education Elective		3
1	4	Typing, Intermediate	2.607 or SS 122	3
2	3	Shorthand and Transcription	2.621 or SS 112	3
1	4	Copying Processes	2.661	3
2	2	Records Management	2.642	3
3		Introduction to Psychology	1.606 or PSY 201	3
	2	Introduction to Calculators	2.658	1
Term 3				
3		Business Correspondence	2.672 or BA 214	3
2	3	Shorthand and Transcription	2.622 or SS 113	3
1	4	Typing, Advanced	2.608 or SS 123	3
2	2	Office Procedures	2.641	3
1	1	Personal Development	2.518 or HE 250	1
3	3	Basic Sciences for Health Occupations	5.601	4

Second Year

Class Hours	Lab Work	Course Title	Course No.	Term Units
Term 4				
3		Medical Terminology	5.600	3
2	3	Speed Building (shorthand)	2.549	3
2	2	Medical Secretary Practicum	2.566	3
3		General Accounting or Accounting Principles	6.923 BA 211	3
	2	Accounting Lab	6.926	1
1		Health Occupations Overview	5.700	1
Term 5				
2	3	Special Dictation and Transcription	2.567	3
3		Business Economics	1.524	3
3		Body Structure and Function	5.608	3
3		Medical Terminology and	5.610	3
1	3	Medical Machine Transcription	2.569	2
		or		
1	16	Cooperative Work Experience ***	2.689	5
3		Elective		3
Term 6				
2	3	Special Dictation and Transcription	2.568	3
3		Elective		3
3		Medical Science	5.605	3
1	16	Cooperative Work Experience ***	2.689	5
		or		
3		Medical Terminology and	5.610	3
1	3	Medical Machine Transcription	2.569	2
3		Business Law	2.320	3

*Proficiency in the following prerequisites to business correspondence must be demonstrated.

. . . Communication Skills	1.101
. . . Business English	2.673

Placement in the initial course is based on an English placement test.

**Business Mathematics 2.653 required for graduation.

***Cooperative work experience recommended for one term only.

Minimum term units required for an associate in science degree—100.

CHEMEKETA COMMUNITY COLLEGE

P.O. Box 1007
(4000 Lancaster Dr. NE)
Salem, Oregon 97308

CAREERS IN EARLY CHILDHOOD EDUCATION

EARLY CHILDHOOD EDUCATION

This program is planned for persons of all ages, regardless of background. It is designed to train people as child care aides and assistants, to help parents guide children and to improve home and family life. Many of the courses are excellent electives for parents or others who work with children.

The two-year program leads to an associate in science degree. National trends indicate increasing employment opportunities, as subsidized day care and greater understanding of the importance of early development increases. Graduates may work in nursery schools, kindergartens, Head Start programs, day care centers and as paraprofessional members of teams in public schools.

A certificate of completion in early childhood education can be granted upon completion of first year of the program, and supervised field experience.

Associate in science degree: required 96 term units.

EARLY CHILDHOOD EDUCATION CURRICULUM

First Year

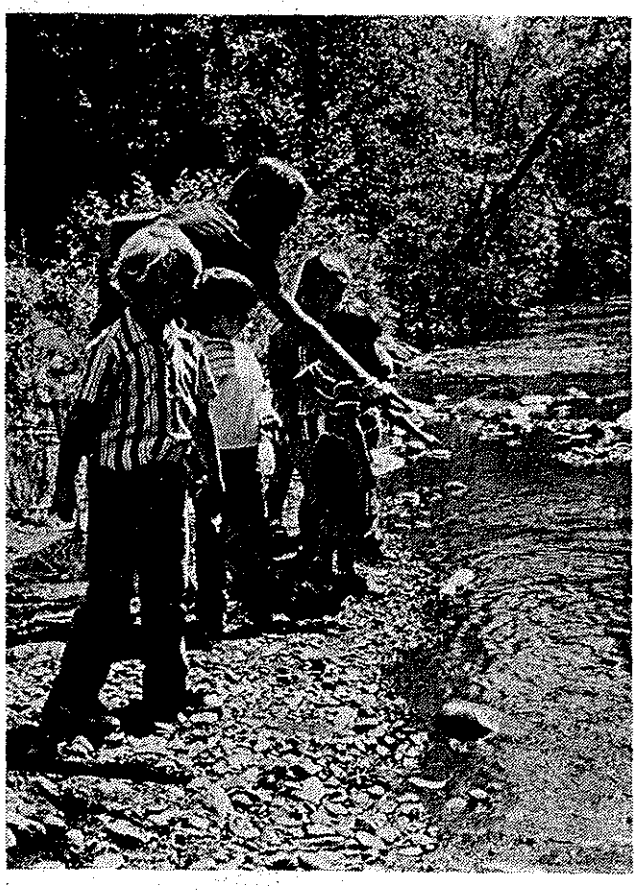
Class Hours	Lab Work	Course Title	Course No.	Term Units
Term 1				
3		Development in Childhood I	7.119	3
2	2	Introduction to Early Childhood Education	7.129	3
3		Communication Skills I	1.101 or English Composition WR 111	3
3		Introduction to Psychology	1.606 or General Psychology PSY 201	3
2	2	*Personal Development Dynamics	7.133 or Personal Health HE 250	3
Term 2				
3		Development in Childhood II	7.120	3
2	2	Observing and Guiding Behavior I	7.131	3
3		Concerns of Parenthood	7.118	3
3		Communication Skills II	1.104 or English Composition WR 112	3
3		Psychology of Human Relations	1.608 or General Psychology PSY 202	3
		Sociology Elective		3
Term 3				
2	4	Observing and Guiding Behavior II	7.132	4
3		Child Nutrition	7.115	3
3		Special Studies in First Aid	HE 199C	3
3	2	Creative Activities	7.136	4
3		Home, Family, Career Management	7.128	3

Second Year

Class Hours	Lab Work	Course Title	Course No.	Term Units
Term 4				
3		Children's Literature	7.117	3
4		Early Childhood Curriculum Methods I	7.123	4
3		Family Living	7.127	3
1	9	Supervised Field Experience	7.134	4
3		General Education Elective		3
Term 5				
3		The Exceptional Child	7.125	3
3		Music for Young Children	7.130	3
4		Early Childhood Curriculum Methods II	7.124	4
2	12	Directed Participation I	7.121	6
3		General Education Elective		3
Term 6				
3		Family-Community Relationships	7.126	3
3		Administration of Child Care Centers	7.113	3
2	15	Directed Participation II	7.122	7

*If 7.133 is selected, 1 credit of physical education should be elected.

Note: Supervised Field Experience 7.134 may be included in the first year curriculum with department chairman approval.



CAREERS IN FOOD SERVICE

(One Year)

CHEMEKETA COMMUNITY COLLEGE

P.O. Box 1007
(4000 Lancaster Dr. NE)
Salem, Oregon 97308

FOOD SERVICE

This one-year program is designed primarily for training food service personnel in quality food production and service. Upon completion of the instruction the student will be prepared to enter the hospitality-food industry as a useful and valuable employee. Our program is designed to meet the needs of persons requiring training and to satisfy the requirements of the industry for which the training is designed. The flexibility of the program will allow for preparatory training for those who are getting ready to enter the food trades industry, and supplementary training for those already employed in the occupation who wish to increase their knowledge and skill. A certificate of completion is awarded to those individuals who have satisfactorily completed the required courses. Upon satisfactory completion of the program work may be found in restaurants, hotels, hospitals, country clubs, military installations, institutions, and large plant feeding complexes.

FOOD SERVICE CURRICULUM

First Year

Class Hours	Lab Work	Course Title	Course No.	Term Units
Term 1				
7	28	Food Preparation Techniques I Introduction to Food Service Food Laboratory Use and Care of Equipment Sanitation and Safety Nutrition Waiter/Waitress Training	3.201	15
Term 2				
7	12/19	Food Preparation Techniques II Food Laboratory Use and Care of Equipment Sanitation and Safety Nutrition Waiter/Waitress Training	3.202	13
1	8/15	Cooperative Work Experience	2.687 2.688 2.689	3/5 16/18
Term 3				
7	12/19	Food Preparation Techniques III Food Laboratory Use and Care of Equipment Sanitation and Safety Nutrition and Menu Planning Waiter/Waitress Training	3.203	13
1	8/15	Cooperative Work Experience	2.687 2.688 2.689	3/5 16/18

Food Preparation Techniques I, II and III

Basic principles of cooking with emphasis on short order and quantity. The course combines both theory and practice and an understanding of the role of quality food and quality service in student participation in the school food service program.

Introduction to Food Service

Orientation into the industry—its background, magnitude, organization, challenges and opportunities for service.

Food Laboratory

Students spend eight hours a week in actual food preparation and cooking.

Use and Care of Equipment

Care of physical property maintenance and operation of appropriate equipment.

Sanitation and Safety

Sanitation in the industry, bacteriology, housekeeping, pest control, personal hygiene and safety procedures.

Nutrition

Relationship of good consumption to the development and maintenance of health.

Menu Planning and Nutrition

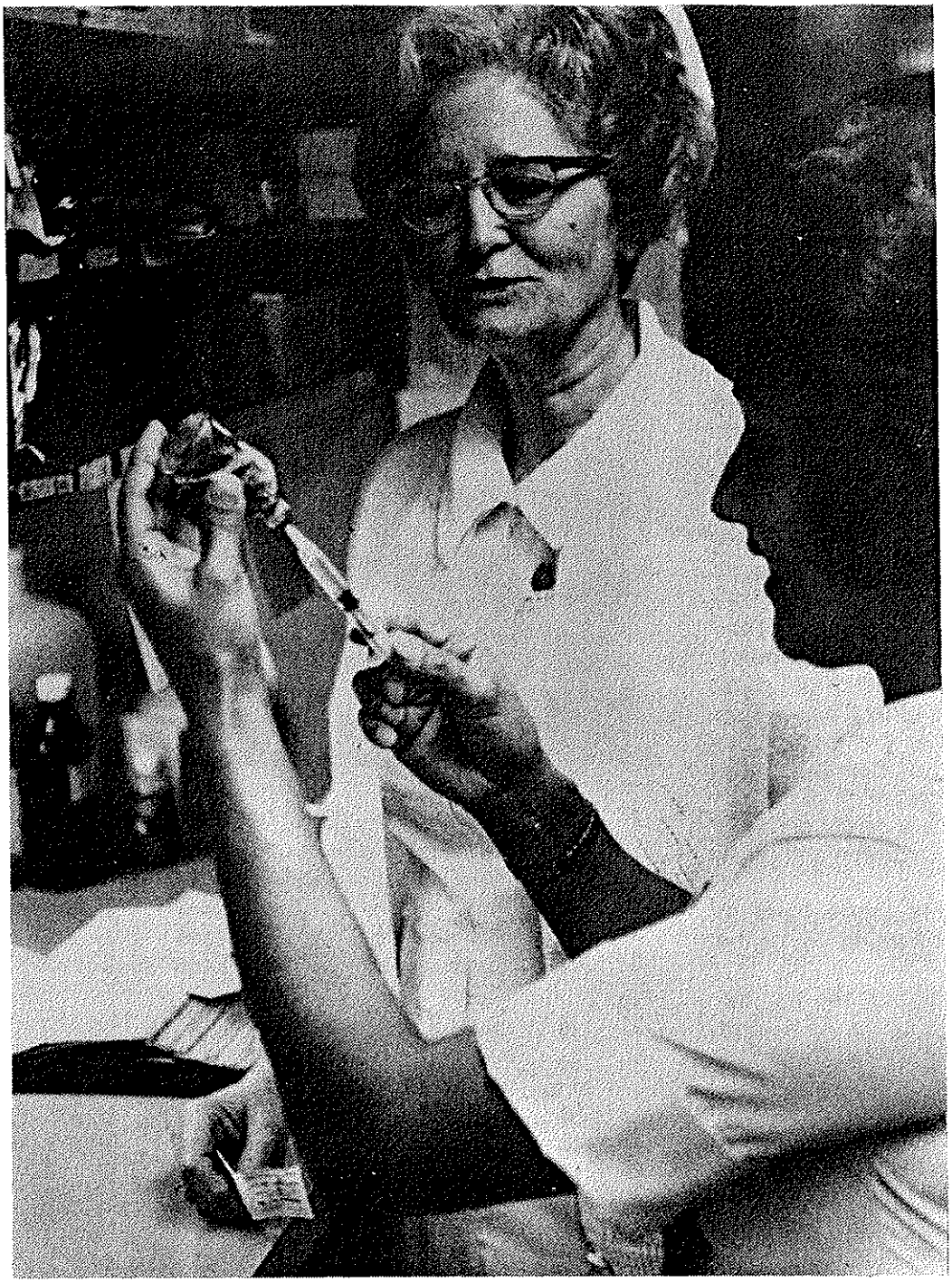
The basic principles of the nutritional food values as they relate to meal planning for individual meals or a weekly or monthly menu.

Waiter/Waitress Training

Practical experience in the service area of the food industry to develop the proper attitude and skills.

Second Year

The second-year curriculum of this program is in the final stages of development and will be announced as an adendum to this catalog at a later date.



CHEMEKETA COMMUNITY COLLEGE

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CAREERS IN HEALTH OCCUPATIONS

DENTAL ASSISTANT (One Year)
HUMAN RESOURCE TECHNOLOGY (Mental Health)
MEDICAL ASSISTANT (One Year)
PRACTICAL NURSING (One Year)
ASSOCIATE DEGREE NURSING (Registered Nursing)

DENTAL ASSISTANT

This one-year program provides the technical preparation necessary to qualify for employment in dental offices, laboratories and clinics. It also provides an opportunity for those already working in the field to further develop knowledge and skills. The program is accredited by the American Dental Association Council on Dental Education.

The student acquires proficiency in assisting the dentist in a variety of capacities in the private office or in a dental health clinic through selected activities including clinical and field trip experiences.

Typical duties include preparation of patients for treatment, mixing restoration materials and dental cement, checking and sterilizing equipment, taking inventories and ordering supplies. Laboratory duties include pouring study models of teeth, casting inlays and exposing and developing X-ray films. In the capacity of office manager, the dental assistant acts as receptionist, schedules appointments, keeps accounts and records, sends out statements and is responsible for the general appearance of the office. Exapnded duties are included as approved by the Oregon Board of Dental Examiners. Upon completion of the course of study, the graduate is qualified to assist in a dental office or clinic with a minimum of familiarization and orientation by the dentist.

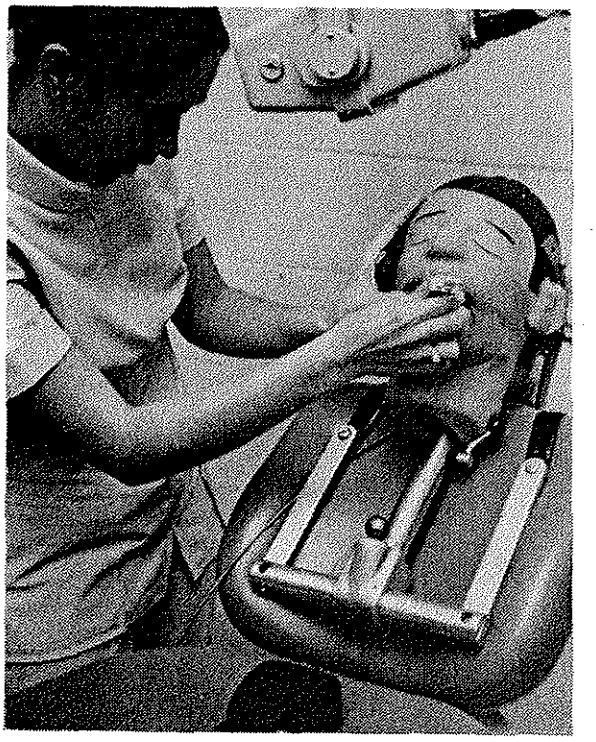
Prior to graduation, students are required to take an examination for certification in dental X-ray.

Upon satisfactory completion of the requirements in the Dental Assistant program the student is awarded a certificate of completion. Graduates are eligible to take the national certification examination of the American Association of Dental Assistants.

Applicants must be graduates of an accredited high school or the equivalent and meet the college requirements for entrance. The assistant should be neat, clean and in good health. A pleasant personality is essential in dealing with patients. She should be able to meet people, put them at ease and to express herself clearly and pleasantly.

DENTAL ASSISTANT CURRICULUM

Class Hours	Lab Work	Course Title	Course No.	Term Units
Term 1				
1		Health Occupations Overview	5.700	1
3	3	Basic Sciences for Health Occupations	5.601	4
3		Business Mathematics	2.650	3
2	3	Dental Anatomy and Physiology	5.405	3
3	4	Introductory Concepts in Dental Assisting	5.411	5
3		Communication Skills	1.101	3
3		Introduction to Psychology	1.606	3
Term 2				
2	6	Chairside Assisting and Basic Dental Lab Procedures	5.403	4
	3	Applied Roentgenology	5.408	1
3	3	Dental Sciences	5.404	4
2	3	Dental Office Management	5.410	3
	3	Expanded Duties I	5.401	1
3		Psychology of Human Relations	1.608	3
Term 3				
2	3	Advanced Dental Laboratory Procedures	5.407	3
	3	Applied Roentgenology	5.413	1
3		Dental Office Correspondence	5.412	3
	16	Dental Office Practice	5.409	3
	3	Expanded Duties II	5.402	1
1	4	Typing*	2.607	3



*Typing is a prerequisite, with a proficiency of 35 words per minute minimum. A student not meeting this requirement will need to arrange for Typing 2.606 or equivalent prior to enrolling in Typing 2.607.

HUMAN RESOURCE TECHNOLOGY
(Mental Health Technology)

The two-year human resource technology program grants an associate in science degree and combines academic course work with field placement experiences in each quarter. A significant number of courses within the program are transferable to Oregon's four-year colleges.

Upon successful completion of this curriculum the student has developed basic skills of observation, interviewing, counseling (individual and group) and gained a working knowledge of the health and welfare services offered by the community.

This program prepares the student to accept paraprofessional level positions with many human service agencies throughout the State of Oregon.

Applicants must meet the admission criteria for both the college and the human resource technology program.

Associate in science degree: requires 93 term units.

HUMAN RESOURCE TECHNOLOGY CURRICULUM

First Year

Class Hours	Lab Work	Course Title	Course No.	Term Units
Term 1				
3		Psychology	1.606 or PSY 201	3
3		Sociology	1.310 or SOC 204	3
3		Communication Skills	1.101 or WR 111	3
3		Personal Health	HE 250	3
1		Health Occupations Overview	5.700	1
3		Human Resource Technology I	5.436	3
	9/24	Practicum Experience	5.443-8	3-8
Term 2				
3		Psychology	1.608 or PSY 202	3
3		Sociology	SOC 205	3
3		Communication Skills	1.104 or WR 112 or 1.106 or SP 111	3
3		Growth and Development	5.524	3
3		Human Resource Technology II	5.437	3
	9/24	Practicum Experience	5.443-8	3-8
Term 3				
3		Psychology	PSY 203	3
3	3	General Sociology	SOC 206	3
3		Communication Skills	WR 113 or SP 111 or 1.610 or SP 112	3
3		Human Resource Technology III	5.438	3
	9/24	Practicum Experience	5.443-8	3-8

Second Year

Term 4				
3		Elective		3
3		Human Resource Technology IV	5.439	3
	9/24	Practicum Experience	5.443-8	3-8
Term 5				
3		Elective		3
3	3	Science/Math Elective		4
3		Human Resource Technology V	5.440	3
	9/24	Practicum Experience	5.443-8	3-8
Term 6				
4		State and Local Government	PS 203 or HST 256	3
3		Gerontology	5.525	3
3		Human Resource Technology VI	5.441	3
	9/24	Practicum Experience	5.443-8	3-8

MEDICAL ASSISTANT

Medical assistants are individuals who assist qualified physicians in their offices or other medical settings, performing delegated administrative and/or clinical duties.

Medical assistants have a wide range of duties in many aspects of the physician's practice. Their business-administrative duties include scheduling and receiving patients, obtaining patients' data, maintaining medical records, handling telephone calls, correspondence, purchasing and maintaining supplies and equipment and assuming responsibility for office care, insurance matters, office accounts, fees and collections.

Their medical duties include assisting with examinations and treatments, taking medical histories, performing certain diagnostic tests, carrying out those laboratory procedures that can be done in a physician's office and sterilizing instruments and equipment.

The medical assistant program develops understanding for the professional nature of the physician's practice and a respect for human dignity and rights of those who seek his service. It develops the skills needed to function safely and effectively as a health team member.

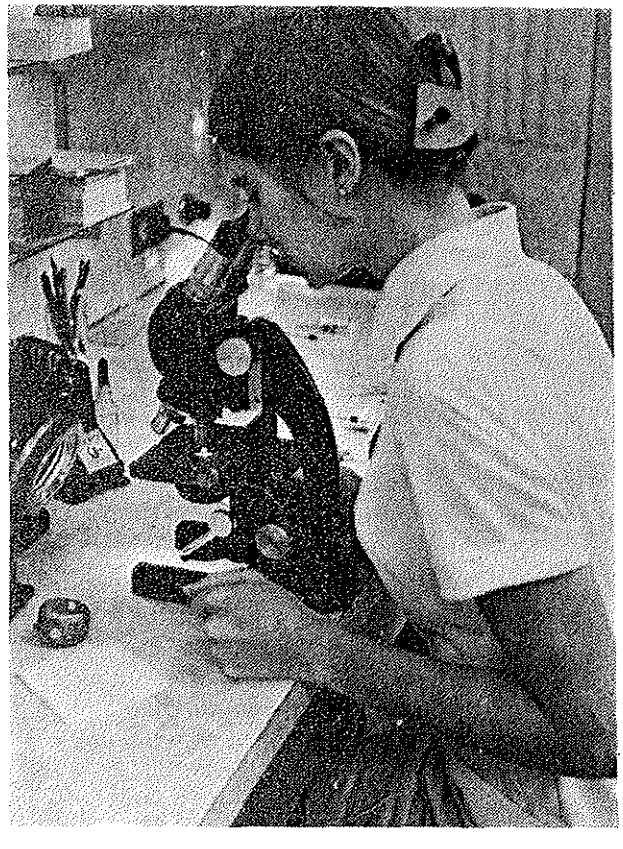
The one-year curriculum includes general education subjects, orientation to the health occupations, basic sciences and technically orientated courses in medical and office procedures including field trip experiences. The concluding term of the program includes an externship phase in approved clinical settings.

Applicants must meet the admission criteria for the college and the medical assistant program.

A certificate of completion is awarded upon satisfactory completion of the program. After a suitable period of successful employment, the American Association of Medical Assistants certifies graduates by examination.

MEDICAL ASSISTANT CURRICULUM

Class Hours	Lab Work	Course Title	Course No.	Term Units
Term 1				
2	2	Medical Assisting Basic Procedures	5.602	3
1		Health Occupations Overview	5.700	1
3		Communication Skills	1.101	3
3		Business Mathematics	2.650	3
3	3	Basic Sciences for Health Occupations	5.601	4
1	4	Typing*	2.607	3
3		Medical Terminology	5.600	3
Term 2				
2	2	Body Structure and Function	5.608	3
3		Medical Office Procedures	5.604	3
1		First Aid	5.513	1
3		Introduction to Psychology	1.606	3
1	2	Medical Transcription	5.603	2
3		Medical Office Management	5.607	3
2		Medical Law and Ethics	5.611	2
Term 3				
3		Medical Science	5.605	3
2	2	Medical Assisting, Advanced Procedures	5.606	3
	16	Medical Office Practice	5.609	3
3		Elective		3



*Typing is a prerequisite, with a proficiency of 35 words per minute minimum. A student not meeting this requirement will need to arrange for Typing 2.606 or equivalent prior to enrolling in Typing 2.607.

PRACTICAL NURSING

The practical nurse is a person prepared in an approved education program and is qualified for nursing practice by licensure of a state board of nursing. She participates in direct patient care as a nursing team member independently functioning in simple, relatively stable nursing situations and is an assistant to the registered nurse and/or licensed physician. The adequately prepared and properly utilized practical nurse contributes immeasurably to quality of patient care.

The practical nursing curriculum is an occupational preparatory program. It prepares selected people for a career in practical nursing, helping fulfill the need of health services in Oregon. It also prepares the student for examination given by the Oregon State Board of Nursing for licensing practical nurses.

The one-year curriculum is based on principles of education and organized around the nurses' defined functions. Subjects included are practical nursing, basic sciences and field trip experiences are provided in hospitals and health agencies in the community. Nursing faculty are responsible for planning and selecting student learning. The nursing courses must be taken in sequence and a minimum grade of C is required to continue the sequence. Any exception must be approved by the department chairman.

Applicants for the practical nursing program must be graduates of an accredited high school or the equivalent as determined by test, in good health as determined by examination and have suitable personal traits and character.

The certificate of completion is awarded to those individuals who have completed the requirements outlined in the general information section of this catalog.

PRACTICAL NURSING CURRICULUM

Class Hours	Lab Work	Course Title	Course No.	Term Units
Term 1				
1		Health Occupations Overview	5.700	1
4	12	Practical Nursing	5.520	8
3		Communication Skills	1.101 or WR 111	3
3	3	Human Anatomy and Physiology	5.722	4
3	3	Basic Sciences for Health Occupations	5.601	4
Term 2				
6	24	Practical Nursing	5.521	14
3		Growth and Development	5.524	3
Term 3				
6	24	Practical Nursing	5.522	14
2		Trends in Nursing	5.523	2

Legend: 1 hour of theory—1 term unit or 1 credit hour
3 hours of laboratory—1 term unit or 1 credit

ASSOCIATE DEGREE NURSING
(Technical Nursing or Registered Nursing)

The associate degree nursing program prepares selected students for the technical nurse role as beginning staff nurses in hospitals and other health agencies. The graduate is awarded an associate in science degree upon satisfactory completion of requirements and is eligible to take the licensure examination to become a registered nurse in the State of Oregon.

The associate degree (technical) nursing program offers preparation for nursing within the framework of general education. The selected content in general and nursing courses is based upon fundamental principles of the humanities and on the social, natural, and health sciences. A minimum grade of C is required in each nursing course to continue a sequence. Learning experiences in appropriate clinical and college laboratories are planned as integral parts of the nursing major.

Applicants must meet the admission criteria for the associate degree nursing program and have a high school grade average of 2.00 or above.

Associate in science degree: requires 97 term units.

ADN CURRICULUM (TECHNICAL NURSING)

First Year

Class Hours	Lab Work	Course Title	Course No.	Term Units
Term 1				
4	12	Nursing I, II or III	5.701 or 5.702 or 5.703	8
1		Health Occupations Overview	5.700	1
3	3	Basic Science Principles	5.721	4
3		General Psychology	PSY 201	3
3		English Composition*	WR 111	3
Term 2				
4	12	Nursing I, II or III	5.701 or 5.702 or 5.703	8
3	3	Human Anatomy and Physiology	5.722 or BI 121 & 122	4
3		General Psychology	PSY 202	3
3		English Composition*	WR 112	3
Term 3				
4	12	Nursing I, II or III	5.701 5.702 or 5.703	8
3	3	Introduction to Microbiology or Microbiology	5.723 BI 123	4
3		General Psychology	PSY 203	3

Second Year

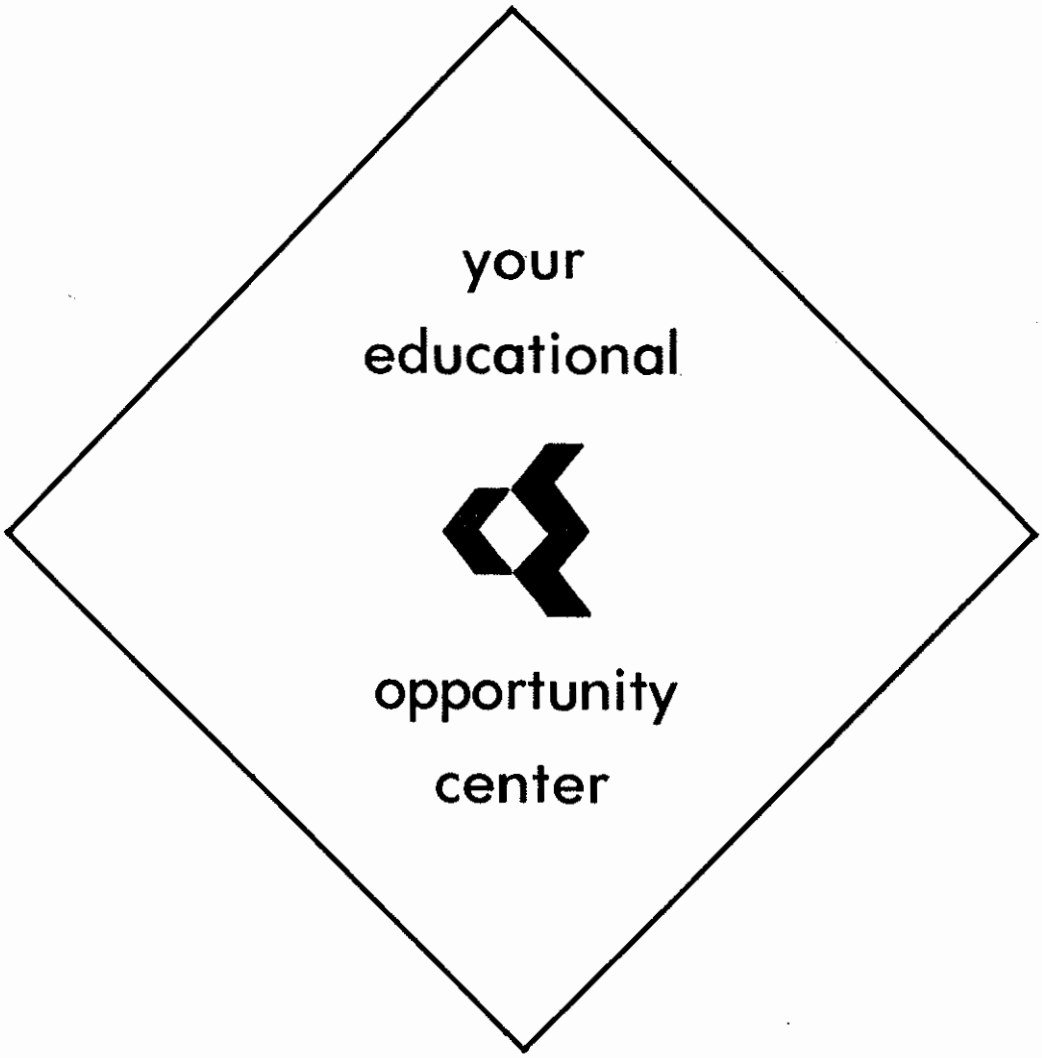
Term 4				
4	15	Nursing IV or V	5.704 or 5.705	9
3		Fundamentals of Speech	SP 111	3
3		Group Process	5.730	3
Term 5				
4	15	Nursing IV or V	5.704 or 5.705	9
3		Elective**		3
3		Elective ***		3
Term 6				
4	16	Nursing VI	5.706	9
3		Elective**		3
3		Nursing VII	5.720	3

*English Composition WR 111, 112 . . . or may substitute literature course for three term units of either English composition requirement.

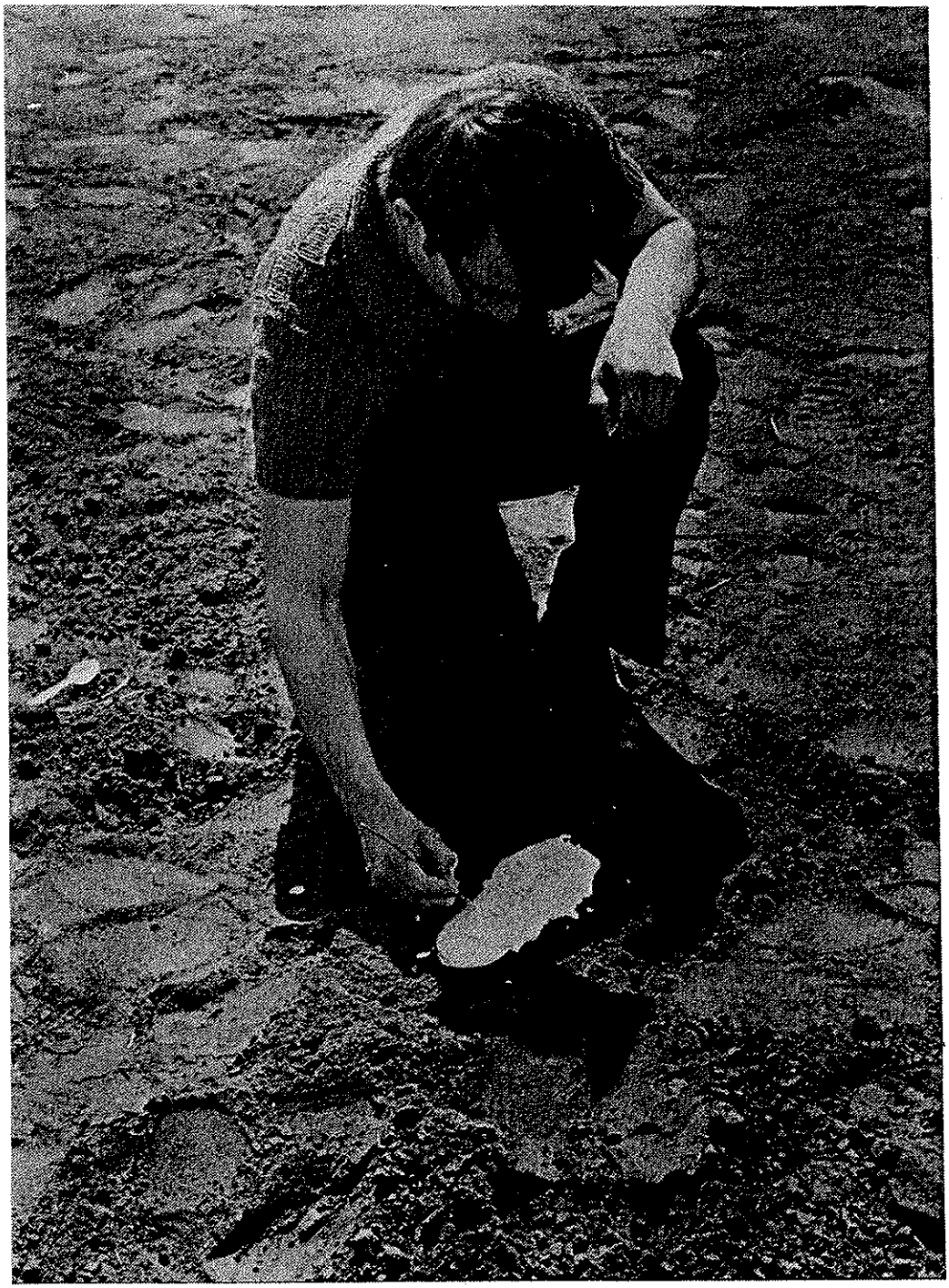
**Six hours—Political science or three hours political science and three hours economics or three hours ethnic history of the United States.

***Three hours—Sociology or anthropology.

CHEMEKETA



COMMUNITY COLLEGE



CHEMEKETA COMMUNITY COLLEGE

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CAREERS IN PUBLIC SERVICES

FIRE PROTECTION

LAW ENFORCEMENT

- Police Science
- Undergraduate General Studies In Law Enforcement
- Adult Law Enforcement

FIRE PROTECTION

Fire protection technology is a curriculum designed for young persons preparing for career employment in fire departments, insurance industries, industrial fire safety and other public and private fire protection occupations.

Guidelines set forth in the "Fire Science Curriculum Guide" published by the Oregon Board of Education have been followed in developing this program, thus providing for compatibility with curriculums offered by other community colleges in Oregon.

Eligibility for enrollment is based upon possession of a high school diploma or equivalency certificate plus proof of physical, emotional, intellectual, moral and citizenship standards suitable for employment in fire protection. Background check is required including fingerprinting.

Upon satisfactory completion of program requirements, the student is awarded an associate in science degree.

Associate in science degree: required 99 term units.

FIRE PROTECTION TECHNICIAN CURRICULUM

Lower division college transfer courses may be substituted for general education courses with approval of advisor.

First Year

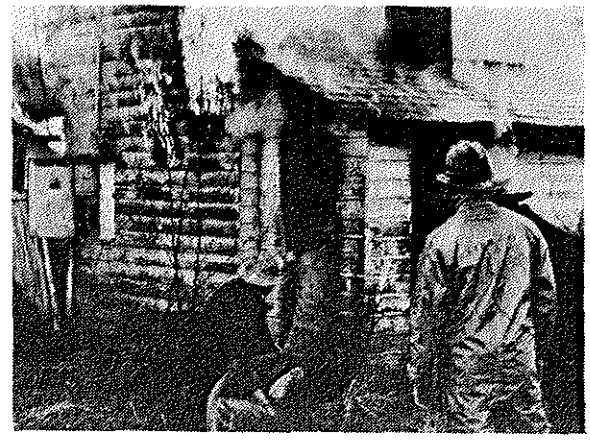
Class Hours	Lab Work	Course Title	Course No.	Term Units
Term 1				
3		Introduction to Psychology	1.606	3
2	2	Mathematics	4.200	3
3		Communication Skills	1.101	3
3		Introduction to Fire Protection	5.100	3
	9	Work Experience	5.122	3
	3	Fitness Appreciation	PE 190	1
Term 2				
2	2	Mathematics	4.202	3
3		Communication Skills	1.104	3
3	2	Elementary Science for Firefighters	5.103	4
3	2	Fire Service Hydraulics	5.104	4
	9	Work Experience	5.123	3
	3	Fitness Appreciation	PE 190	1
Term 3				
3		General Education Elective		3
3	2	Fire Science	6.995	4
2	2	Fire Pump Construction and Operations	5.105	3
1	2	Rescue and First Aid	5.120	2
	9	Work Experience	5.124	3
	3	Fitness Appreciation	PE 190	1

Second Year

Term 4				
3	2	Fire Science	6.996	4
3		Fundamentals of Fire Prevention	5.101	3
3		Hazardous Materials	5.108	3
3		Building Construction for Fire Suppression	5.131	3
		Technical Electives		6
	3	Body Conditioning	PE 190	1
Term 5				
3		Hazardous Materials	5.109	3
6	1	Emergency Medical Technician	5.129	6
		Technical Electives		6
	3	Body Conditioning	PE 190	1
Term 6				
3		Report Writing	1.106	3
		Technical Electives		9
	3	Body Conditioning	PE 190	1

Technical Electives

3	2	Natural Cover Fire Protection	1.151	4
	9	Work Experience	5.125	3
3		Fire Protection Systems and Extinguishers	5.106	3
3		Fire Department Organization and Management	5.112	3
	9	Work Experience	5.126	3
3	2	Fire Investigation	5.107	3
3		Fire Codes and Ordinances	5.116	3
3		Firefighting Tactics and Strategy	5.113	3
3		Water Distribution Systems	5.117	3
	9	Work Experience	5.127	3
3		Fire Training Programs and Techniques	5.110	3
3		Fire Insurance Principles and Grading Schedules	5.111	3
3		Blueprint Reading for Firemen	5.119	3



LAW ENFORCEMENT

This course of study offers an occupational preparatory curriculum designed for young men and women preparing for career employment in police, correctional, security management and other criminal justice agencies. It includes a program which is fully transferable to several four-year colleges, as well as an optional program readily transferable also to Oregon College of Education and other members of the Oregon State system. It also provides opportunity for those already engaged in law enforcement for improvement of competency and a broader understanding of the role of law enforcement in today's society. This program has been developed in cooperation with the State Department of Education and Department of Higher Education and the Oregon State Board of Police Standards and Training.

Eligibility for the program is based upon possession of a high school diploma or equivalency certificate and or approval of department chairman. The applicant must provide proof of physical, emotional, intellectual, moral and citizenship standards suitable for law enforcement employment.

Fingerprinting and limited investigations are required. Students may participate on a full- or part-time basis.

Upon satisfactory completion of program requirements, the student is awarded an associate in science degree.

LAW ENFORCEMENT ASSOCIATE DEGREE
(93 Units)

First Year

Class Hours	Lab Work	Course Title	Course No.	Term Units
Term 1				
3		Communication Skills	1.101	3
3		Introduction to Psychology	1.606	3
3		Introduction to Law Enforcement	5.200	3
3		Crime and Delinquency	5.201	3
3		Sociology	1.310	3
Term 2				
3		Communication Skills	1.104	3
3		Administration of Justice	5.203	3
3		Crime and Delinquency	5.202	3
3		*Law Enforcement Information Systems	5.209	3
3		Psychology of Human Relations	1.608	3
Term 3				
3		Police Writing	5.223	3
3		Psychology for the Police Officer	5.217	3
3		Criminal Investigations I	5.206	3
3		American Institutions	1.600	3
3		Community-Police Relations	5.215	3
3		Constitutional Government	1.601	3

Second Year

Term 4				
2	2	Public Speaking	1.610	3
3		Police Personnel Management	5.231	3
3		Criminal Law I	5.211	3
3		Traffic and Patrol	5.210	3
3		Problems of Physical Evidence	5.220	3
1		Law Enforcement Seminar		1
Term 5				
3		Criminal Law II	5.212	3
3		Constitutional Law	5.213	3
3		Police Administration	5.216	3
2		Juvenile Procedures	5.218	2
2		*Criminal Investigations—Sex	5.228	2
3		*Criminal Investigations II	5.208	3
Term 6				
2		Motor Vehicle Law	5.219	2
2	3	*Moot Court	5.214	3
3		*Criminal Law III	5.224	3
3		Introduction to Criminalistics	5.229	3
	4	Criminalistics Lab		2

*The following five courses comprise a Security Systems Management option for interested students. These courses may be accepted as replacements of selected courses indicated above with asterisks upon approval of the department chairman.

3	Administration of Security Programs	5.232	3
3	Personnel Screening and Investigation	5.233	3
3	Embezzlement and Shoplifting	5.235	3
3	Educational Security Systems	5.234	3
3	Transportation Security	5.236	3

UNDERGRADUATE GENERAL STUDIES IN CRIMINAL JUSTICE ADMINISTRATION
(97 Units)

First Year

Class Hours	Lab Work	Course Title	Course No.	Term Units
Term 1				
3		English Composition	WR 111	3
3		General Psychology	PSY 201	3
3		Introduction to Criminal Justice	CJA 111	3
3		Introduction to Criminal Justice	CJA 112	3
3		American Government	PS 201	3
	3	Physical Education Elective..		1
Term 2				
3		English Composition	WR 112	3
3		Sociology	SOC 204	3
3		Introduction to Criminal Law	CJA 211	3
3		Introduction to Criminal Justice	CJA 113	3
3		General Psychology	PSY 202	3
	3	Physical Education Elective..		1
Term 3				
3		Technical Writing	WR 227	3
3		Psychology	PSY 203	3
3		*Introduction to Criminal Investigations	CJA 214	3
3		General Sociology	SOC 205	3
3		Introduction to Community Relations	CJA 219	3
	3	Physical Education Elective..		1

Second Year

Term 4				
3		Fundamentals of Speech	SP 111	3
3		Introduction to Criminal Law	CJA 212	3
3		Introduction to Social Psychology	PSY 206	3
3		*Introduction to Evidence	CJA 213	3
3		General Education Elective..		3
	3	Physical Education Elective..		1
Term 5				
3		Constitutional Law	5.213	3
3		Seminar in Health Studies Narcotics and Alcohol	HE 199A	3
3		General Sociology	SOC 206	3
3		Personal Health	HE 250	3
3		*Criminal Law II	5.215	3
3		General Education Elective..		3
Term 6				
3		First Aid	HE 252	3
3		State and Local Government	PS 203	3
	3	Physical Education Elective..		1
2		*Motor Vehicle Law	5.219	2
6		General Education Electives		6

FE 201 special studies CWE may be taken as extra elective with departmental approval.

*The following four courses comprise a corrections option for interested students. These courses may be accepted as replacements of selected law enforcement or criminal justice administration courses indicated above with asterisks upon approval of the department chairman.

3	Introduction to Penology	CJA 220	3
3	Introduction to Parole and Probation	CJA 221	3
3	Introduction to Juvenile Corrections	CJA 222	3
3	Introduction to Correctional Process	CJA 223	3

ADULT LAW ENFORCEMENT CURRICULUM

Enrollment is restricted to full-time employees of law enforcement agencies, duly authorized reserves and others approved by the department. A total of 90 term units is required for the associate in science degree.

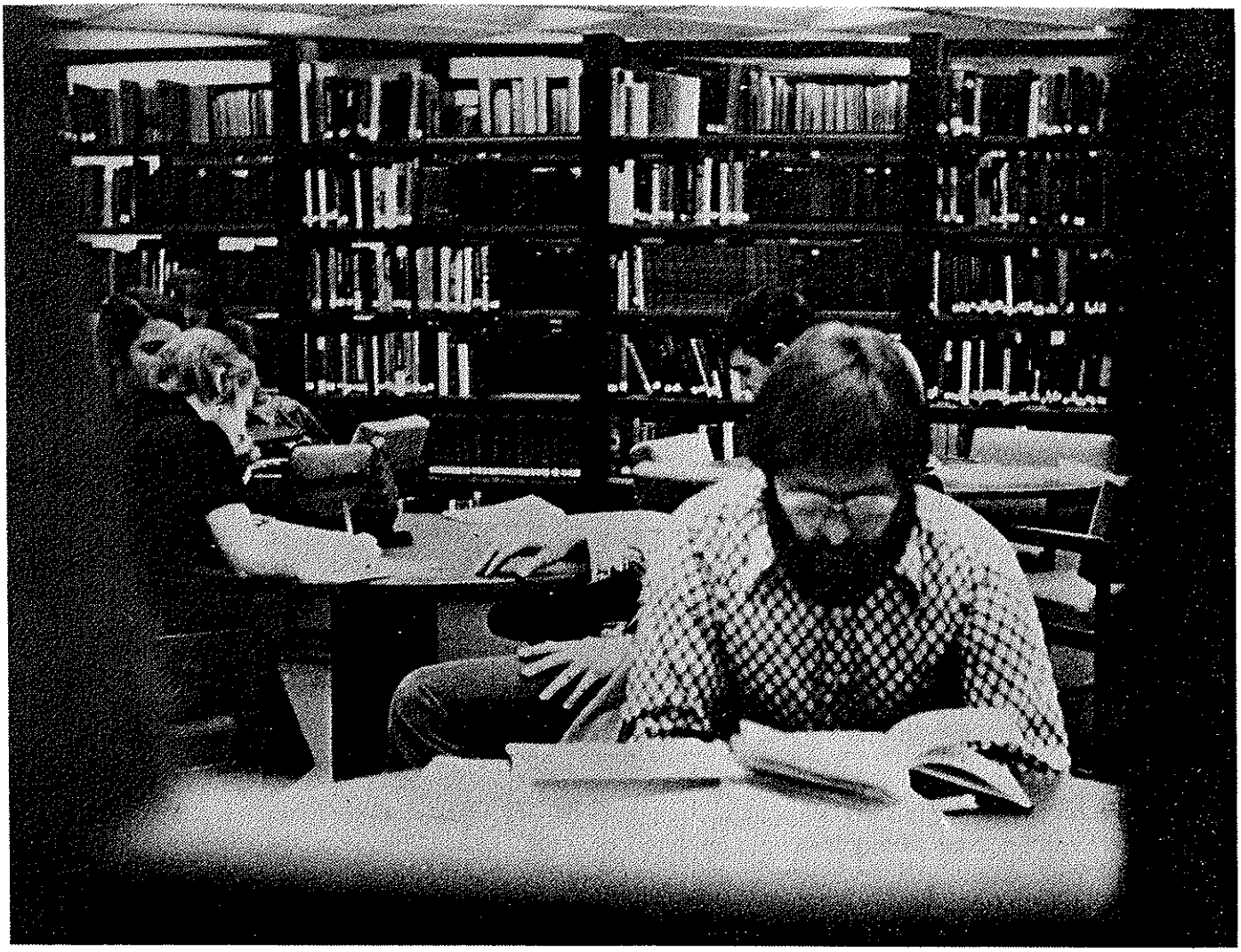
Requirements for associate in science degree:

1. General Education Courses (Total minimum—24 hours)

Communication Skills or English Composition	6 hours
Psychology	6 hours
Speech	3 hours
Political Science	3 hours
Sociology	3 hours
History	3 hours
	Total 24 hours

2. Occupational (L.E.)
   A minimum of 30 hours, including the following six core curriculum subjects:
   CJA 112 Law Enforcement and Society
   CJA 113 Law Enforcement and Society
   CJA 211 Administration of Justice
   CJA 212 Introduction to Criminal Law
   CJA 213 Introduction to Evidence
   CJA 219 Introduction to Police-Community Relations

3. Electives
   Sufficient occupational or elective courses approved by the public service department to bring the total units to 90.



LOWER DIVISION
COLLEGE TRANSFER

CHEMEKETA
COMMUNITY
COLLEGE

P.O. Box 1007
(4000 Lancaster Dr. NE)
Salem, Oregon 97308

LOWER DIVISION TRANSFER

The purposes of the Chemeketa Community College lower division transfer courses are two-fold.

They may be incorporated into the college's technical-vocational programs providing the student flexibility in later educational endeavors.

The lower division courses also may be taken independently by students who are not interested in majoring in a technical field but who are interested in building a broad base of knowledge by completing as many lower division requirements as possible—which, if desired, may be transferred to a university or liberal arts college.

Students may accumulate up to 108 transferable credits at Chemeketa. Any credits beyond this total must be earned at a four-year institution. Transferable credits obtained at a college other than Chemeketa must be included in this total.

In many fields, Chemeketa Community College offers all or most of the lower division courses required by four-year colleges and universities. However, the college is not required to offer every course listed. Some courses listed in this section will be offered only if adequate staff and facilities are available.

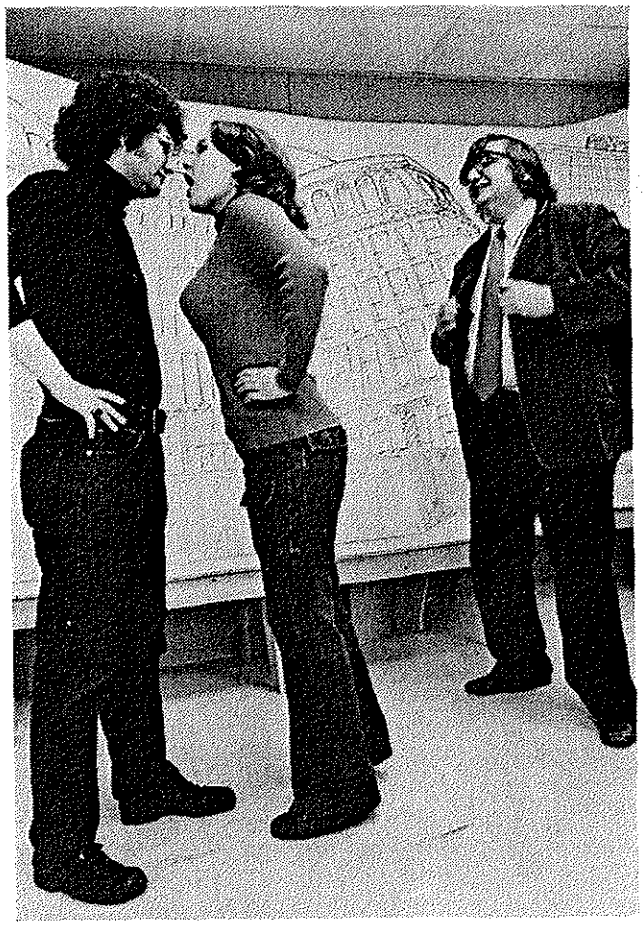
Students taking lower division transfer courses may qualify for the associate in arts degree. See page 8.

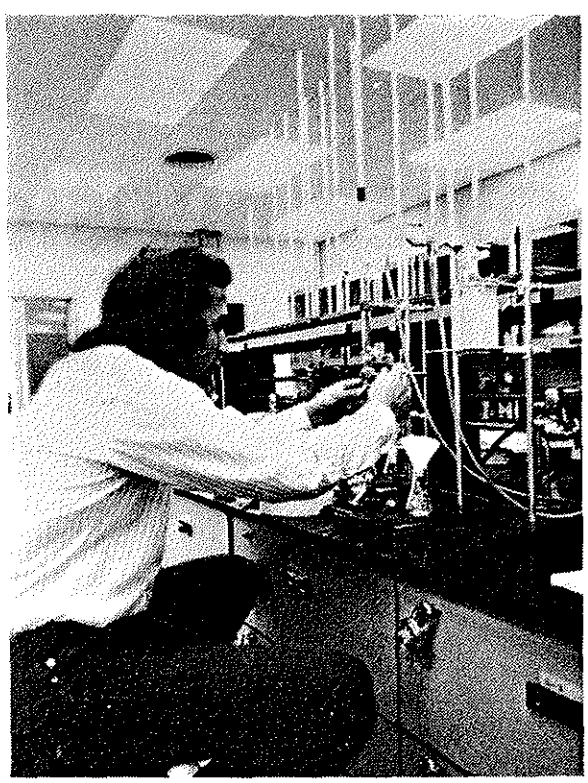
A manual titled **Transfer Curricula,** published by the Oregon State System of Higher Education, lists all transfer program requirements. The manual is available through Chemeketa counselors and advisors, in the Chemeketa Community College Library and in the office of many high school counselors.

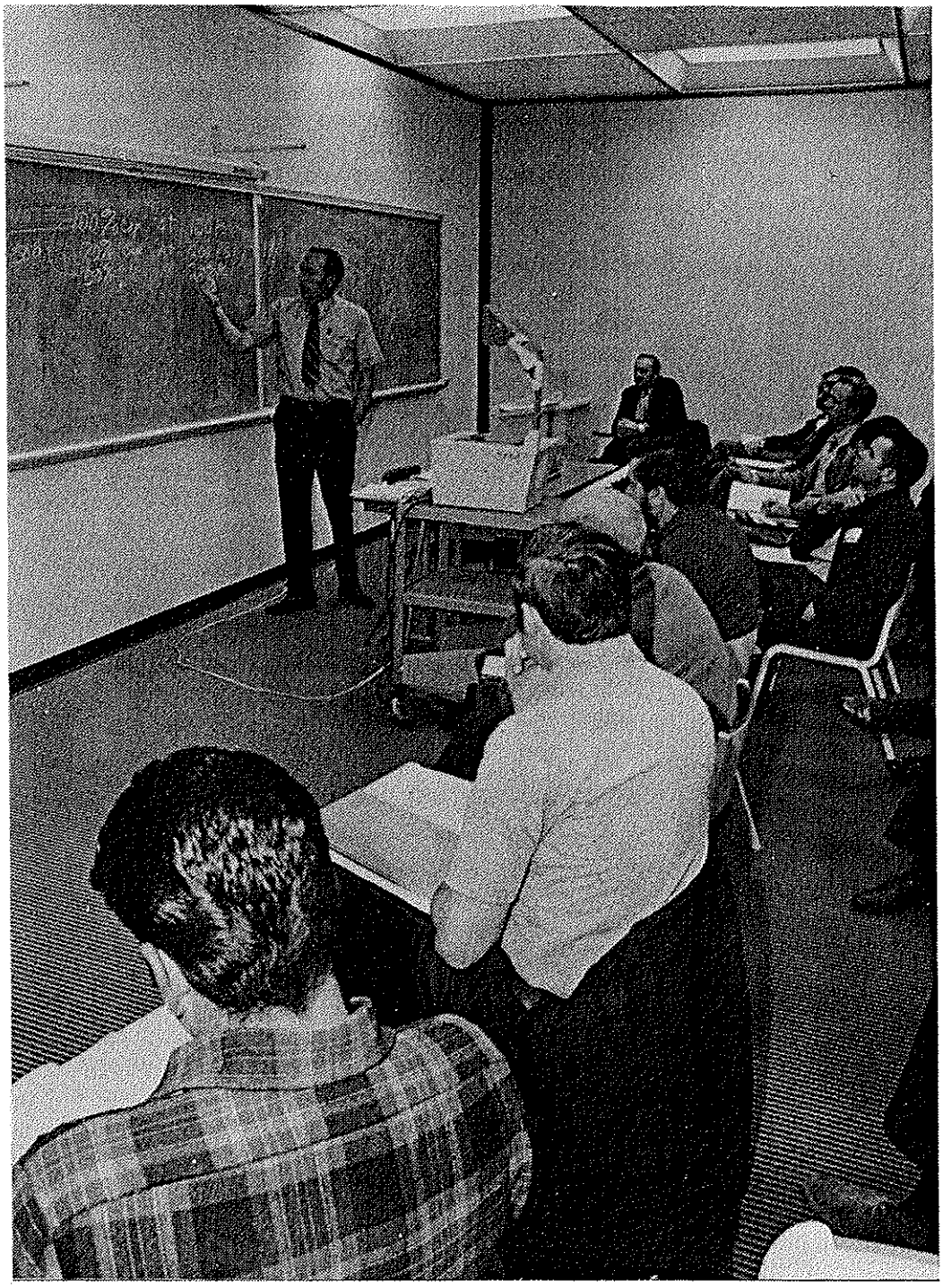
College transfer students should contact the college or university to which applications for admission will be made to discover the specific lower division requirements in a particular major field. Chemeketa counselors and advisors will assist in building the required course-work program.

The requirements vary from college to college. Students should be aware of, not only general university requirements, but also of departmental requirements of the college or university to which they plan to transfer.

Students should refer to the course descriptions for specific contents of courses. Some courses listed may not be offered.







CHEMEKETA COMMUNITY COLLEGE

P.O. Box 1007
(4000 Lancaster Dr. NE)
Salem, Oregon 97308

ADULT COMMUNITY EDUCATION

COMMUNITY EDUCATION

The community services division of Chemeketa Community College was organized to meet the college's commitment to a total education program for the community. Chemeketa is committed to providing, for citizens of all ages, educational programs and opportunities that help each person reach his objectives and potential.

The division offers a wide variety of short term courses, workshops and special programs. These low-cost adult education courses are offered at the college campus and at some thirty-five other centers throughout the college district. In reality, the entire college district is the campus for a wide variety of courses, programs and activities.

A major factor in the growth of Chemeketa is participation of citizens in community education offerings. Enrollment in adult community education courses has steadily increased to an estimated 12,000 students enrolled in 1973-74.

The programs of the community services division provide opportunities for: the development of new skills for persons in the work force as well as upgrading present skills; specialized training for business, industry and government agencies; and participation in self-improvement, cultural and leisure time activities.

Community education is what you want to make it. Whatever your need, Chemeketa Community College is available to help you find or plan the program to answer that need.

The office of adult community education offers a full schedule of evening on-and off-campus classes. Schedules and registration information may be obtained by contacting the adult community education office.

EARN A HIGH SCHOOL DIPLOMA

Opportunities are provided for persons who have not completed high school to enter a program leading to a diploma.

ABE – Adult Basic Education learning skills for those who have less than an eighth grade education.

GED – General Education Development courses in preparation for the high school equivalency examination.

ADULT HIGH SCHOOL DIPLOMA

The adult high school diploma program is a planned course of study encompassing those special characteristics associated with the more mature needs, interests, opportunities, experiences and responsibilities of adults. Students must satisfactorily complete 21 units of credit and be enrolled a minimum of two terms.

A college counselor will evaluate the student's educational background and experience and plan a program that is tailored to the individual's needs. Some community college credits may be earned at the same time as high school credit.

PREPARE FOR A NEW CAREER

Courses to teach new skills or to upgrade the skills of an employee are available through community education. A variety of courses are offered in many areas of instruction. Some classes may be taken for community college credit leading to a degree or a certificate; others may be taken on a non-credit basis. All programs are relevant, interesting and geared to the individual's needs.

ENROLL IN COLLEGE TRANSFER COURSES

Courses transferable to four-year colleges and universities are available in many fields. Chemeketa offers a wide choice of general studies and liberal arts courses during the evening hours for the convenience of the part-time student.

DEVELOP SPECIAL INTERESTS AND SKILLS

Over five-hundred adult education classes are offered each term, ranging from cake decorating to chemistry and from sewing to sociology. An apprenticeship program enables the student to learn the skills of the craftsman through on-the-job work experience and related classroom instruction. The wise use of land, labor and capital is stressed in Chemeketa's farm management program; basic nursing skills are taught to those men and women enrolled in the nursing assistant program; and a myriad of specialized courses, seminars, workshops and lectures provide educational opportunities for persons of all ages and educational backgrounds.

TAKE COURSES AT CONVENIENT LOCATIONS

Courses are offered in most communities within the college district whenever twelve or more individuals are interested in a common class. Facilities used include schools, homes, churches, manufacturing plants and business establishments.

ELIGIBILITY

To enroll in an adult education course, a person must be at least 16 years of age. If under 18 years of age he must receive special permission from his or her local high school district. For additional information, call the adult community education department.

REGISTRATION

Registration takes place the first night of class. Payment of fees is requested at the time of registration. Each student must have his social security number at the time of registration.

FEES

All credit (lower division college transfer and community college credit) classes are scheduled on the basis of $9 per credit hour. All non-credit classes are scheduled on the basis of $.50 per classroom hour of instruction. There may be additional fees for books, materials and supplies which are not covered by the tuition fee.

SPECIAL SERVICES

COUNSELING

Both day and evening counseling services are available to help students plan their educational goals. Counselors are willing to assist whenever possible to make the student's experience at Chemeketa more meaningful. Counseling hours are from 8 a.m. to 9 p.m. Monday through Thursday and 8 a.m. to 5 p.m. Fridays.

CONTRACT SERVICES

Special programs and courses for business, industry, civic and social groups can be arranged through the community services division. Many agencies have utilized this service to provide specialized training for employees at a minimal cost.

SENIOR CITIZENS

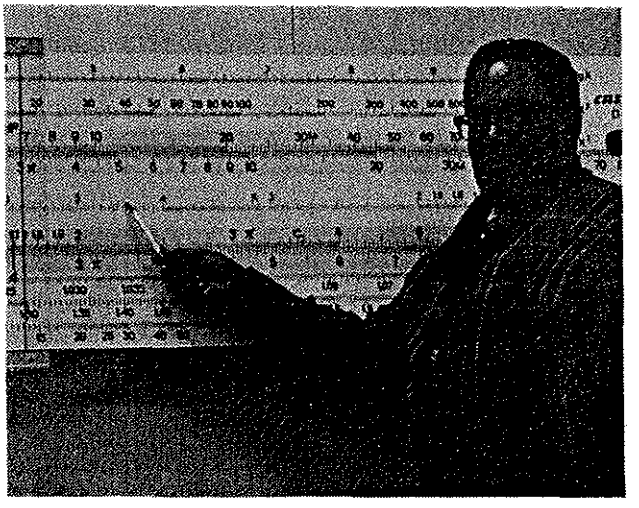
Senior citizens are eligible for a golden age card which provides the following benefits: free tuition where there are enough paying students to justify holding the class, free admission to all campus activities such as art exhibits, film series, athletic events and use of the college library facilities. Contact the community services division office for application forms.

SPECIAL EVENTS

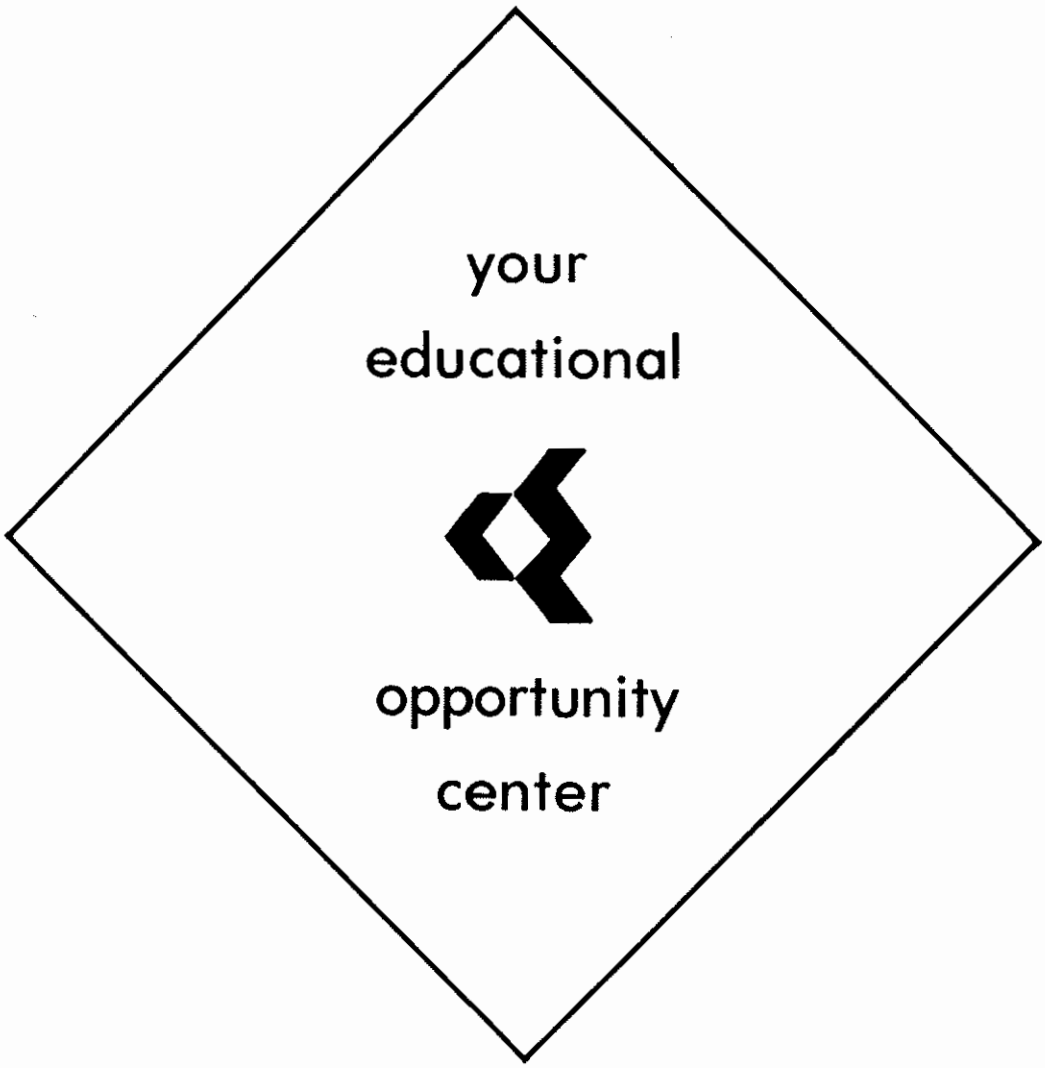
Chemeketa's Community Service is typified by the seminars, workshops and lecture series offered or sponsored by the college. These include safety and drug seminars, consumer education, property tax relief information, the "Man and the Land" series, alcohol abuse programs and many others. The community service division is available to clubs and organizations for assistance in locating guest speakers, films and other special interest programs.

LOCAL CENTERS

Salem Metropolitan Area	585-7900, ext. 340
Apprenticeship—campus classes	Frank Anderson
Lower Division Transfer	Ron Hofmann
Adult Basic Education—GED	Edith Canfield
Home Economics—Fine Arts	Sara Varnum
Consumer and Family Life Education	Joan Galbraith
South Salem High School	Pat Lytle
Polk County	
Dallas	623-8507 Kay Friedemann
Independence-Monmouth	838-1989 Pat Pennock
Yamhill County	
McMinnville	472-4406 John Briedwell
Sheridan	843-2312 Rosella Parker
Willamina	876-5302 Jone Bainter
Yamhill	662-3361 Ilo Seaton
Marion County	
Silverton-Mt. Angel	873-4956 Betty Kuenzi
Stayton	769-2171 Steve Jannusch
Woodburn	981-9555 Jacquee Blalock
Mill City-Gates	897-2311 Bid Sanders



CHEMEKETA



COMMUNITY COLLEGE

COURSE DESCRIPTIONS

Some courses listed as "non-transfer" are, in some cases, transferable to some four-year colleges and universities. Students wishing information on transferability of such courses should consult the college to which they plan to transfer, their department chairman or the counseling center.

HUMANITIES AND RELAXED GENERAL EDUCATION

TRANSFER HUMANITIES

Art 195, 196, 197 Basic Design 2 hours each
A three-term introductory sequence—a series of studio participation exercises involving the basic principles of design. Two hours studio-lecture with outside assignment for each hour of credit.

Art 204, 205, 206 Introduction to History of Art 3 hours each
A historical survey of the visual arts from prehistoric to modern times. Selected works of painting, sculpture, architecture and other arts are studied in relation to the cultures producing them. Designed for both non-major and major students. Non-sequential; these classes do not have to be taken in order.

Art 281 Printmaking 2-3 hours per term, maximum 3 hours
Introduction to silkscreen techniques.
Prerequisite: Drawing or design or consent of instructor.

Art 290 Painting 2-3 hours per term, maximum 9 hours
Instruction in the use of oils, water colors or other media. Registration permitted any term, but it is desirable that the work be started in the fall. Maximum credit nine hours.
Prerequisite: Drawing or design or consent of instructor.

Art 291 Drawing 2-3 hours per term, maximum 6 hours
Observation, selection and recording of significant elements in various drawing media.

Art 292 Water Color 2 hours per term, maximum 6 hours
The technique and use of water color with special attention to its characteristics as a painting medium.
Prerequisite: Drawing or design or consent of instructor.

Eng 101, 102, 103 Survey of English Literature 3 hours each
A sequence in representative English Literature, including intellectual and cultural influences. 101, Beowulf through Donne; 102, Milton through Coleridge; 103, Byron to the present. Non-sequential; these classes do not have to be taken in order. To be offered alternate years.

Eng 104, 105, 106 Introduction to Literature 3 hours each
Analysis of literature and ideas involving work in English and in translation. 104, fiction; 105, drama; 106, poetry. Non-sequential; these classes do not have to be taken in order.

Eng 107, 108, 109 World Literature 3 hours each
A chronological survey of masterpieces in Western World Literature from ancient times to the present. 107, Greek and Roman; 108, Medieval and Renaissance; 109, 18th century to the present. Non-sequential; these classes do not have to be taken in order.

Eng 199 Minority Literature 3 hours
A survey of selected minority literature including fiction, drama and poetry. Students and the instructor cooperatively develop the course of study and scope of literature studied each term.

Eng 201, 202, 203 Shakespeare 3 hours each
A study of the major plays of Shakespeare. 201, tragedies; 202, comedies; 203, histories and mixed forms. Non-sequential; these classes do not have to be taken in order.

Eng 253, 254, 255 Survey of American Literature 3 hours each
Analysis of American literature and ideas in America from its beginning to present day. 253, beginning (1590) through Melville; 254, (1800's): Emerson through Dreiser; 255, Robinson (1900) to present. Non-sequential; these classes do not have to be taken in order. To be offered alternate years.

J 224, 225, 226 Introduction to Journalism 2 hours each
Recommended for prejournalism majors; open to non-majors. Survey and criticism of communication media; discussion of journalistic techniques. Fall term: news and editorial functions; winter term: advertising and public relations; spring term: production methods. The terms need not be taken in sequence.

J 215 Publications Laboratory 3 hours, 1 credit
Practical application of journalism through work on the student newspaper and related publications. A maximum of three hours may be taken per term.

RL 60, 61, 62 Introduction to Spanish 4 hours each
Stresses speaking and reading exercises in elementary composition. Must be taken in sequence.

Sp 100 Basic Speech Communication 3 hours
An orientation to the dynamics of speech communication, including verbal and non-verbal elements which influence effective speaking and listening. Theory is introduced through oral communication activities in face-to-face, small group and public speaking contexts. Emphasis on interpresonal communication. Credit not granted to students who have received credit for Sp 111. Sp 100 may be taken in lieu of Sp 111 if acceptable to the college to which the student will transfer.

Sp 111 Fundamentals of Speech 3 hours
Primary emphasis on adjustment to speaking situations, basic communication concepts, role of speaker, message construction, listening behavior, feedback in interviews, manuscript reading and platform speaking.

Sp 112 Fundamentals of Speech 3 hours
Primary emphasis on nonverbal communication, multimedia speaking, persuasive speaking, interpretation of literature and projects in extempore speaking.
Prerequisite: Sp 111 or 2 years of high school speech.

Sp 113 Fundamentals of Speech 3 hours
Primary emphasis on group behavior, communication theory and inter-cultural communication.
Prerequisite: Sp 111 or Sp 112.

Sp 160 Introduction to Film 3 credits/6 hours
Examination of the history, technique and art of film through in-class film viewing and discussion. Emphasis is on acquiring background and a basis for evaluating film as an art form.

Sp 229 Interpretation 3 hours
Analysis and presentation of printed material, emotional reactions that give color and interest, expressive vocal and bodily responses, pantomime, characterization and interpretative techniques.
Prerequisite: Sp 111 or consent of instructor.

TA 111 Fundamentals of Acting 2 credits/5 hours
Introduction to the principles of acting; development of body control, investigation of body skills and use of improvisation in dramatic expression.

TA 112 Fundamentals of Acting 2 credits/5 hours
Study of the use of the voice in dramatic roles, its production and control. An introduction to dialects and accents.
Prerequisite: TA 111 or consent of instructor.

TA 113 Fundamentals of Acting 2 credits/5 hours
Study of the problems in the analysis and presentation of characters in dramatic literature.
Prerequisite: TA 111 or consent of instructor.

TA 250 Theater Workshop 1-3 hours per term, maximum 6 hours
Principles of acting and dramatic production, laboratory experience. Consent of instructor required.

TA 252 Make Up 1 credit/2 hours lab
The purpose, theory and practical applications of theatrical makeup. The use of makeup in the various theatrical media, the use of different types of makeup.

TA 261, 262, 263 Theater Principles 2 hours each, plus 15 lab hours per term
Development of the physical theater, the mechanics of its stage and shops; planning and construction of stage settings and properties, and basic principles of stage lighting.

Wr 121, 122, 123 English Composition 3 hours each
Examination of literature and ideas with emphasis on expository writing. 111, fundamentals of writing; 112, the research paper.
Prerequisite: Eng 111 or consent of instructor.
113, creativity and style.
Prerequisite: Eng 111 or Eng 112.

Wr 227 Technical Writing 3 credits
The various skills and forms used in technical communications.
Prerequisite: Wr 111, 112 or consent of the instructor.

Wr 241 Introduction to Imaginative Writing 3 hours
Primary emphasis on the elements of fiction (dialogue, setting, characters and tone) by analyzing the student's own work in fiction and other genres. The individual's development as a creative writer is of major concern.

Wr 242 Introduction to Imaginative Writing 3 hours
Poetry writing introduces the student to major concerns of technique and form by analyzing his/her own writing. Major emphasis is placed on the development of the individual student's work in poetry but other genres may be explored.

Wr 243 Introduction to Imaginative Writing 3 hours
An advanced course in style and technique designed to intermix studies of poetry and fiction in such a manner as to complement each other. Major emphasis is placed on revision of work in progress. The course is conducted in a workshop fashion.

Phl 201 Problems of Philosophy 3 hours
An introduction to the study of some of the persistent problems of philosophy.

Phl 202 Elementary Ethics 3 hours
An introduction to the philosophical study of morality, e.g. right and wrong, free will and determinism, morals and society, etc.

Phl 203 Elementary Logic 3 hours
An introduction to the study of reasoning. How to recognize, analyze, criticize and construct the main types of argument and proof.

NON-TRANSFER HUMANITIES

		lec.	lab.	term units
Accelerated Reading	1.112	3	0	3

Designed for the community college student. Assists students in becoming more rapid, efficient readers. Provides information to improve reading skills, provides experiences to practice those skills; thus, learning and application are made concomitant.

Basic Spanish Conversation	0.568	2	2	3

Emphasizes conversational Spanish. The student learns, practices and exercises basic vocabulary and structural patterns in order to understand and speak Spanish.

Communication Skills	1.101	3	0	3

Designed to improve the student's communicative skills through reading, listening, writing and speaking, with emphasis on research and writing. The practical phase of communication problems is kept in the foreground. Problems in reading, note taking, gathering information, report writing and conventional usages of mechanics and grammar.

Communication Skills	1.104	3	0	3

A continuation of the processes of improving the student's speaking, reading, writing and listening skills with emphasis on speaking. Practical applications are provided to develop effective habits of communication through speaking, participating in conferences, presentation of reports, gathering information, listening, observing and evaluating sources.

***Literature for the* Technician**	1.205	3	0	3

The selected works are of high interest level to the technician as an individual, worker and citizen. Discussion and individual study provide the introduction to the essay, short story, novel, poem and play. Non-fiction works are coupled to the modern novel. Emphasis is placed on vicariously experiencing the events affecting characters in literature and relating these experiences to the modern technological world.

Public Speaking	1.610	3	0	3

Designed to improve speech efficiency, self-confidence and skill in organization and delivery of the type of speeches encountered in business and social activities through practical application of actual speech situations.

Report Writing	1.106	3	0	3

Supplies knowledge of the principles of writing reports. Subjects covered include: the why of reports, types of reports, make up, effectiveness of writing styles, gathering facts, planning reports, documentation, methods of writing, layout and typing and visual aids in reports.

Prerequisite: Communication Skills 1.101 or consent of instructor.

MATHEMATICS

TRANSFER MATHEMATICS

Mth 10 **Beginning Algebra** **4 hours**

A basic course in algebra for students who have not had high school algebra or who need a review of algebra before entering Mth 95, Intermediate Algebra. A review of arithmetic operations and properties of real numbers. Introduction to linear equations, factoring, inequalities, algebraic fractions, exponents and graphs.

This course will not transfer but may be used as a prerequisite for Mth 95.

Prerequisite: None.

Mth 95 **Intermediate Algebra** **4 hours**

A study of the fundamental laws of algebra with the real numbers. Includes linear equations in one and two variables, linear inequalities, factoring, algebraic fractions, systems of linear equations, exponents, radicals, quadratic equations and inequalities.

Prerequisite: Completion with "C" or higher of one year of high school algebra and one year of geometry or consent of instructor.

Mth 101 **College Algebra** **4 hours**

The study of polynomials in algebraic expressions with equations and inequalities of various degree. An introduction to the concepts of relations and functions with real numbers and graphs in both two and three dimensions. Polynomial, rational, exponential and logarithmic function are studied along with an introduction to complex numbers, matrices, determinates, sequences and series.

Prerequisite: Completion with "C" or higher of two years of high school algebra and one year of geometry, Mth 95, or consent of instructor.

Mth 102 **Trigonometry** **4 hours**

A continuation of the study of functions by taking circular trigonometric and inverse functions. Complex numbers are studied with vectors and graphing with polar coordinates.

Prerequisite: Mth 101 with "C" or higher or consent of instructor.

Mth 103 **Probability and Statistics** **4 hours**

A one-term course designed as an introductory survey in the basic concepts of statistics and probability. It is a study of inferential methods and assessing reliabilities of numerical information related to all occupational fields. Application of formulas to problem solving is stressed over the mathematical theory.

Prerequisite: Mth 101 with "C" or higher or consent of instructor.

Mth 106 ***Elementary Calculus*** **4 hours**

A one-term course with an intuitive approach to differential and integral calculus. The techniques of calculus in applied

problem solving are emphasized. Designed primarily for students who are not mathematics or science majors.
Prerequisite: Mth 101 with "C" or higher or consent of instructor.

Mth 191, 192, 193 Mathematics for Elementary Teachers 3 hours each
A sequence for prospective elementary teachers. It includes an introduction to mathematical language and logic as used by elementary teachers. The major emphasis is on set theory and the properties of ordered pairs.
Prerequisite: None.

Mth 200, 201, 202, 203 Calculus with Analytic Geometry 4 hours each
A typical lower division calculus sequence with the study of functions, limits, continuity, differentiation, integration and infinite series. The emphasis is on the theory of calculus, but various applications also are taken.
Prerequisite: Mth 101 and 102 with "C" or higher and "C" or above to continue the sequence, or consent of the instructor.

NON-TRANSFER MATHEMATICS

		lec.	lab.	term units
Analysis (Mathematics)	**4.207**	**3**	**2**	**4**

A theory-lab course designed for practical application and problem solving using basic mathematical concepts. Training is provided on a variety of calculating machines.
Prerequisite: Math 4.200 and Slide Rule Operations 6.137 or consent of instructor.

Applied Mathematics in Real Estate 2.405 3 0 3
Fundamentals of the real estate industry. Includes the fundamental mathematics necessary for performing real estate transactions, computing, taxation, real property assessments, percentage relationship and ratios of values, finance, leverage, appreciation, depreciation and present value.
Prerequisite: Business Mathematics 2.653 or consent of instructor.

Business Mathematics, Basic 2.650 3 0 3
Practical mathematics including problems composed of whole numbers, fractions, decimals and percentages.
Prerequisite: None.

Business Mathematics 2.653 3 0 3
A continuation and practical application of the business mathematics principles studied in Business Mathematics 2.650, including mathematics of payroll, depreciation, insurance, taxes, dividends and inventory.
Prerequisite: Business Math 2.650 or consent of instructor.

Business Mathematics, Applied 6.918 3 0 3
Acquaints the student with practical mathematical applications in the business area. Fundamentals of applied algebra, symbols, equations, ratios and proportion, exponents, radicals and formulas are covered with emphasis on business applications.
Prerequisite: Business Math 2.653 or consent of instructor.

Data Processing Mathematics 6.941 3 0 3
Introduction to the field of mathematics used in data processing. Covers binary numbering systems, numerical methods. Boolean algebra, logic and set theory.
Prerequisite: Two years of high school algebra or consent of instructor.

Electrical Mathematics 6.115 3 0 3
Applied mathematics for electronic engineering technicians. Includes an introduction to calculus covering graphical methods, differentiation and integration with direct application to electronic and electrical circuitry.
Prerequisite: Technical Mathematics 6.266 or consent of instructor.

Engineering Problems 6.138 0 2 1
A study of the presentation of technical data and computations. The procedures for dimensional analysis, recognition and usage of unit systems, preparation and usage of graphs and curves and practical applications of such skills are emphasized. A background of history and engineering is presented. Practical applications utilize diagrams, graphs, charts, tables, curves and the slide rule.
Prerequisite: Slide Rule Operations 6.137 or consent of instructor.

Mathematics 4.200 2 2 3
Practical mathematics including problems composed of whole numbers, fractions, decimals, percentage, ratio and proportion, powers and roots, measurements, and some applied geometry.
Prerequisite: Proficiency with whole number operations.

Mathematics 4.202 2 2 3
Practical mathematics for skilled workers with emphasis on the fundamentals of applied algebra. Symbols, exponents, signed numbers, operations with algebraic expressions, solution of equations, factoring and applied geometric concepts are covered with applications.
Prerequisite: Math 4.200 or consent of instructor.

Mathematics 4.204 2 2 3
Further work with equations and applied geometry along with coverage of logarithms and applied trigonometry. Concentrates on actual problem-solving aspects growing out of various jobs.
Prerequisite: Math 4.202 or consent of instructor.

Mathematics 4.209 2 2 3
A refresher course for non-industrial majors. Reviews the mathematical concepts of graphs, charts, metric system, weights, measures and geometry.
Prequisite: None.

		term		
		lec.	lab.	units
Shop Arithmetic	**4.246**	**2**	**2**	**3**

A one-term course in basic arithmetic used in the welding shop. Covers the fundamental operations with whole numbers, fractions, and decimals, measurements, some applied geometry, square roots, and ratio and proportion in preparation for layout work and calculation of time and material costs, rates, etc.
Prerequisite: None.

Slide Rule Operations	**6.137**	**0**	**2**	**1**

A study of the slide rule applicable to problem solving in technical fields. Includes care, adjustment and manipulation of the slide rule, and practical application of slide rule operation with emphasis on problem-solving and accuracy.
Prerequisite: None.

Technical Mathematics	**6.261**	**4**	**0**	**4**

Covers algebraic operations on polynomial and fractional expressions. Includes solution of linear equations in one and two variables, ratio and proportion, exponents, radicals, functional notation and introduction to graphs with applications to technology.
Prerequisite: One year of high school algebra or consent of instructor.

Technical Mathematics	**6.262**	**4**	**0**	**4**

An applied course in mathematics on the technical level including logarithms, right and oblique triangle problem solving, trigonometric applications, identities and equations and graphs of trigonometric functions.
Prerequisite: Technical Mathematics 6.261 or consent of instructor.

Technical Mathematics	**6.266**	**4**	**0**	**4**

An applied course in mathematics on the technical level including quadratic equations, exponential functions, vector algebra, complex notation and introduction to calculus.
Prerequisite: Technical Mathematics 6.262 or consent of instructor.

PHYSICAL EDUCATION AND HEALTH

Chemeketa Community College offers beginning, intermediate and advanced physical education classes so that each student may take advantage of his/her level of abilities and skills and improve upon them.

All physical education classes include three hours of study per week and carry one hour of college transfer credit. The physical education classes offered are:

P.E. 180—women only
P.E. 185—co-educational
P.E. 190—men only

All students at Chemeketa Community College are encouraged to participate in physical education.

Under special conditions involving health problems or age, this requirement may be waived or reduced. In such cases, approval of the Physical Education Department Chairman is required.

Students working toward an Associate in Arts degree need five terms of physical education to meet the requirements. Some programs related to an Associate in Science degree also have physical education requirements. These should be checked by the student with the department chairman.

Women's Physical Education Activities—PE 180

PE 180 Beg-Int-Adv Basketball 3 hours 1 credit
Fundamental skills, techniques of offensive and defensive play, rules, team play and competition. Increased skill and strategy levels in intermediate and advanced.

PE 180 Beg-Int-Adv Conditioning 3 hours 1 credit
Programs designed to meet individual needs. Circuit training, weight training, use of apparatus. Concern is given to cardiovascular development. Special programs of exercise for all ages.

PE 180 Field Sports 3 hours 1 credit
Fundamental skills, techniques, rules and team play in field hockey, soccer and speedball.

PE 180 Beg-Int-Adv Fitness Appreciation 3 hours 1 credit
Exercise routines designed to develop cardiovascular efficiency and maintain fitness.

PE 180 Gymnastics Rhythmic 3 hours 1 credit
Techniques involved in the handling of hoops, balls and jump ropes and development of these skills into routines to musical accompaniment.

PE 180 Beg-Int Personal Defense 3 hours 1 credit
Instruction in fundamental personal defense skills, precautionary measures to insure one's safety, countering attacks whereby various types of weapons are employed, and develop a skill level that promotes "self-assurance" to reduce panic.

PE 180 Beg-Int-Adv Slimnastics 3 hours 1 credit
Emphasis is placed on calisthenics and jogging to achieve toning and total fitness. These exercises, when combined with a reduction in intake, result in loss of inches and pounds. Nutritional information also is included.

PE 180 Beg-Int-Adv Figure Control 3 hours 1 credit
Activity designed to improve the human body form and function through the Universal Gym Machine and calisthenics. Emphasis also is placed on cardiovascular fitness through aerobic exercise.

Co-Educational Activities—PE 185

PE 185 Beg-Int-Adv Archery 3 hours 1 credit
Basic fundamentals of archery including safety, history, care and use of equipment, basic rules, and skill techniques. Application of fundamentals to target shooting with emphasis on self-testing and improvement. Class competition in regulation and novelty shoots.
Int-Adv include more emphasis on shooting perfection, self-improvement, analysis of errors through more competition at varied distances and targets.

PE 185 Beg-Int-Adv Badminton 3 hours 1 credit
Beginning—instruction in fundamental skills of serving, clears, drop, smash, backhand, singles and doubles play, terminology and rules.
Intermediate—learn the ability to execute the "overhead clear."
Advanced—perfection of techniques, skills and strategies through sophisticated drills and routines. Competitive play patterns emphasized.

PE 185 Beg-Int-Adv Bowling Additional Fees, Off-Campus 3 hours 1 credit
Beginning—basic fundamentals, techniques, rules, scoring and social etiquette of bowling.
Intermediate—perfection of straight ball delivery, introduction to hook and curve ball delivery and tournament play.

PE 185 Beg-Int Contemporary Dance 3 hours 1 credit
Beginning—fundamentals of dance movement; technique; locomotion; and experience in elementary dance composition.
Intermediate—a continuation of principles of dance movement, technique, locomotion and dance composition.

PE 185 Correctives 3 hours 1 credit
Students with physical injuries, disabilities or handicaps are assigned exercise programs of fitness or physical therapy by a licensed physical therapist.
Prerequisite: Consent of department chairman.

PE 185 Beg-Int-Adv Cycling 3 hours 1 credit
Cycling techniques will include: fitting bicycle to the individual, pedaling correctly, safety, maintenance and touring. Special emphasis on physical fitness through cycling.

PE 185 Beg-Int-Adv Modern Dance 3 hours 1 credit
Fundamentals of movement, techniques, use of axial and locomotor movements. Experience in dance composition to various media.

PE 185 Beg-Int-Adv Golf Additional Fees, Off-Campus 3 hours 1 credit
Basic fundamentals of golf such as grip, stance, mechanics of the swing. Use of short irons, long irons, woods and putting. Rules of the game, social etiquette and actual playing of the game are included.

PE 185 Beg-Int-Adv Jogging 3 hours 1 credit
Instruction and practice in the techniques of jogging. Development of form, pace and endurance is stressed. Various systems of training are incorporated such as pace judgment work with timing, fart-lek (speed play) endurance running for set periods of time, cross country jogging, self-predicted time jogging and pyramid type jogging. Students work according to their own abilities and physical condition.

PE 185 Beg-Int-Adv Judo 3 hours 1 credit
Instruction in fundamental personal defense skills, precautionary measures to insure one's safety, countering attacks, etc.

PE 185 Beg-Int-Adv Karate 3 hours 1 credit
Basic fundamentals of karate including basic stances, inside and outside blocks, straight punch, rising block, kick block, front, side and back kicks, basic throws, come-alongs, and techniques of detaining and restraining subjects.

PE 185 Beg-Int-Adv Racketball Additional Fees, Off-Campus 3 hours 1 credit
Paddleball or racketball as it is sometimes called, is an activity that is similar to handball or squash but requires less skill to master. The activity is played on handball courts with a racket and a rubber ball about the same size as a tennis ball.

PE 185 Beg-Int-Adv Running for Fitness 3 hours 1 credit
Running and circuit training techniques designed to improve the overall physical condition of the body.

PE 185 Beg-Int-Adv Skiing Additional Fees, Off-Campus 3 hours 1 credit
Fundamental skills and techniques including snowplow turns, travers-stem turns, sideslip, up-hill christie, beginning parallel and parallel turn.
Advanced—free skiing, powder, phase II, etc.

PE 185 Beg-Int-Adv Skiing Conditioning 3 hours 1 credit
This program is designed to prepare students for winter skiing. Conditioning is achieved through the use of the Universal Gym Machine, running, soccer skills, volleyball and coordination exercises.

PE 185 Beg-Int-Adv Softball 3 hours 1 credit
Fundamental skills, rules taught through participation in team play.

PE 185 Beg Swimming Additional Fees, Off-Campus 3 hours 1 credit
Students basically will follow the Red Cross beginner and

advanced beginner programs. Students should have mastered the following skills: floating, back and prone glides, survival floating, human stroke, front crawl, elementary backstroke, jump and dive into deep water.

PE 185 Int Swimming Additional Fees, Off-Campus 3 hours 1 credit
Students will basically follow the Red Cross intermediate swimming program. Students should have mastered beginner skills before enrolling. Skills to be mastered by the end of this course include: front crawl, back crawl, side stroke, breast stroke, surface dive, underwater swim and standing front dive. Swimming for fitness is encouraged.

PE 185 Adv Swimming Additional Fees, Off-Campus 3 hours 1 credit
Students should have mastered intermediate skills before enrolling. Emphasis is placed on swimming for fitness and improving basic skills. At the completion of this course, students should have the skills necessary to progress to senior lifesaving.

PE 185 Swimming. Water Safety Additional Fees, Off-Campus 3 hours 1 credit
Covers all phases of water safety, basic swimming strokes, related aquatic skills, diving, lifesaving skills, water safety and teaching guidelines.

PE 185 Swimming. Lifesaving Additional Fees, Off-Campus 3 hours 1 credit
A wide range of elementary and advanced lifesaving skills based on a high level of correct swimming techniques and physical conditioning. Based on Red Cross senior lifesaving.

PE 185 Swimming. Scuba Additional Fees, Off-Campus 3 hours 1 credit
Skills and techniques necessary for proper and safe performance of underwater swimming and diving. Acquaints the student with diving equipment and its proper use and care. Dangers involved in underwater swimming and diving and procedures to avoid these dangers.

PE 185 Beg-Int-Adv Swimming for Fitness 3 hours 1 credit
Open to students who have mastered the front and back crawl, sidestroke, breaststroke and elementary backstroke. Students work to develop endurance and strength and swim for aerobic fitness.

PE 185 Beg-Int-Adv Table Tennis 3 hours 1 credit
Beginning—fundamental skills, serve and practice in these skills, strategy and application of rules, etiquette.
Intermediate—perfection of table tennis skills and strategy in singles and doubles play.
Advanced—continued practice in skills and strategy with emphasis on competitive play.

PE 185 Beg-Int-Adv Tennis 3 hours 1 credit
Beginning—fundamental skills including forehand, backhand, serve and practice in these skills, strategy and applications of rules, etiquette.
Intermediate—perfection of tennis skills and strategy in singles and doubles play.
Advanced—continued practice in skills and strategy with emphasis on competitive play.

PE 185 Beg-Int Track and Field 3 hours 1 credit
Fundamentals, rules, theories and training in track and field events.

PE 185 Beg-Int-Adv Volleyball 3 hours 1 credit
Instruction and practice in skills, rules and strategy through individual and team play.

PE 185 Beg-Int-Adv Fencing 3 hours 1 credit
Initial position, on guard, salute, lunge and recovery, basic parries, basic attack and defense movements, fencing bouts and scoring.

Men's Physical Education Activities—PE 190

PE 190 Baseball 3 hours 1 credit
Varsity.

PE 190 Beg-Int-Adv Basketball 3 hours 1 credit
Fundamentals, techniques of offensive and defensive play, rules, strategy, team play.

PE 190 Basketball 3 hours 1 credit
Varsity.

PE 190 Beg-Int-Adv Physical Conditioning 3 hours 1 credit
The physical conditioning program is designed to meet individual needs for lifetime physical fitness activities using the following: progressive resistance exercise with barbells, dumbells and a Universal Gym Machine. Circuit training and free exercise (flexibility, breathing and body control) also are employed. Development of cardiovascular fitness is featured.

PE 190 Cross Country 3 hours 1 credit
Varsity.

PE 190 Beg-Int-Adv Fitness 3 hours 1 credit
Exercise routines designed to develop cardiovascular efficiency and maintain fitness.

PE 190 Golf 3 hours 1 credit
Varsity.

PE 190 Beg-Int-Adv Handball 3 hours 1 credit
Basic fundamental techniques and rules, etiquette, singles and doubles play.

Advanced—perfection of techniques, strategy, singles and doubles competition.

PE 190 Track and Field 3 hours 1 credit
Varsity.

PE 190 Beg-Int-Adv Weight Training 3 hours 1 credit
Instruction in fundamental safety procedures, preconditioning for weight training, progressive resistance exercise, competitive lifting and individualizing programs to fit lifetime needs regarding physical fitness. An activity for students of all ages.

PE 190 Fitness Appreciation 3 hours 1 credit
Circuit training, jogging, running and exercise programs designed for lifetime activities with regard to fitness. Basic instruction in diet and nutrition as aids to physical and mental fitness.

PE 190 Wrestling 3 hours 1 credit
Varsity.

PE 190 Beg-Int-Adv Baseball 3 hours 1 credit
Fundamental techniques of offensive and defensive play, rules, strategy and team play.

Physical Education Professional Classes 3 hours 2 credits

Majors in health, physical education and recreation must begin course work in professional activities during the freshman year if they are to complete a baccalaureate program in four years. Lower division professional courses are recommended for all students planning to transfer to teacher preparation programs offered by state system institutions.

Classes designed for health, physical education and recreation majors are listed in the term offerings as PE 194 and 294 (Women "majors") or PE 195 and 295 (Men "major"). The following is a list of courses offered for majors in health, physical education and recreation.

	FALL	WINTER	SPRING
PE 194 Prof. Act.	Field Sports	Modern Dance Basketball	Track & Field
PE 294 Prof. Act.	Gymnastics & Tumbling	Badminton Volleyball	Swimming
PE 195 Prof. Act.	Fundamentals of Movement & Games	Elementary Aquatics	Track & Field
PE 295 Prof. Act.	Gymnastics & Tumbling	Badminton Basketball	Football Weight Training

PE 131 Introduction to Health, Physical Education and Recreation 3 hours 3 credits
For health, physical education and recreation majors or students who want to explore the possibility of becoming a major in one of these fields. (Not likely to be offered spring term.) Professional orientation, basic philosophy and objectives, professional opportunities, qualifications and obligations.

Transfer Health Education

FE 201 Special Studies—Cooperative Work Experience 1/12 credits 4/40 hours/week
The Cooperative Work Experience program for the Department of Health and Physical Education at Chemeketa Community College can best be described as an opportunity for the student to be exposed to "actual life-like" situations in a job environment which helps the student complete his educational experience and to better apply classroom theory to an occupational environment. The student has the opportunity to be an observer and investigator in actual life situations which help him discover interest or perhaps disinterest in a given occupation. With coordination between the student, teacher and employer the student can receive an invaluable educational experience which is related to his field of study, and also enhances his chance for employment. Attendance at an on-campus Cooperative Work Experience seminar is required for credit and grade.
Prerequisites: (1) Recommendation by instructor and approval of department chairman. (2) Interview with department CWE coordinator. (3) Placement interview with prospective employer.

HE 199 Personal Health and Human Sexuality 3 hours 3 credits
A study of an individual's personal health attitude and behavior in relation to sexuality. Two major areas are (1) environmental conditioning and its relationship to identity, self-esteem, love and role definition and (2) physiology in relationship to environmental conditioning and human sexual response.

HE 199 Special Studies in First Aid 4 hours 3 credits
Either the Red Cross multi-media course or the Red Cross standard course provides the basic first aid procedures. The skills are supplemented with specialized instruction in high altitude emergency care, or childhood emergency procedures or accident prevention and emergency care.

HE 199 Seminar in Health Studies—Narcotics and Alcohol 3 hours 3 credits
Multi-disciplinary study of the detrimental factors of social environment and their effect on the body.

HE 250 Personal Health 3 hours 3 credits
Study of the personal health problems of men and women with emphasis on implications of family life, mental health, communicable diseases, degenerative diseases, nutrition, mood modifiers and consumer health.

HE 251 Community Health 3 hours 3 credits
Present the most recent knowledge of community health problems and agencies within the time allotted. Specifically point out community health needs and programs, health resources and the relationship of personal health to community health. Two major areas that will be looked at in this course are community health agencies and their inner functions for protection of the individual, and the development of individual recognition, responsibility and action in the solving of community health problems.

HE 252 First Aid 4 hours 3 credits
First aid and safety procedures for individuals, schools, athletics and civil defense; meets certification standards of the American Red Cross for the multi-media and advanced first aid card.

SCIENCES

TRANSFER LIFE SCIENCES

Bi 101, 102, 103 General Biology 4 hours each
Biological principles applied to plants and animals. 101-cell biology, 102-organizmal biology, 103-populations and ecology. For non-majors. Consent of instructor required if taken out of sequence. May not be taken for credit if student has completed six or more hours in a college-level course in a biological science. Three lectures, one three-hour laboratory period.

Bi 121, 122 Human Anatomy and Physiology 4 hours each
Structure and functions of the human body beginning with the single cell and continuing through tissues, organs and body systems. Three lectures, one three-hour laboratory period.
Prerequisite: Bi 101 or high school chemistry.

Bi 123 Microbiology 4 hours
A survey of bacteria and other microorganisms emphasizing their impact upon human health and welfare. Some discussion of cells, genetics, immunology, sterilization, disinfection, chemotherapeutic agents and interactions of man with the microbial environment also are included. Three lectures, one three-hour laboratory period.
Prerequisite: High school chemistry or equivalent.

Bo 201, 202, 203 General Botany 4 hours each
An introductory study of plant life dealing with the principles of plant biology. Includes comparative study of the morphology, anatomy, life history, physiology and ecology of plants as well as identification of native plants and taxonomy. A pre-professional course for students in the fields of agriculture, biology, forestry, range management, wildlife and related disciplines. Three lectures, one three-hour laboratory period.
Prerequisite: High school chemistry and biology or equivalent.

Zoo 201, 202, 203 General Zoology 4 hours each
An introductory study of animal life dealing with the principles of animal biology. Includes comparative study of the morphology, anatomy, life history, physiology, development and ecology of both vertebrates and invertebrates. For biology, pharmacy, physical education, psychology, fish and game management students and others. Three lectures, one three-hour laboratory period.
Prerequisite: High school chemistry and biology or equivalent.

NON-TRANSFER LIFE SCIENCES

		lec.	lab.	term units
Basic Sciences for Health Occupations	**5.601**	**3**	**3**	**4**

Introductory concepts of physics, chemistry and microbiology. Includes practical application of problem solving, scientific observation and measurement, use of equipment and basic laboratory techniques.

Basic Science Principles	**5.721**	**3**	**3**	**4**

The meaning of science, scientific thinking and methods, a survey of introductory concepts of physics, chemistry and microbiology underlying skills essential to health occupations.

Body Structure and Function	**5.608**	**2**	**2**	**3**

A study of normal structure and function of the human body; characteristics of the cell as basis for life; organization of tissues, organs and systems; structure and function of body systems. Lecture three hours and one hour recitation.

Human Anatomy and Physiology	**5.722**	**3**	**1**	**3**

Structure and function of the human body, structure, function and characteristics of the living cell, organization of tissues, organs and systems; structure and function of body systems.

Introduction to Biology	**6.277**	**3**	**3**	**4**

An introductory biology course designed to acquaint the student with the basic biological knowledge required for an understanding of ecological issues and other biology-related problems confronting him in today's world.

Introduction to Microbiology	**5.723**	**3**	**3**	**4**

A survey of bacteria and other microorganisms emphasizing their impact upon human health and welfare.

TRANSFER PHYSICAL SCIENCES

Ch 104, 105, 106 General Chemistry 5, 4, 4 hours
An introduction to chemistry for students who have no previous chemistry. The manipulation of scientific quantities, basic concepts of atomic and molecular structure and its effect on the behavior of matter, and the laws of chemical

change. 104, four lectures, three hours of laboratory, 105, three lectures, three hours of laboratory, 106, three lectures, three hours of laboratory time.
Prerequisite: One year of high school algebra or consent of instructor.

Ch 204, 205 General Chemistry 5, 5 hours
A professional course for students majoring in science, pre-professional and chemical engineering. Quantitative and theoretical aspects of the subject emphasized, with less descriptive material than Ch 104, 105, 106. Three lectures and six hours laboratory.
Prerequisite: One year of high school chemistry or consent of instructor.

Ch 206 General Chemistry 5 hours
Chemical equilibrium and descriptive inorganic chemistry. Three lectures and six hours laboratory.
Prerequisite: Ch 106, Ch 205 or consent of instructor.

Ch 226, 227 Organic Chemistry 5, 5 hours
General organic chemistry covering the chemistry of aliphatic and aromatic carbon compounds. Designed for biology majors, medical technicians, premedical and predental students. Three lectures and six hours laboratory.
Prerequisite: Ch 106, Ch 203, Ch 206 or consent of instructor.

Ch 234 Quantitative Analysis 5 hours
Fundamental principles of quantitative analytical chemistry including gravimetric, volumetric and limited instrumental methods. Designed to satisfy the requirements in quantitative analysis for pharmacy, premedical, predental and medical technology students. Three lectures and six hours of laboratory time.
Prerequisite: Ch 206 or consent of instructor.

FE 201 Special Studies—Cooperative Work Experience
1/12 credits 4/40 hours/week
The Cooperative Work Experience program for the lower division college transfer program at Chemeketa Community College can best be described as an opportunity for the student to be exposed to "actual life-like" situations in a job environment which will basically help the student complete his educational experience and to better apply classroom theory to an occupational environment. The student will have the opportunity to be an observer and investigator in actual life situations which will help him discover interest or perhaps disinterest in a given occupation. With coordination between the student, teacher and employer the student can receive an invaluable educational experience which is related to his field of study, and also enhances his chance for employment. Attendance at an on-campus Cooperative Work Experience seminar is required for credit and grade.
Prerequisites: (1) Recommendation by instructor and approval of department chairman. (2) Interview with department CWE coordinator. (3) Placement interview with prospective employer.

G 201, 202, 203 Geology 3, 3, 3 hours
An introductory study of earth materials, landforms, and major geological changes. The student will gain a basic understanding of the geologic environment.
Prerequisite: None.

G 204, 205, 206 Geology Laboratory 1, 1, 1 hour
This laboratory accompanies G 201, G 202 and G 203. Exercises cover rocks and minerals, geologic maps, landforms, aerial photographs and fossils.

GS 104, 105, 106 Physical Science 4, 4, 4 hours
Fundamental principles of physics, chemistry, astronomy and geology and man's relation to them. Development and application of the scientific method. Students may enter any term. May not be taken for credit if student has completed six or more hours in a college-level course in chemistry or physics. Three lectures and two hours laboratory.
Prerequisite: One year of high school algebra or consent of instructor.

Ph 201, 202, 203 General Physics 4, 4, 4 hours
Mechanics, sound, heat, light, electricity, magnetism and modern physics. Three lectures, one-hour problem session, and two hours of laboratory time.
Prerequisite: Enrolled in Mth 101, College Algebra, or consent of instructor.

NON-TRANSFER PHYSICAL SCIENCES

		term		
		lec.	lab.	units
Applied Physics	**6.366**	**3**	**2**	**4**

Applied physics covering magnetism and electricity on the post-high school level. Basic electronic circuits, sources and effects of electric current, alternating current, generators, motors, distribution of electric power and introduction to electronics and atomic energy in industry. Laboratory time is provided for demonstrations and experiments to help clarify the principles and procedures covered in class.
Prerequisite: Technical Mathematics 6.261 or consent of instructor.

Applied Physics	**6.370**	**3**	**2**	**4**

Applied physics on the post-high school level covering mechanics of measurement, structure of matter, heat, energy, heat engines, sound and light. Laboratory time is provided for demonstrations and experiments to clarify principles and procedures.
Prerequisite: Enrolled in Technical Mathematics 6.261 concurrently or consent of instructor.

Applied Physics	**6.371**	**3**	**2**	**4**

Applied physics on the post-high school level covering the principles of vectors, kinematics, work-power-energy,

machines and angular velocity. Laboratory time is provided for demonstrations and experiments to clarify principles and procedures covered in class.
Prerequisite: Technical Mathematics 6.261 or consent of instructor.

Chemistry **6.276** **3** **2** **4**
A continuation of introductory chemistry covering the basic principles of general chemistry; the study of selected elements and their compounds. The fundamental concepts of Organic Chemistry are studied. The student conducts experiments to reinforce these concepts.
Prerequisite: Introductory Chemistry 6.275 or consent of instructor.

Elementary Geology **4.305** **3** **2** **4**
A study of basic geology as it pertains to the drilling industry. Develops an understanding and recognition of geological formation, topography and maps to better identify and locate satisfactory drilling sites in relationship to existing water tables.
Prerequisite: None.

Elementary Science for Firefighters **5.103** **3** **2** **4**
Characteristics and behavior of fire fundamentals of physical laws and chemical reactions occurring in fire and fire suppression, by-products of combustion, analysis of factors contributing to fire—its cause, rate of burning, heat generation, travel, confinement, control and extinguishment.
Prerequisite: None.

Fire Science **6.995** **3** **2** **4**
Practical physics covering matter, measurements, machines and energy. Laboratory time is provided for demonstrations and experiments to help clarify the principles and procedures covered in class.
Prerequisite: Elementary Science for Firefighters 5.102 or consent of instructor.

Fire Science **6.996** **3** **2** **4**
The physical and chemical properties of substance, chemical bonds and reactions, ionization, covalent substances. Laboratory time is provided for clarifying demonstrations and experiments.
Prerequisite: Fire Science 6.995 or consent of instructor.

Introductory Chemistry **6.275** **3** **2** **4**
Fundamentals of modern chemistry for students who have had little or no previous training in chemistry. Covers the basic principles and fundamentals of chemistry with emphasis on industrial application.
Prerequisite: None.

Physical Science Survey **6.372** **3** **2** **4**
This course will be a survey of the following topic areas of Physical Science, Kinematics Scientific method, makeup of matter, light energy, heat energy, mechanical energy, chemical energy and nuclear energy. Laboratory time will be provided for students to investigate the principles and concepts of these areas. No prerequisite.

Physical Science Survey **6.373** **3** **2** **4**
This course will be a survey of the following topic areas of physical science: the solar system, universe, radioactive, geology of the earth, atmosphere, weather and ocean, their relationship to man will be the main theme of the survey. Laboratory time will be provided for the student to investigate the principles and concepts of these areas. No prerequisite.

Physical Science Survey **6.374** **3** **2** **4**
This course will be a survey of the following topic areas of physical science: the quantum atom, the states of matter, chemical reactions, electricity, electromagnetic spectrum, lasers and nuclear energy. Laboratory time will be provided for students to investigate the principles and concepts of these areas.

Practical Physics **4.300** **3** **2** **4**
Practical physics for skilled workers covering heat, light and sound. Laboratory time is provided for demonstrations and experiments to help clarify the principles and procedures covered in class.
Prerequisite: Mathematics 4.200 or consent of instructor.

Practical Physics **4.302** **3** **2** **4**
Practical physics for skilled workers covering matter, measurements. mechanics and machines. Laboratory time is provided for demonstrations and experiments to help clarify the principles and procedures covered in class.
Prerequisite: Enrolled in Mathematics 4.202 or consent of instructor.

SOCIAL SCIENCES AND RELATED GENERAL EDUCATION

TRANSFER SOCIAL SCIENCES

Anth 101 **General Anthropology** **3 hours**
Physical: studies the processes of the biocultural evolution of humans with emphasis on evolutionary theory, mendelian and population genetics, the fossil record, classification of primates and the nature of race. No prerequisites necessary.

Anth 102 **General Anthropology** **3 hours**
Archeology: deals with humans' prehistoric development, archeological method and theory, and dating techniques, with emphasis on the agricultural revolution and its antecedents and the foundations of new and old world civilizations. No prerequisites necessary.

Anth 103 **General Anthropology** **3 hours**
Cultural: studies the nature of culture and its various forms, as well as the development of cross-cultural methodology

and anthropological theory. In addition, ethnologic data from a range of human societies is employed to analyze language, economy, technology, social organization, government, religion and art. No prerequisites necessary.

Anth 207 Introduction to Cultural Anthropology 3 hours
Analyzes the concept of culture, its significance for human beings, its diverse forms and degrees of elaboration among different groups of people with special emphasis on the divisions of anthropology and rise of anthropological theory; also, the structure of language and its role in cultural transmission, the varieties of human subsistence patterns and technologies, and the interdependence of heredity, society, and environment. No prerequisites necessary.

Anth 208 Introduction to Cultural Anthropology 3 hours
Focuses on the variety of human social organizations, political forms, and the nature of belief systems cross-culturally. Includes an examination of art and ritual. Anth 207 recommended.

Anth 209 Introduction to Cultural Anthropology 3 hours
Explores the processes of cultural growth and expansion and the nature of culture change. In addition, this section analyzes the nature of culture as it relates to such conditions as acculturation and assimilation, the implications of programs of technical assistance to developing nations and ethics of applied anthropology. Anth 207 and 208 recommended.

Ec 201, 202, 203 Principles of Economics 3 hours each
An introduction to economic theory and institutions and government economic policy.
Prerequisite: For Ec 202 and Ec 203, Ec 201 or consent of instructor.

Geog 105, 106, 107 Introductory Geography 3 hours each
A general introduction to the field of geography. Geog 105, physical geography; Geog 106, cultural geography; Geog 107, regional survey of the world. May be entered any term.

Hst 101, 102, 103 History of Western Civilization 3 hours each
Origins and development of western civilization from ancient times to the present. May be entered any term.

Hst 201, 202, 203 History of the United States 3 hours each
From colonial times to the present. May be entered any term.

Hst 256, 257, 258 Introduction to Ethnic History of the United States 3 hours each
Focuses on the roles ethnic minority groups have played in the industrial, agricultural, artistic, intellectual and political life of the nation. Hst 256 emphasizes the native American; Hst 257 the Black American and Hst 258 the Chicano. May be entered any term.

PS 201, 202 American Government 3 hours each
An introduction to the principles, processes and politics of the American political system. The course deals with the functions and interactions of both governmental and non-governmental institutions. May be entered either term.

PS 203 State and Local Governments 3 hours
An introduction to American state and local government by comparing the political systems and behavior in states and communities.

PS 205 International Relations 3 hours
An introduction to the analysis of international politics. Topics such as nationalism, alliances, propaganda, United Nations, foreign policy and war are considered as they relate to contemporary problems on the world scene.

Psy 199 Processes in Living 3 hours
Self-understanding through an exploration of values, attitudes, interests, beliefs and abilities and how these personal factors influence learning, educational and vocational decision-making and interpersonal relationships.

Psy 201, 202, 203 General Psychology 3 hours each
Basic principles and theories of behavior, discussion of individual differences, intelligence, aptitude, methods of psychological measurement and testing, drives and motives, emotions and reactions to stress, perception, learning, thinking, reasoning, personality, the response mechanism, communication processes, attitudes and social processes, frontiers of psychology.
Prerequisite: For 202 and 203, psychology 201 or consent of instructor.

Psy 206 Introduction to Social Psychology 3 hours
This course will expose the students to some of the problems, theories and methods of social psychology. It will include the interrelationships between the individual and his social environment, the social influence upon motivation, perception and behavior, and the development and change of attitudes and opinions. Small groups, social stratification and mass phenomena will also be included.
Prerequisite: Psy 201, 202, 203.

Soc 204 General Sociology 3 hours
Basic issues and findings regarding the biological, symbolic and social nature of man are explored. The foundations for social interaction including patterns of social structure, culture, socialization, primary relationships, social differentiation, organizations. Deviance and collective behavior are presented. Principles of the scientific method and major sociological theorists are included.

Soc 205 General Sociology 3 hours
An analysis of American social institutions with special emphasis on family, religion, education, economy and polity. Factors contributing to institutional stability and change are examined with reference to potential consequences. Some cross-cultural comparisons are presented.
Prerequisite: Soc 204 or consent of the instructor.

Soc 206 General Sociology 3 hours
A sociological approach to major social problems in contemporary American society. Organizational theme will be population with emphasis upon such concepts as: aging, health care, law, leisure, minorities, pollution, poverty, technology, urbanization, work and youth. Potential alleviation and prevention will be stressed.
Prerequisite: Soc 204 or consent of the instructor.

SS 101 Introduction to Women's Studies 3 hours
A survey of women as a minority group, examining the role of women from a variety of social science perspectives: the position of women in the family, women's participation in the labor force, the political position of women, the psychology of women, women cross-culturally and women in history and literature. The course will survey both classical and contemporary materials on women's role in society.

FE 201 Special Studies—Cooperative Work Experience
1/12 credits 4/40 hours/week
The Cooperative Work Experience program for the lower division college transfer program at Chemeketa Community College can best be described as an opportunity for the student to be exposed to "actual life-like" situations in a job environment which will basically help the student complete his educational experience and to better apply classroom theory to an occupational environment. The student will have the opportunity to be an observer and investigator in actual life situations which will help him discover interest or perhaps disinterest in a given occupation. With coordination between the student, teacher and employer the student can receive an invaluable educational experience which is related to his field of study, and also enhances his chance for employment. Attendance at an on-campus Cooperative Work Experience seminar is required for credit and grade.
Prerequisites: (1) Recommendation by instructor and approval of department chairman. (2) Interview with department CWE coordinator. (3) Placement interview with prospective employer.

NON-TRANSFER SOCIAL SCIENCES

		term		
		lec.	lab.	units
American Institutions	**1.600**	**3**	**0**	**3**

A study of the effect of American social, economic and political institutions upon the individual as a citizen and as a worker in business and industry. The interrelationship of freedom and control is utilized as a common denominator in considering the fundamental principles and processes involved in the development of the basic institutions of our society. Topics considered are: culture, its functions and changes; social groups in relation to problems of urban living, the family, and social classes; the American economic system, its concepts and organization; public opinion; the American political system and international relations.

Business Economics	**1.524**	**3**	**0**	**3**

An introduction to the fundamental concepts of economics basic to the American economic system. The approach is analytical rather than descriptive, dealing with the purpose of an economic system, the factors that business uses in producing goods and services, income analysis and modern fiscal policy, the American economy in relation to the world scene and contemporary problems of the American economy.

Constitutional Government	**1.601**	**3**	**0**	**3**

A study of the Constitution of the United States and its meaning to the individual through government. Designed to develop an understanding of the meaning of the Constitution's provisions and an appreciation of its contemporary relevance. In the treatment employed, the historic roots of the document are studied to establish the precedents for particular institutional arrangements, e.g., bicameral legislatures.

Consumer Economics	**1.525**	**3**	**0**	**3**

Principles and problems of the consumer and how the consumer can get the most out of life through the fullest use of money, time and energy. Credit, investment, housing, insurance, consumer law and budgeting are examples of the subjects covered. Designed to explain, guide and show the student how to become more efficient in meeting everyday problems thus laying the ground work for competent consumership.

Employer-Employee Relations	**4.500**	**3**	**0**	**3**

The objective is to provide an understanding of the rights and responsibilities of labor and management and the roles played by them in relation to the individual, the community and the national economy. Areas covered include history, organization, laws, wage and hours, contracts and community responsibilities.

Introduction to Psychology	**1.606**	**3**	**0**	**3**

An introductory course in psychology. It explains the scopes, methods and basic concepts of psychology. Some of the subjects covered are motivation, learning, thinking, perception, emotion, personality, mental health, animal behavior and applied psychology.

Occupational Skills and Geography	**1.302**	**3**	**0**	**3**

A study of geographic factors and how they exert an influence on occupational endeavors. Special emphasis on

the geographic factors of Oregon and Washington and on the occupational courses being taught. Each student learns how his specific occupational field is influenced by geography through development of a study of his field in different geographic settings.

Principles of American Government 1.602 3 0 3
A survey of the government of the United States designed primarily to meet the needs of college students taking their only course in political science. The origins and growth of national government are studied with an emphasis on current status and organization. Considerable attention is given operating methods and administration of United States Government along with the law-making process. State and local government is included, this knowledge being vital to a complete understanding of the subject.

Psychology of Human Relations 1.608 3 0 3
A study of principles of psychology that will be of assistance in the understanding of interpersonal relations on the job. Motivation, feelings and emotions are considered with their particular reference to on-the-job problems. Other problems investigated are employee selection, supervision, job satisfaction and industrial conflict as they relate to the employee and his work. Attention also is given to personal and group dynamics so that the student may learn to apply the principles of mental hygiene to his adjustment problems as a worker and a member of the general community.

Sociology 1.310 3 0 3
A study of people and the history of problems of living together, and the development and organization of the various groups and structures that make up the interrelated facets of modern society. Contemporary problems particularly evident in the United States, such as racial disorders, campus demonstrations and the hippie movement are included.

State and Local Government 5.221 3 0 3
A study of state and local government structure and operations. Emphasis on understanding how governments are organized and operate, legal status and implications and interrelationship of governmental functions and agencies.

SPECIALIZED TRANSFER COURSES

BUSINESS

BA 101 Introduction to Business 4 hours
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 131 Introduction to Data Processing 3 hours
An introduction for persons having had no prior knowledge of data processing. Includes a brief discussion of the history of data processing and the current uses of data processing. It covers how computers work and how people interface with computers and control them. In the lab the student is introduced to data processing machines and writing simple computer instructions.

BA 206 Business Management Principles 3 hours
To present the basic elements of management so the student could synthesize the various approaches to management. To review: traditional approach; behavioral approach; decision making approach; and quantitative approach.

BA 211, 212, 213 Accounting Principles 3 hours each
Introduction to field of accounting, techniques of account construction; preparation of financial statements, application of accounting principles to practical business problems, proprietorship studies from standpoint of a single owner, partnership and corporation. Student must register concurrently for Accounting Lab 6.926.

BA 214 Business Communications 3 hours
Study of the purpose and effectiveness of communications in business. Analysis and writing in simulated business situations.
Prerequisite: Wr 112.

BA 215 Cost Accounting 3 hours
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.
Prerequisite: Two terms of college accounting.

BA 216 Tax Accounting 3 hours
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.

BA 217 Business Machines 2 hours
Instruction in the operation of the rotary calculator, printing calculator, electronic calculator and ten-key adding machine. Business problem application is stressed.
Prerequisite: Introduction to Calculators 2.658 or consent of instructor.

BA 222 Finance 3 hours
Study of the role of the financial manager in the corporation; study of promotion, capitalization, ownership, management, sale and regulation of securities and income and working capital in the modern corporation.

BA 223 Marketing 3 hours
Marketing in our socioeconomic system. Emphasis upon market problem solving and decision making based upon

the understanding of human behavior. 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.

BA 226 Business Law 3 hours
The framework of the law as it affects the businessman, how the law operates, how it is enforced, how to use the law in business. The origins of law, the relations of business to society and the law, evolution of business within the framework of the law, the historical development and present-day applications of the law of contracts.

BA 227 Business Law II 3 hours
This course in business law is designed to provide the student with an understanding of the various areas of business law: agency, commercial paper, sales, bailments, partnerships, corporations, insurance, security devices and bankruptcy. The case approach will be used stressing the uniform commercial code in understanding how the principles of business law are applied.
Prerequisite: BA 226 or instructor consent.

BA 229 Consumer Finance 3 hours
Study of the role of the consumer in our society, consumer decision-making, money and marital happiness, consumer credit and borrowing, consumer food shopping, consumer clothing management, home ownership, family transportation, health care and services, social security, life insurance, annuities, estate planning, wills, trusts, expenditures and taxes for government services, consumer protection and the international consumer movement.

BA 231 Business Data Processing 4 hours
Application of computers to business data processing using COBOL. The development of a common business-oriented computer language and its use in modern business organizations. Comparison of COBOL with other automatic programming languages.
Prerequisite: BA 131.

BA 232 Introduction to Business Statistics 3 hours
Elementary statistics techniques to aid decision making in the business environment. Emphasis is on statistical inference, probability, sampling, estimation, and hypothesis testing.
Prerequisite: Business Math 6.918 or equivalent.

BA 238 Salesmanship 3 hours
Role of sales an an integral part of the total marketing function. The application of selling to the behavioral sciences is included with special emphasis on sales, psychology sales techniques and the fundamental principles of sales communications.
Prerequisite: BA 223.

BA 239 Advertising 3 hours
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.
Prerequisite: One term basic marketing.

BA 250 Small Business Management 3 hours
A study of general functions and procedures used in operation of a small business. An introduction to the basic aspects of managing a small business. The five management functions of planning, organizing, staffing, actuating and controlling are applied in the areas of a small business.
Prerequisite: Second year standing or consent of instructor.

BA 251 Office Management 3 hours
A study of the broad scope of responsibilities of the administrative manager. Includes portrayal of the centralization of office services necessitating a knowledge of planning, organizing and controlling of business services, systems and procedures.

CS 213 Introduction to Symbolic Language Programming FORTRAN 4 hours
Computer applications and elementary FORTRAN.
Prerequisite: BA 131 or equivalent.

FE 201 Special Studies—Cooperative Work Experience 1/12 credits 4/40 hours/week
The Cooperative Work Experience program for the Department of Business Technology at Chemeketa Community College can best be described as an opportunity for the student to be exposed to "actual life-like" situations in a job environment which will basically help the student complete his educational experience and to better apply classroom theory to an occupational environment. The student will have the opportunity to be an observer and investigator in actual life situations which will help him discover interest or perhaps disinterest in a given occupation. With coordination between the student, teacher and employer the student can receive an invaluable educational experience which is related to his field of study, and also enhances his chance for employment. Attendance at an on-campus Cooperative Work Experience seminar is required for credit and grade.
Prerequisites: (1) Recommendation by instructor and approval of department chairman. (2) Interview with department CWE coordinator. (3) Placement interview with prospective employer.

LAW ENFORCEMENT

CJA 111 Introduction to Criminal Justice 3 hours
Orientation in law enforcement, history and philosophy of enforcement of criminal laws, administration of justice,

etiology of criminal behavior, correctional treatment and professional career opportunities.

CJA 112 Introduction to Criminal Justice 3 hours
Examines facts of crime and delinquency and relates them to data including variations of crime and delinquency rates with age, sex, race, poverty, educational status, urbanization and other variables as well as the incidence among criminals and delinquents of various biological, psychological and social traits, characteristics and processes.

CJA 113 Introduction to Criminal Justice 3 hours
A continuation of Introduction to Criminal Justice CJA 112. Factual materials pertaining to control of crime are related to sociological and psychological theories of punishment and treatment. Imprisonment, probation, parole, etc., are identified as society's reactions to crime and variations of these reactions are studied. Operations of police departments, courts, probation and parole departments and persons are examined.

CJA 211 Introduction to Criminal Law 3 hours
A review of the court systems and procedures from occurrence of criminal violation to final disposition. Covers the six primary functional areas of administration of justice and reviews the principles of federal, state, criminal and civil laws as they apply to and affect law enforcement.

CJA 212 Introduction to Criminal Law 3 hours
Introduction to the origin and structure of common-law crimes and procedures as well as statutory crimes. Definitions and distinctions between criminal and civil law, criminal court procedures, criminal law case reading, federal and state law and Oregon Criminal Code sections.

CJA 213 Introduction to Evidence 3 hours
Survey of basic principles of the law of criminal evidence with emphasis on the role of the investigator in collecting, preserving and introducing evidence in court. Discussion of current court decisions as they affect the rules of evidence.

CJA 214 Introduction to Criminal Investigations 3 hours
Introduction to the history and theory of the fundamentals of criminal investigation, crime scene to courtroom. Includes scientific techniques, psychology of the offender and recent pertinent court decisions.

CJA 219 Introduction to Community Relations 3 hours
Survey of the role of the police in a changing community, explores the subject of racial and community tension and minority group crime, social forces in the community and factors relating to police image.

CJA 220 Introduction to Penology 3 hours
A basic introductory overview of the current role of imprisonment as a correctional tool, together with a survey of some of the more significant activities involved in the treatment of prisoners.

CJA 221 Introduction to Parole and Probation 3 hours
A survey of the basic principles and techniques involved in the correctional programs of probation and parole. Includes a critical analysis of their individual roles in the administration of criminal justice.

CJA 222 Introduction to Juvenile Corrections 3 hours
An introductory perspective of the historical and contemporary aspects of the juvenile offender including examination of juvenile court philosophy and current treatment programs.

CJA 223 Introduction to Corrections Process 3 hours
An analysis of the historical and contemporary background of the adult offender with emphasis on current prevention, control and rehabilitative programs.

FE 201 Special Studies—Cooperative Work Experience 1/12 credits 4/40 hours/week
The Cooperative Work Experience program for the Department of Law Enforcement at Chemeketa Community College can best be described as an opportunity for the student to be exposed to "actual life-like" situations in a job environment which will basically help the student complete his educational experience and to better apply classroom theory to an occupational environment. The student will have the opportunity to be an observer and investigator in actual life situations which will help him discover interest or perhaps disinterest in a given occupation. With coordination between the student, teacher and employer the student can receive an invaluable educational experience which is related to his field of study, and also enhances his chance for employment. Attendance at an on-campus Cooperative Work Experience seminar is required for credit and grade.
Prerequisites: (1) Recommendation by instructor and approval of department chairman. (2) Interview with department CWE coordinator. (3) Placement interview with prospective employer.

Wr 227 Technical Writing 3 hours
Covers basic principles of composition and their application to reports within the criminal justice system, with particular emphasis on basic English, spelling and concise reporting of factual data within the format of police reports. Also stresses the marshalling of facts, notetaking and visual aids.

SECRETARIAL SCIENCE

SS 111, 112, 113 Stenography 3 hours each
Theory of shorthand, practical application in sentence and paragraph dictation. SS 121, 122, 123 must be taken concurrently unless the student has taken the equivalent. Students with one year of high school shorthand may receive credit for SS 111 only upon recommendation of the instructor. Five one-hour periods.

SS 121, 122, 123 Typing 2 hours each
Theory and practice. Drills of all kinds, punctuation and mechanical arrangement of business correspondence. Legal forms, tabulating, manuscripts, modern business forms, straight copy timing, training on both manual and electric typewriters. Students who have had one year of typing may receive credit for SS 121 only upon the recommendation of instructor.

SS 211, 212, 213 Applied Stenography 3 hours each
Advanced principles and phrases, dictation and transcripts covering vocabularies of representative businesses, legal forms, newspaper and magazine articles.
Prerequisite: SS 113, 123, or equivalent.

TECHNICAL COURSES

		term lec.	lab.	units
Accident Prevention and First Aid	**4.190**	**1**	**2**	**2**

A study of accident prevention, recognition of hazards, good housekeeping and personnel protective equipment. Study and practice of emergency treatment for various types of injuries, control of bleeding, artificial respiration, transportation, splinting and bandaging. Course leads to a Red Cross Standard Certificate.

Accounting, General 6.923 3 0 3
Employs the analysis approach to acquaint the student with the concepts and applications in processing financial data in a business environment to produce desired records and reports for management. Specific topics covered are service and service-trading enterprises, special journals, ledgers, work sheets, statements, payroll and four monthly cycles. Must take 6.926 lab concurrently.

Accounting, General 6.924 3 0 3
Continuation of Accounting 6.923. It deals with the area of financial accounting, partnership organization and branch office accounting. Specific topics covered are sales, receivables, payables, inventories, taxes, depreciation, accruals and closing the books. Problem solving is done through the Computer Center as student capabilities permit. Must take 6.926 lab concurrently.
Prerequisite: Accounting 6.923.

Accounting, General 6.925 3 0 3
A continuation of Accounting 6.924. A managerial accounting course centered around the corporate structure. Emphasis is placed on management decision-making, using such managerial tools as budgeting, cost systems, standard costs, statement analysis, flow of funds, special reports for management and automation. Accounting applications are processed through the Computer Center by all data processing students. Must take 6.926 lab concurrently.
Prerequisite: Accounting 6.924.

Accounting, Intermediate 2.551 3 0 3
Comprehensive study of accounting theory and of conventional procedures for measurement of income and presentation of financial data. A critical evaluation of accounting concepts, the conflicts and shortcomings. Brief and rapid review of data collecting process, accounting for and controlling cash, receivables and current liabilities.
Prerequisite: Accounting Principles BA 213 or consent of instructor.

Accounting, Intermediate 2.552 3 0 3
Continuation of Intermediate Accounting I. Investment in productive resources; inventories, plant and equipment and intangible assets. Issues of valuation and cost allocation.
Prerequisite: Intermediate Accounting 2.551.

Accounting, Intermediate 2.553 3 0 3
Continuation of Intermediate Accounting II. Special problems peculiar to corporations: stockholder's equity, long-term debt, stock option leases, pension plans and income tax allocation. Construction of accounting records from incomplete records, cash and other funds, flow and analysis of financial statements.
Prerequisite: Intermediate Accounting 2.552.

Accounting Lab 6.926 0 2 1
Independent and group study.

Administration of Child Care Centers 7.113 3 0 3
Operation of cooperative preschools, nursery schools, Head Start, day care centers and private kindergartens. Program planning, organizational structure, budgeting, personnel, interviewing, operational codes and licensing.

Administration of Justice 5.203 3 0 3
A review and study of the court systems existing in the United States and the jurisdiction of each; the mechanics of court procedures and the reasons for them; the principles of the Constitution, federal, state and civil laws as they apply to the law enforcement office; the legal procedures that must be followed by a law enforcement officer when preparing a case before the court.

Administration of Security Programs 5.232 3 0 3
A study of alarm and protection devices, protective patrol and internal precautionary procedures in administration of security programs in business and industry. Includes protection against burglary, robbery, and industrial espionage. Consideration is given to the prevention of lawsuits and certain business frauds. Emphasis is on planning and implementation of a well-rounded program in these areas.

		term lec.	lab.	units
Advanced Arc Welding	**4.166**	**1**	**6**	**3**

A laboratory course designed to train certified weldors. Extensive practice on simulated tests required for certification in plate and pipe welding is followed by the test and certification by the state if the student qualifies. A study of welding procedures previously covered as they apply to heavy guage welding is included.
Prerequisites: Third term standing and successful completion of basic and intermediate welding courses. Certification test fee is determined by the number of students involved and the type of test. The fee must be paid at least one week prior to the test date.

Advanced Electronic Circuits **6.216** **1** **3** **2**
Each student designs and builds a project of his own. Emphasis is placed on the design, quality of workmanship and the written manual for the project.

Advanced Industrial Electronics **6.248** **2** **3** **3**
A continuation of industrial electronics with emphasis on combining control functions into larger systems. Applications of various transducers and simple servo systems, magnetic amplifiers, small motor controls, light-operated controls and interpretation of control diagrams.
Prerequisite: Industrial Electronics 6.218 or approval of department chairman.

Advanced Dental Laboratory Procedures **5.407** **2** **3** **3**
Principles of full and partial denture prosthesis and the use of laboratory equipment. Instruction includes experience in investing and casting inlays and assisting in other advanced laboratory procedures.
Prerequisite: Chairside Assisting and Basic Dental Lab Procedures 5.403.

Advanced Lathe Practices **4.833** **2** **4** **3**
A continuation of the machine tool series. Studies include: internal boring, threading and taper turning, external threading, taper turning, angular turning and machine reaming. Laboratory time is provided for student operation of equipment.
Prerequisite: Machine Shop Practices 4.841.

Advanced MIG Welding **4.252** **1** **6** **3**
A continuation of Basic MIG Welding 4.250. Study and practice includes mild steel, aluminum, stainless steel and pipe welding techniques. An opportunity is provided at the end of the course to take the Oregon State Department of Labor certification test at extra cost.
Prerequisite: Basic MIG Welding or approval of department chairman.

Advanced Milling Machine Practices **4.837** **2** **4** **3**
A continuation of the machine tool series. Studies include straddle milling, rotary table work, dividing head construction and indexing, gear cutting and terminology and boring work on milling machines. Laboratory time is provided for student operation of equipment.
Prerequisite: Machine Shop Practices 4.841.

Antennas and Transmission Lines **6.231** **2** **0** **2**
Practical and theoretical aspects of transmission lines and antennas. Basic theory of antenna design, radiation patterns, phasing and coupling networks are studied. Coaxial and open wire transmission line studies are emphasized for all frequencies.
Prerequisite: Network Analysis 6.230.

Applied Dental Roentgenology **5.408** **0** **3** **1**
Consists of practice in placement of film, cone angulation, machine manipulation and film processing to develop proficiency in taking X-rays.
Prerequisite: Introductory Concepts 3.411.

Applied Dental Roentgenology **5.413** **0** **3** **1**
A continuation of Applied Dental Roentgenology 5.408, designed to develop further skills in taking X-rays.
Prerequisite: Applied Dental Roentgenology 5.408.

Applied Fluid Mechanics **3.306** **2** **3** **3**
A course designed to provide instruction in the fundamental principles of automotive fluid power systems. The study of the basic components of fluid power systems, how they are combined to buildup circuits and the repair of these circuits. Students learn the basic design and use of hydraulic and pneumatic power systems as related to automobiles.

Applied Fluid Power **6.117** **2** **2** **3**
Fundamental principles of fluid power systems. Included is the study of the basic components of fluid power systems, how they are combined to buildup circuits and the uses of these circuits. The students learn the basics of design and use of fluid power systems and the use of various components in these circuits. Laboratory time is provided to illustrate and amplify the classroom learning.

Applied Mechanics **6.109** **2** **3** **3**
Deals with forces and the effect of forces acting upon rigid bodies at rest. This includes resolution of forces, equilibrium and resultants of force systems, friction and centroids. Laboratory time is provided for conducting experiments to clarify the principles and procedures covered in class.
Prerequisite: Third term standing or approval of department chairman.

Applied RPG II **2.681** **2** **3** **3**
An advanced course in RPG II. Programming assignments involve the generation of reports related to principles learned in the three-term sequence of accounting principles. Emphasis includes data management, disk files, full range of language features, independent research and

term
lec. lab. units

problem solving.
Prerequisites: Introduction to RPG II 2.679 and three terms of accounting or consent of instructor.

Applied Stenography 2.675 1 3 2
Coordinates and intensifies all the previous training. The classroom situation simulates that of an office with the student taking dictation in shorthand and from the dictating machine for transcribing at the typewriter in mailable form. This on-the-job experience offers experience in high quality production and work confidence to the student about to enter the business world.

Architectural Design 4.234 0 8 3
A problem solving course dealing with the production of architectural design solutions for assigned program requirements.
Prerequisite: Architectural Drafting 4.226 or 4.227 or approval of department chairman.

Architectural Drafting 4.226 0 8 3
Emphasizes basic architectural drafting techniques and methods. Covers architectural lettering, layout, arrangement, symbols and conventional construction methods used in residential or light commercial buildings.
Prerequisite: Two terms of drafting.

Architectural Drafting 4.227 0 8 3
Development of basic architectural drafting techniques, symbols and methods. Familiarizes the student with advance planning, detailing, design and the application of related resource materials.
Prerequisite: Architectural Drafting 4.226.

Assembler I 6.969 3 6 5
An introduction to IBM/370 Assembler language. Simple programs are coded using the standard and decimal instruction sets. Emphasis includes basic input/output operations, arithmetic operations, use of precoded I-O routines, editing, indexing, table manipulation and lookups, branching, looping, introduction to subroutine linkage, sequential disk files and memory dump analysis.
Prerequisite: COBOL I 6.961 or consent of instructor.

Assembler II 6.970 3 6 5
An advanced course in IBM/370 Assembler language. Complex programs are coded using the standard and decimal instruction sets. Emphasis includes macro writing, subroutines, random files, teleprocessing, physical I-O routines, memory conservation, efficiency, instruction modification, modular programming in a team environment, independent research and problem solving.
Prerequisites: Assembler I 6.969, Systems Analysis 6.945 and Utilities and Data Management 6.965 or consent of instructor.

Auditing 2.555 3 3 4
A study of standards and procedures observed by C.P.A.'s in the examination of financial statements. Audit standards and objectives, collection of evidence, evaluation of internal control, verification, work papers and reports.
Prerequisite: Intermediate Accounting 2.552 and Cost Accounting 2.576.

Automotive Auxiliary Systems 3.319 3 2 4
A course designed to teach the student operation, testing and repair of malfunctions in auxiliary systems consisting of power tops, windows, seats, overdrives, vacuum controls (headlamp doors, power brake units, door locks, etc.) power steering and other automotive assist units.

Automotive Chassis 3.307 2 3 3
A course designed to familiarize the student with basic frame and chassis related components of the automobile. It provides for proper learning of how suspension systems work along with methods of repair and adjustment. In addition to suspension systems, steering gears and principles, brakes and brake systems and related studies are applied along with methods of adjustment and repair using laboratory vehicles and components.

Automotive Electrical Systems I 3.304 3 4 4
A course designed to familiarize the student with basic electricity terminology, fundamentals and principles of operation applied to the circuitry of the automobile.

Automotive Electrical Systems II 3.317 3 4 4
A lecture-demonstration course designed to follow up Automotive Electrical I. It covers in detail complete testing, diagnosis and theory of operation of the ignition, charging, cranking and lighting systems. In the laboratory, students participate on actual components. Laboratory reports on each job are required.

Automotive Machine Shop 3.308 2 3 3
A course designed to familiarize the student with operations in an automotive machine shop including cylinder head and block resurfacing, valve grinding, piston knurling, valve guide knurling, cylinder boring, piston fitting, honing, methods of precision measurement, piston pin and rod replacement and other aspects of precision machining for automotive technology.

Automotive Materials 3.302 2 0 2
A course developed to familiarize the student with materials and material production commonly associated with the automobile, to include uses and applications of the materials.

Automotive Repair I 3.327 1 9 4
A course designed to give the student experience doing many jobs on actual automobiles, not component units.

term
lec. lab. units

The laboratory work consists primarily of prescribed jobs. (Job reports required.)

Automotive Repair II 3.328 1 9 4
A follow-up course to Automotive Repair I, continuing with jobs on the automobile consisting of some different jobs than the first sequence. Designed to provide experience and develop speed in the mechanical field.

Automotive Repair III 3.329 1 9 4
A course to be taken third in a sequence of three, following up Automotive Repair I and II. The course is primarily a specialty class to allow the student to specialize in any particular area of interest he may have. In the event some students have no wish to specialize, automatic transmissions, engines and general areas are emphasized, and again speed and skill are of importance.

Automotive Service Operations 3.320 2 0 2
Outlines the duties and responsibilities of parts and service managers. The students study methods of organizing service personnel, shop facilities, and an introduction to shop lay-out. The student studies the basic operation of parts rooms and the problems common to both parts and service departments.

Automotive Shop Safety 3.303 1 0 1
A survey of the principles of safety for the auto industry. Includes the use of films and case studies to develop an awareness of hazards and positive attitudes toward the prevention of accidents.

Automatic Transmissions 3.325 2 3 3
A course designed to familiarize the student with fundamentals of automatic transmission operation. To give the student understanding in hydraulic principles, power flows, and methods of gear change used in automatic transmissions. The student familiarizes himself with different makes and models of transmissions as well as applications.

Basic Arc Welding 4.240 2 9 5
A beginning course in arc welding, covering arc welding equipment, materials and procedures used in industry. Designed to develop basic techniques in flat, horizontal, vertical and overhead welding by demonstration and supervised practice. Basic technical and related information concerning processes and metallurgy is included.

Basic Design 7.114 2 2 3
Introductory course in visual arts, including structural elements and design principles (color, texture, form, line, space), and some art appreciation. Laboratory includes practices in the organization of visual ideas. This course is of value in the development of a basic background, regardless of the student's major interest.

Basic Drafting for Electronics 4.124 0 4 2
Basic drafting techniques and standards are stressed throughout this course. Major areas of study include use of materials and equipment, freehand lettering, orthographic projections, dimensioning practices, and the graphic and symbolic language of drafting. Line work, lettering and the appearance of the finished drawing receive attention at all times.

Basic MIG Welding 4.250 1 4 2
Designed to develop a basic familiarity and basic skills in semiautomatic MIG welding processes. A study of the principles involved in the equipment, material and procedures is combined with demonstrations and supervised practice using standard industrial equipment. Solid and flux-cored wire will be used in typical industrial applications.
Prerequisite: Basic Arc Welding and Oxyacetylene courses or approval of department chairman.

Basic Oxyacetylene Welding 4.161 2 6 4
Fundamentals of oxyacetylene welding introducing brazing and cutting processes.

Basic TIG Welding 4.251 1 3 2
A practical course in the fundamentals of TIG welding. Processes, machine setting application and development of inert gas welding skills, includes welding of mild steel, aluminum, aluminum alloys, stainless steel metals and magnesium.
Prerequisites: Basic Arc Welding and Basic Oxyacetylene courses or approval of department chairman.

Blueprint Reading and Layout 4.810 2 3 3
Interpretation and use of mechanical drawings and shop sketches. Emphasizes blueprint reading, sketching and layout principles, tools and practices.

Blueprint Reading and Sketching 4.244 1 3 2
Covers basic sketching techniques and reading of three-view drawings for welders. Includes dimensioning practices, scaling, line alphabet notes and symbols. Emphasis is placed on developing an ability in reading detail and weldment drawings.

Blueprint Reading for Construction 4.159 2 3 3
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. Fabrication, construction, and assembly, commercial buildings and bridge or dam construction prints typify the type of plans used for study.
Prerequisite: Blueprint Reading and Sketching 4.244 or department chairman approval.

		lec.	lab.	term units
Blueprint Reading for Firemen	**5.119**	**3**	**0**	**3**

Fundamentals of blueprint reading including the interpretation and meaning of lines, views, elevations, conventions and symbols, and the relationship of the various elements comprising architectural drawings and specifications.

Briefhand I	**2.700**	**2**	**3**	**3**

A simplified note taking system. This course would be beneficial for business students for vocational application, for taking lecture notes, and for personal use.

Briefhand II	**2.701**	**2**	**3**	**3**

A continuation of Briefhand I. The emphasis in this course will be on speed development. Some transcription techniques will be introduced.
Prerequisite: Briefhand I or consent of instructor.

Briefhand III	**2.702**	**2**	**3**	**3**

A continuation of Briefhand I and II. Special emphasis on transcription skills, review of theory and speed building.
Prerequisite: Briefhand I and II or consent of instructor.

Building Construction for Fire Suppression	**5.131**	**3**	**0**	**3**

Designed to acquaint the fire fighter with fire problems inherent in the structural elements of buildings. Knowledge gathered through interpretation of blueprints and inspection of various building types provides a basis for applying effective extinguishment practices with adequate safeguards for the fireman.

Building Materials	**6.281**	**2**	**3**	**3**

Wood as an engineering material, lumber merchandising, basic methods in residential building construction, codes and grading rules. Elementary knowledge of building materials other than wood.

Business Correspondence	**2.672**	**3**	**0**	**3**

A review of grammar and punctuation. Vocabulary building and spelling are included. Emphasis is on writing of various types of business correspondence letters, memorandums, reports, report format, etc.

Business Executive Dictation	**2.668**	**1**	**2**	**2**

Development of the skill of taking dictation for interoffice memorandums, letters, reports and other written communications. Mechanical operation of the dictating machine is included as is the set-up of the various business forms mentioned above.

Business English Fundamentals	**2.673**	**3**	**0**	**3**

Develops the student's vocabulary, spelling ability and usage of words and reviews the principles of grammar. Written and oral communications as required in business situations are emphasized.

Business Law	**2.320**	**3**	**0**	**3**

A review of the nature of law as it applies to business. Emphasis is on contractual relationships, the law of sales, bailments and the negotiable instruments. Case studies are used to illustrate the principles involved.

Business Machines	**2.660**	**1**	**3**	**2**

Includes instruction in the operation of the rotary calculator, printing calculator, electronic calculator and ten-key adding machine. Business problem application is stressed.
Prerequisite: Introduction to Calculators 2.658 or consent of instructor.

Business Management Principles	**2.501**	**3**	**0**	**3**

A practical course in the five basic areas important to business management. These areas are planning, organizing, controlling, staffing and directing.

Business P.A.R.	**2.703**	**3**	**0**	**3**

A course for developing English skills efficiency and study habits which are basic to success in future business courses. Word study and dictionary skills are included.

Buying	**2.102**	**2**	**3**	**3**

Study of sources, timing and terms applicable to buying decisions; the use of purchasing guides, including budgets and buying plans, catalogs, buying offices and selection criteria. How to develop a limited buying plan, steps to follow and evaluation of results.
Prerequisite: Retailing.

Cadastral Surveying Field Lab and Seminar I	**6.141**	**1**	**40**	**7**

The student registers for this course before leaving school to work spring and summer terms. Upon his return in the fall he submits a written report of his work experiences. This report is reviewed and discussed with a surveying instructor.

Cadastral Surveying Field Lab and Seminar II	**6.142**	**1**	**40**	**7**

A continuation of Field Lab and Seminar I. The student submits a written report of his work experiences, which will be different as he gains knowledge of the practices of cadastral surveying.

Cam and Gear Drafting	**4.225**	**0**	**8**	**3**

Advanced mechanical and machine drafting. Study includes the calculation of various types of gears in addition to the detail drawing of gears. The principles of the cam are discussed and displacement diagrams and detail drawings illustrate various types of motion and various styles of cams in common use.
Prerequisites: Machine Drafting 4.223 and Technical Math 6.262 or Math 4.204.

		lec.	lab.	term units
Case Problems in Marketing	**2.107**	**3**	**0**	**3**

A course using cases in marketing to develop the students ability to apply what he has learned and arrive at a decision or course of action.
Prerequisite: Retailing 2.108 and Merchandising 2.105.

Chairside Assisting and Basic Dental Lab Procedures	**5.403**	**2**	**6**	**4**

Introduction and practice in the techniques of mixing filling materials, preparing impression materials and constructing diagnostic models for use in the dental office. The course provides practical experience in chairside assisting at the University of Oregon Dental School.
Prerequisite: Introductory Concepts 5.411.

Child Nutrition	**7.115**	**3**	**0**	**3**

Nutritional needs and food habits of the young child with practical application to the day care setting, includes planning of meals and snacks.

Children's Literature	**7.117**	**3**	**0**	**3**

An introduction to picture books and stories appropriate to the young child, with emphasis on both classics and current literature; criteria for selection; use of books for concept formation, enjoyment and appreciation, reading, storytelling and other methods of presentation appropriate for children.

Civil Engineering Drafting	**4.236**	**0**	**8**	**3**

An introductory course in the typical drafting room problems of consulting engineering firms. Typical drawings from the areas of plan-profile sheets, construction details, piping details and standards will be studied in their relationship to an overall set of plans. The student will repair selected drawings from a sewer system, a water system or similar project.
Prerequisite: Second year Technical Drafting standing or consent of department chairman.

COBOL I	**6.961**	**3**	**6**	**5**

An introduction to ANS COBOL. Simple business-oriented programs are coded and documented. Emphasis is placed on language structure, data formats, card and sequential disk files, table processing, problem statements and documentation. (Equivalent to BA 231)

COBOL II	**6.963**	**3**	**6**	**5**

An intermediate course in ANS COBOL. Business-oriented programs are coded and documented. Emphasis includes indexed sequential files, random files, subprograms, segmentation, report writer feature, sort feature, table processing and indexing.
Prerequisite: COBOL I 6.961 or Business Data Processing BA 231.

COBOL III	**6.964**	**3**	**6**	**5**

An advanced course in ANS COBOL. Complete business application packages are coded and documented. Emphasis includes efficiency coding, file backup and restore procedures, systems planning, modular programming, indexed sequential files, random files, systems documentation, data management techniques, independent research and problem solving.
Prerequisite: COBOL II 6.963.

Color Television Servicing	**4.273**	**3**	**6**	**5**

A practical approach to color television with both theory and practical techniques being studied and applied. Both solid state and tube type are analyzed.

***Commercial and* Investment Properties**	**2.419**	**3**	**0**	**3**

Information for licensed brokers and real estate salesmen. Emphasis on the process of selecting commercial-property for all types of investment purposes. All factors of influence are analyzed. Determination of actual net income is stressed.
Prerequisite: *Second year standing or instructor approval.*

Community-Police Relations	**5.215**	**3**	**0**	**3**

A study of problems such as increasing permissiveness for the wrongdoer and law violator, lessening respect for authority including the police, charges of police brutality relating principally to demonstrations and racial disturbances, and court decisions of recent years which have appeared to hamper police effectiveness. Guides and assists police officers in becoming better informed of the conditions causing the above problems, improves the police understanding and awareness of the attitudes and feelings of the people among whom they work and enables them to relate more adequately to their communities.

Computer Center Lab II	**6.993/6.991**	**0**	**18/6**	**6/9**

This laboratory course is taken concurrently with Computer Center Operation II 6.951. Hands-on experience is gained in the college computer center using an IBM/370 Model 125 computing system.
Prerequisite: *Computer Center Operation I 6.950 or consent of instructor.*

Computer Center Lab III	**6.994/6.992**	**0**	**18/6**	**6/9**

This laboratory course is taken concurrently with Computer Center Operation III 6.952. Hands-on experience is gained in the college computer center using an IBM/370 Model 125 computing system.
Prerequisites: Computer Center Operation II 6.951, Computer Center Lab II 6.993 (or 6.991) and System 370 Concepts and Facilities 6.956.

Computer Center Operation I	**6.950**	**2**	**6**	**4**

An introduction to the operation of a computer center. A basic exposure is presented of the duties required for six

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job titles as each relates to the operation and maintenance of a data center: Operations supervisor, console operator, librarian, peripheral equipment operator, scheduler and control clerk. Hands-on experience is gained in the computer center using an IBM/370 Model 125 computing system. Emphasis is placed on the basic operation of the computer.

Computer Center Operation II 6.951 3 0 3
An intermediate course in the operation of a computer center using the IBM/370 Model 125 computing system. Emphasis is placed on introducing operator commands, computer center standards and procedures, recovery procedures, scheduling considerations and the physical organization of disk and tape. This course is designed to be taken concurrently with either Computer Center Lab II 6.993 (or 6.991).
Prerequisites: Computer Center Operation I 6.950 and Introduction to Data Processing 6.940 (or BA 131) or consent of instructor.

Computer Center Operation III 6.952 4 0 4
An advanced course in the operation of a computer center using the IBM/370 Model 125 computing system. Emphasis is placed on backup and restore procedures, maintenance of system libraries, teleprocessing, maintenance of data files, 'good-mix' scheduling, multi-programming procedures and commands and independent problem determination. To be taken concurrently with Computer Center Lab III 6.994 (or 6.992).
Prerequisites: Computer Center Operation II 6.951 and Computer Center Lab II 6.993 (or 6.991).

Computer Problems for Engineering Technicians 6.929 2 2 3
Solving various problems that involve engineering computations with the aid of the computer. The student will write programs in computer language, key punch the cards for the computer and debug programs as required.

Concerns of Parenthood 7.118 3 0 3
An introductory class of a seminar nature utilizing a variety of books, materials and resource persons with emphasis on early childhood. Planned for parents and those interested in preschool programs. Topics include communication, philosophies of love, theories of child rearing, stresses and crises affecting the modern family.

Concrete Construction and Design 6.123 2 3 3
A study of concrete materials, shear and bending stresses, and design calculations. Coverage is given rectangular, tee, and reinforced beams, reinforced floor systems and columns, foundations, retaining walls and miscellaneous members. Laboratory work consists of problem solving.
Prerequisite: Sixth term standing or approval of department chairman.

Constitutional Law 5.213 3 0 3
A study of the Constitution of the United States and its provisions and amendments. This includes various decisions of the Supreme Court in recent years with particular emphasis on the law and decisions relating to arrests, searches and seizures and confessions.

Construction Estimating 6.110 2 3 3
Basic skills in estimating the amount and cost of materials required and labor cost involved in various types of construction. Application of these skills of making estimates of material and labor quantities and costs for representative type of construction.
Prerequisite: Sixth term standing or approval of instructor.

Contracts and Specifications 6.118 3 0 3
Acquaint the student with common usage and practice in the preparation of contracts and attendant specifications. Examination of existing contracts covering current jobs is used whenever possible with practical problems designed to teach the application of theory.
Prerequisites: Second year standing or approval of department chairman.

Cooperative Work Experience 2.686 1 4 2
On-the-job training supervised by the college and the employer. CWE provides valuable experience in areas closely paralleling the student's college program. The student is required to attend a one-hour weekly seminar on campus in addition to the on-the-job training. Entry is by petition for students already employed or by placement through the CWE office.

Cooperative Work Experience** 2.687 1 8 3
Same as above.

Cooperative Work Experience** 2.688 1 12 4
Same as above.

Cooperative Work Experience** 2.689 1 16 5
Same as above.

Cooperative Work Experience** 2.690 1 20 6
Same as above.

Cooperative Work Experience** 2.691 2 24 8
Same as above except student is required to attend a two-hour weekly seminar on campus. (Registration by special arrangement with CWE office and department chairman.)

Cooperative Work Experience** 2.692 2 32 10
Same as above. (Registration by special arrangement with CWE office and department chairman.)

**Students signing up for CWE in lieu of any other course must have department chairman approval and file a deviation form in the Registrar's Office.

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Cooperative Work Experience**	**2.693**	**2**	**40**	**12**

Same as above. (Registration by special arrangement with CWE office and department chairman.)

Copying Processes	**2.661**	**1**	**3**	**2**

An introduction to "copy processing" equipment (duplication machines, copiers, and special-use typewriters) used to produce written business communications. The operations of the machines, understanding their care, and acquiring reasonable skills as well as a study of basic layout principles are major goals.

Cost Accounting	**2.576**	**3**	**0**	**3**

Involves the student in utilizing cost data as a tool to aid management in areas of analysis and control. A gradual unfolding of knowledge, skill, relationships, judgments and practical applications in job order, processes and standard costing, budgeting, non-manufacturing costs, direct costs and data processing application techniques.
Prerequisite: Accounting 6.925 or BA 213.

Creative Activities	**7.136**	**3**	**2**	**4**

Examination of and experience with various media and activities that promote creative growth in young children. Includes basic design elements and principles. Consideration is given to the importance and value of creative activities and how to foster them in and present them to young children in families and groups. Included are art activities, crafts, use of nature, etc. A variety of resource materials and books are employed. The course encompasses theory, student involvement in the actual activities in a lab type situation and use of these activities with young children.

Credit Procedures	**2.558**	**3**	**0**	**3**

Principles and methods of credit administration, evaluation of credit, risks, credit controls, action for collection or legal remedies, assisting in determining credit policy and securing credit information.

Crime and Delinquency	**5.201**	**3**	**0**	**3**

Examines facts of crime and delinquency and relates them to data including variations of crime and delinquency rates with age, sex, race, poverty, educational status, urbanization and other variables as well as the incidence among criminals and delinquents of various biological and social traits, characteristics and processes.

**Students signing up for CWE in lieu of any other course must have department chairman approval and file a deviation form in the Registrar's Office.

Crime and Delinquency	**5.202**	**3**	**0**	**3**

A continuation of Crime and Delinquency 5.201. Factual materials pertaining to control of crime are related to sociological and psychological theories of punishment and treatment. Imprisonment, probation, parole, etc., are identified as society's reactions to crime and variations of those reactions are studied. Operations of police departments, courts, probation departments, parole departments and prisons are examined.

Criminal Investigations I	**5.206**	**3**	**0**	**3**

A study of the basic tools of investigation and an introduction to investigative work. Acquaints the student with the meaning of a complete investigation and stimulates interest in, and realization of the need for further study in the specialized field of crime detection. The method of the investigator at the crime scene is studied. Methods of investigation, scientific techniques, aids available, search of the scene, gathering information and evidence, recording notes and reporting findings are all a part of this course. Recent court decisions as they bear on admissibility of evidence and use of interrogations are reviewed.

Criminal Investigations II	**5.208**	**3**	**0**	**3**

A sociological-psychological study of homicide, including detailed study of the killer and circumstances under which he kills. Also covered intensively here are the scientific disciplines related to death, including toxicology, cause of death determination and the investigator's approach to scientific evidence.

Criminal Investigations—Sex	**5.228**	**2**	**0**	**2**

An introduction into the basic understanding of deviant behavior relating to matters of overt sexual behavior; orientation; differences in the personalities of sexual deviant persons; and the police officer's role in the community of how to effectively control sexual deviants.

Criminal Law I	**5.211**	**3**	**0**	**3**

A study of the structure and definition of various crimes. Classifications of crimes including descriptions and elements are studied to determine what crime, if any, has been committed. The union of criminal intent to the criminal act to establish the corpus delecti is reviewed relating to degree of involvement of principal or accessory. The capability or incapability of persons to commit a crime either legally or physically because of age, physical condition, mental condition, etc., is considered. Exemptions as privileged communications afforded a spouse, attorney, physician, corporations, diplomats, etc., and whether crimes are justifiable or excusable, are reviewed. Crimes studied are offenses against the person, home, property, public health, safety and morals, public justice, public peace, federal government and foreign governments.

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Criminal Law II 5.212 3 0 3
A continuation of Criminal Law 5.211. Further study of criminal procedures with specific review and study of additional violations.

Criminal Law III 5.224 3 0 3
A continuation of Criminal Law 5.212, in which detailed and thorough study is pursued in the subjects of criminal intent and criminal responsibility.

DC Theory and AC Theory 4.255 12 0 9
Basic principles of DC and AC Theory. The DC and AC theory is a necessary background for the understanding of the various phases of electronics. A basis is given for the principles of operation of the radio and television circuits and their components. Basic mathematics is coordinated with the theory areas as needed.

DC Theory and AC Theory Lab 4.256 0 6 2
Basic principles of soldering, wire connecting and the proper use of hand tools and hand powered tools. Safety procedures to be used in the shop. Also practical experiments proving the theories taught in the DC Theory and AC Theory class with the use of basic meters and other equipment.

Data Communications 6.976 2 0 2
An introductory course in data communications. Concepts and applications of real time data acquisition and uses of terminals for file inquiry and update applications. Assignments involve hands-on experience with campus terminals interacting with the IBM/370 Model 125 computing system.
Prerequisites: Utilities and Data Management 6.965 and Systems Analysis 6.945 or consent of instructor.

Data Processing Management 6.946 3 0 3
Instruction in the fundamentals of management and coordination of a data center.
Prerequisites: Computer Center Operations I 6.950 and System 370 DOS/VS Job Control 6.949.

Dental Anatomy and Physiology 5.405 2 3 3
A study of anatomical terminology, head anatomy including skeletal structure blood supply, innervation of the face, oral anatomy and physiology, muscles of mastication and paranasal sinuses.

Dental Office Correspondence 5.412 3 0 3
A study of dental office communications pertaining to letter writing, billing, requisitioning, etc.
Prerequisite: Dental Office Management 5.410.

Dental Office Management 5.410 2 3 3
A survey of personal and vocational relationships, including the telephone, reception procedure, business office procedure, purchases, storage and care of supplies and maintenance of office equipment.

Dental Office Practice 5.409 0 16 3
Practice and observation in an ethical dental office.
Prerequisite: Satisfactory completion of term one and two or consent of department chairman.

Dental Sciences 5.404 3 3 4
A study of the various fields of specialized denistry recognized by the American Dental Association and the science connected with them. Includes oral hygiene, bacteriology, sterilization, drugs, diet and nutrition.
Prerequisite: Dental Anatomy and Physiology 5.405.

Descriptive Geometry 4.115 1 5 3
A course for drafting majors in the graphic solution to mathematical and spacial problems. Major areas of study include auxiliary views, point, line and plane problems, and revolutions.
Prerequisite: Machine Drafting 4.222, Drafting 4.105 or consent of drafting department chairman.

Development in Childhood I 7.119 3 0 3
The basic principles of development, prenatal through two years old. Emphasis will be on physical, intellectual, emotional and social growth in children. Laboratory experiences as arranged.

Development in Childhood II 7.120 3 0 3
A continuation of Development in Childhood I. Basic principles of development, ages three through six years. Emphasis is placed on physical, intellectual, emotional and social growth in children. Laboratory experiences as arranged.
Prerequisite: Development in Childhood I.

Directed Participation I 7.121 2 12 6
Supervised teaching of children in a nursery school, kindergarten, day care center or child development center.
Prerequisites: Second-year standing and Supervised Field Experience.

Directed Participation II 7.122 2 15 7
A continuation of Directed Participation I. Supervised teaching of children in a nursery school, kindergarten, day care center or child development center.
Prerequisites: Second-year standing and Directed Participation I.

DOS/VS Utility and Librarian Programs 6.975 3 0 3
Students use utility programs to create and modify files as well as dumping files to the printer. Special purpose

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utilities also are used to copy and restore disk packs and initialize disk packs with label information. Librarian programs are used to manage and update all system libraries. Designed for computer operations students.
Prerequisite: System 370 Concepts and Facilities 6.956 or consent of instructor.

Drafting 4.101 0 4 2
Fundamentals of drafting designed to give the student a basic understanding of drawing techniques. Emphasis is placed on the application of drafting instruments, standard orthographic projection, layout procedures and ASA approved lettering techniques. Drawing techniques such as geometric construction, selection of views, sectional and auxiliary views, revolutions, heads and standard dimensioning practices are covered.

Drafting 4.105 0 4 2
An intermediate course to prepare students for mechanical structural, civil and architectural drafting fields. Includes isometric projection and perspective drawings. Emphasis is placed on the concept, technique of inking and the development of working drawings as used in industry. Limitations of general shop equipment are discussed.
Prerequisite: Drafting 4.101 or approval of department chairman.

Drafting Room Computation 4.126 0 2 1
A course in the presentation of technical data and computations. The use and application of the calculator in the solution of typical drafting room problems is stressed. Practical applications in the area of the graphic presentation of data are covered. The use of standard tables, the calculator and the slide rule are applied to the solution of typical industrial problems.
Prerequisite: Technical Mathematics 6.262 (may be taken concurrently) or consent of department chairman.

Drill Equipment, Tools and Terminology 4.290 3 2 4
A comprehensive study of drilling machines and accessory equipment to develop an understanding of the variety of tools and tool usage. Develops understanding of the terminology, vocabulary and terms used in the drilling industry through lecture, demonstration and field trips.

Drilling Machine Maintenance and Repair 4.296 3 4 4
A study of drilling machine maintenance and repair problems and the economy involved for safe and economical operation. A study of tool dressing incorporates machining and welding skills developed earlier in the program.

Drilling Setups and Operations 4.292 3 4 4
Acquaints the student with a variety of machine setups and operations under varied conditions. Lecture, demonstration and field trips.
Prerequisite: Third term standing in the program or approval of department chairman.

Early Childhood Curriculum Methods I 7.123 4 0 4
Developing, presenting and evaluating various concepts and activities for children. Schedules play and selection and arrangement of play materials (including outdoor activities).
Prerequisite: Second-year standing in early childhood education or comparable work experience as aide, teacher or volunteer.

Early Childhood Curriculum Methods II 7.124 4 0 4
A continuation of Early Childhood Curriculum Methods I. Developing, presenting and evaluating various concepts and activities for children. Creative dramatics, science and nature, field trips and cognitive activities.
Prerequisite: Early Childhood Curriculum Methods I.

Earthwork Computations and Estimates 6.528 1 3 2
Problems in computing cuts and fills in highway work, mass diagrams and borrow pits are worked out in detail. Estimating is limited to computations of quantities and cost on highway, bridge and heavy construction work.
Prerequisites: Fourth term standing or approval of department chairman.

Educational Security Systems 5.234 3 0 3
Examines the problems of establishing and maintaining a balanced and inclusive program of campus security. Included are routine patrol and access limitation programs, campus investigations, key control and functions in case of riots, demonstration and other disturbances. The nature and extent of cooperation with and use of outside governmental police agencies also is stressed.

Electric Arc Welding 4.160 2 6 4
Fundamentals of electric arc welding. Includes machine setting and electrode selection, development of technique and electrode manipulation.

Electric Arc Welding 4.162 2 9 5
A continuation of Electric Arc Welding 4.160. Provides the necessary class and laboratory time to allow the student to become proficient in all position welding, electrode selection and machine setting.

Electrical Circuits 6.206 3 3 4
A continuation of electrical theory with an emphasis on the analysis of the characteristics of complex wave form

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circuits. Covers passive filter networks, bi-directional wave forms, complex waveform analysis of simple circuits; waveform analysis of series R-C circuits, waveform analysis of series R-L circuits and waveform analysis of combined networks.

Electrical Drafting **4.103 0 4 2**
A course covering the techniques and methods used in the electronic-electrical industry. It includes symbols, wiring diagrams introduction to pictorial drawings, chassis layout schematic diagrams, power distribution diagrams and charts, graphs and ASA and EEIA approved symbols.
Prerequisite: Drafting 4.101 or approval of department chairman.

Electrical Theory AC **6.202 3 3 4**
A continuation of electrical theory on the basis of alternating currents with an emphasis on contemporary techniques as a supplement to basic concepts. Covers the principles of electron physics, unidirectional current and factors affecting its magnitude, series-circuit analysis, parallel-circuit analysis, complex unidirectional-current circuits, the phenomena of magnetism and electromagnetism, inductance and its characteristics, characteristics of capacitance and the electrical measurement instruments.
Prerequisite: Electrical Theory DC 6.200; Technical Mathmatics 6.261, or approval of department chairman.

Electrical Theory DC **6.200 3 3 4**
An introduction to electronics on the basis of direct currents with an emphasis on contemporary techniques as a supplement to basic concepts. Covers the principles of electron physics, unidirectional current and factors affecting its magnitude, series circuit analysis, parallel-circuit analysis, complex unidirectional-current circuits, the phenomena of magnetism and electromagnetism, inductance and its characteristics, characteristics of capacitance and electrical measurement instruments.

Electricity **6.208 3 2 4**
An introduction to electrical circuitry and equipment with emphasis on the concepts of electrical physics. Includes electricity and magnetism, circuits and components, currents, power, basic electronics and motors and controls.

Electronic Circuit Concepts **6.212 2 6 4**
A study using the basic circuits and components of electronics. Emphasis on designing and proving of the design concepts. Areas covered are vacuum tubes, amplifiers, oscillators and power supplies. In the laboratory portion of the course the circuits designed in the theory section are proven.

Electronic Data Processing **6.240 3 0 3**
An introduction to the principles of electronic digital computers. Covers the application and programming of computers in business, industrial and scientific organizations. Reviews the decimal and binary numbering systems as they relate to computers; analyzes computer circuitry with emphasis on transistor and diode switching circuits; presents the fundamentals of logical design with an introduction to Boolean algebra and the use of block diagrams; analyzes the major divisions of digital computer in terms of the arithmetic element, the memory element, input and output devices and the control element.

Electronic Devices **4.257 6 0 5**
Covers the basic principles of solid state devices and vacuum tubes, mathematics and slide rule are coordinated with the theory principles as needed.

Electronics Devices Lab **4.258 0 6 2**
Covers the theories and principles of the electronic devices classes, where the student actually sets up equipment and proves the theories and principles studied.

Electronic Drafting **4.100 0 8 3**
A course for drafting majors in electrical drafting. Schematic and wiring diagrams will be stressed. Other areas of study include block and flow diagrams, PC board layout and charts and graphs.
Prerequisite: Second-year standing in drafting or consent of the drafting department chairman.

Electronic Instruments **6.220 2 2 3**
A study of service and laboratory type instruments to gain the knowledge of the fundamental operating principles and understand how the instruments work, using representative examples. Specific function of the instruments and illustration of practical applications of the instruments are part of the course.

Electronic Management Orientation **4.275 3 0 3**
A practical course for the service technician covering the areas of customer relations, business costs, inventories, shop planning and advertising methods. Discussion of licensing laws.

Electronic Principles **4.262 2 0 2**
The study and use of the basic circuits and components of electronics. The technician can use this as a building block for more complicated circuits. What circuits and components are, how they operate and how they may be placed together to work in more complicated situations. Components and circuits covered include vacuum tubes, solid state devices, amplifiers, oscillators, power supplies and other similar materials.

Electronic Principles Lab **4.263 0 6 2**
Covers the lab principles of the electronic principles classes. The student builds bread-board models of the circuits for

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analyses, and components are changed to show the effects on the circuits.

Elements of Design and Construction 2.418 1 4 3
A comprehensive non-technical course given primarily for real estate license preparation. Includes fundamentals of building construction and materials, costs, building codes and terminology used in construction.
Prerequisite: Real Estate Practices 2.400 or instructor approval.

Elements of Metallurgy 6.600 3 0 3
A continuation of the heat treatment with emphasis on non-ferrous and stainless steel. Special attention will be given on the specification of welding on exotic metals (zirconium, titanium, etc.).
Prerequisite: Heat Treatment of Steel 4.849 or department chairman approval.

Embezzlement and Shoplifting 5.235 3 0 3
A dual study of the two major loss factors in merchandising. Employee embezzlement is studied in both merchandising and non-merchandising businesses and industries with emphasis on modus operandi and prevention and control procedures. The techniques and hardware involved in shoplifting are given detailed analysis as are preventive, protective and investigative measures.

Emergency Medical Technician 5.129 6 1 6
A variety of activities and skills to prepare individuals who currently are employed or seek employment on emergency rescue vehicles to develop skills in diagnosis, emergency treatment procedures and use of equipment.

Engine Theory and Maintenance 4.291 2 4 3
A continuation of Power Systems which involve the student in a more detailed study of internal combustion engine performance. A study of diesel engines will be introduced including the operation and maintenance of such engines.
Prerequisite: Power Systems 4.172 or approval of department chairman.

Environmental Quality Control 6.139 2 3 3
Covers the major aspects of air and water pollution, their causes, the harmful effects to the environment and ways and methods of prevention and treatment. Water storage, treatment and distribution are also studied and discussed.

Escrow Procedures I 2.423 3 0 3
The ordinary work sheets of the escrow agent are used in class; significance of the third party to real estate transactions is emphasized. The types of documents required to be held on deposit between the seller and buyer until the terms of the contract are completely executed are included.
Prerequisite: Fourth term standing. Real Estate Principles and Practices I and II.

Escrow Procedures II 2.424 3 0 3
Obligations of the escrow department and title insurance companies in real estate transactions. Defects of title and abstract of title as a chain of statements is dealt with to indicate the value of title insurance. The ramifications of title insurance are emphasized. The operations of escrow departments.
Prerequisite: Escrow Procedures I.

Escrow Procedures III 2.426 3 0 3
A presentation of the theory and practice of real estate exchanges and sales of businesses; the ordinary exchange, tax-free exchanges, multiple exchanges and, in the sale of businesses, bulk sales affidavits, security agreements, assignments of leases, leasehold interests and other ramifications of this phase of the escrow business, as well as review of theory and practices of Escrow I and II.
Prerequisite: Escrow Procedures II.

Expanded Duties I 5.401 0 3 1
A presentation of the theory and practice of new procedural responsibilities delegated to dental auxiliary personnel. Includes discussion and demonstration of fluoride application, rubber dam application, polishing of silver alloys and preventative denistry.
Prerequisite: Introductory Concepts of Dental Assisting 5.411.

Expanded Duties II 5.402 0 3 1
A continuation of 5.401. Includes dental laboratory procedures with practical application of the topics covered in Expanded Duties I 5.401.

FM and HIFI Theory 4.270 3 0 3
A study of the principles of FM receivers, different kinds of FM detectors, principles of multiplexing, principles of HIFI, operation of stereo sets, HIFI amplifiers and speaker systems.

FM and HIFI Lab 4.271 0 3 1
Application of the principles studied in theory and the maintenance of FM and HIFI equipment. Basic record player units will be set up and checked out, serviced, and lubricated and the cartridges studied and checked out.

Fabrication Practices I 4.155 2 3 3
Practices in the fabrication of metals and metal finishing change of shape, change of physical characteristics and joining of metals.

Fabrication Practices II 4.156 2 3 3
Study and application of fabricated metal technology. Recognition of pattern and jig material. Positioning of

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fabricated sections for rapid completion. Areas where automated equipment can be utilized. Elimination of distortion problems.
Prerequisite: Fabrication Practices I or department chairman approval.

Fabrication Practices III 4.157 1 4 3
A continuation of Fabrication Practices, term three, with emphasis on fabrication of structural and ornamental iron machinery frames and bases.
Prerequisite: Fabrication Practices II or department chairman approval.

Fabrication Practices IV 4.158 2 6 4
Instruction and experience in production type welding with the use of jigs, fixtures and positioners.
Prerequisite: Fabrication Practices III or department chairman approval.

Fabrication Problems 4.169 0 8 3
A continuation of Fabrication Shop Problems 4.168 with *emphasis on quality control (X-ray, ultrasonic, magna-flux* and sharpy Vee testing).
Prerequisite: Fabrication Shop Problems 4.168 or department chairman approval.

Fabrication Shop Problems 4.168 1 4 3
An application of drafting and math courses to problems in fabrication of structural members, bins, hoppers, pipe fillings, chutes, etc. Principles and practices of pattern *development for typical shapes and fittings are included.*
Prerequisites: Blueprint Reading and Sketching 4.244, Drafting 4.101, Mathematics 4.202 or approval of department chairman.

Family-Community Relationships 7.126 3 0 3
Establishing and maintaining school and community programs for parent education. Learning skills for developing rapport and communication with parents and families. Using conferences, meetings and community resources as tools for fostering parent-child relationships.

Family Living 7.127 3 0 3
Patterns of family living in modern society, including the varying roles and interaction of family members, factors affecting family life, including urban-suburban living, socio-cultural, racial and economic.

Finance Contracts and Law 2.340 3 0 3
A course designed to study the fields of finance, contracts, and the civil law as they pertain to the law, the contractor, equipment and the consumer.

Finance 2.556 3 0 3
Study of the role of the financial manager in the corporation; study of promotion, capitalization, ownership, management, sale and regulation of securities and income and working capital in the modern corporation.

Fire Codes and Ordinances 5.116 3 0 3
Building codes, including classification of buildings, types, fire zones, fire resistance of materials; fire prevention codes and other related state and local laws and ordinances.

Fire Department Organization and Management 5.112 3 0 3
Fire company and department organization and management, duties and responsibilities, response to alarms, public *relations, fire prevention, records, reports, and communications*, the individual's role and responsibilities within the organization.

Fire Fighting Tactics and Strategy 5.113 3 0 3
Pre-fire survey and planning, response and size-up, fireground tactics, analysis and post-mortem.

Fire Insurance Principles and Grading Schedules 5.111 3 0 3
Insurance grading schedules and principles of application. Methods of analyzing fire hazards and the effects of fire hazards on fire insurance rates. A study of the National Board Grading Schedule in detail and other schedules covered briefly. The fundamentals of fire insurance rating methods, loss records, municipal grading, etc.

Fire Investigation 5.107 3 2 3
Effect on fire prevention by isolating cause of fire; study of burning characteristics of combustibles, interpreting clues, burn patterns leading to point of origin; identifying incendiary indications; sources of ignition and materials ignited; preservation of fire scene and evidence.
Prerequisite: Instructor approval.

Fire Protection Systems 5.106 3 0 3
Fire sprinkler and other extinguishing systems including foam, dry chemical CO_2, and halon systems, ventilation systems, fire detection and alarm systems, municipal alarm systems, etc.

Fire Pump Construction and Operation 5.105 2 2 3
Theory of pump operation; type and features of various pumps; practical operation of fire pumps and accessories; drafting, hydrant, and tanker operations; rule of thumb fireground hydraulics calculations.

Fire Service Hydraulics 5.104 3 2 4
Review of basic mathematics; hydraulic laws and formulas as applied to the fire service; application of formulas and mental calculations to hydraulic problems; fireground

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water supply problems; underwriter's requirements for pumps and accessories.

Fire Training Programs and Techniques 5.110 3 0 3
Purposes of fire service drills and training programs. The development and operation of the departments' training program. Facilities and equipment necessary for modern training. Selecting and training the instructional staff. Psychology of learning, four-step method, lesson planning, instruction techniques, training aids, tests, workbooks, training objectives and curriculum development, conducting conferences and meetings.

First Aid 5.450 1 2 2
Standard first aid procedures and techniques designed to meet requirements for first aid certificate. Upon successful completion of the course, a standard first aid card may be secured.

First Aid 5.513 1 0 1
Skills and knowledge for the immediate and temporary care in case of accident or sudden illness and preventive measures. This is the standard Red Cross First Aid Course.

Food Preparation Techniques I-II-III (See program)
Basic principles of cooking with emphasis on short order and quantity. The course combines both theory and practice and an understanding of the role of quality food and quality service in student participation in the school food service program.

Forest Mensuration 6.300 3 4 4
A study of the measurement of individual forest products and the standing tree in the forest. The course includes theory and field work in the various methods of timber cruising.
Prerequisite: Math Analysis 4.207, Tree Identification 3.610 and Plane Surveying 6.101.

Forest Pathology 3.607 0 2 1
A basic course in recognition of the common rots and stains found on logs and trees. The nature and extent of these wood-destroying fungi are studied with emphasis on those prevalent in Oregon and Washington.

Forest Photogrammetry 3.624 2 2 3
Techniques and principles of forest photo interpretation; forest type mapping; volume estimating; horizontal measurement of distance, angle and area; vertical measurements, tree heights and difference of elevation of two ground points.

Forest Products 4.280 3 3 4
Fundamentals of various forest products such as poles, piling, timbers, lumber, plywood, furniture, particle board, pulp and other wood products, uses and the manufacturing process.

Forest Road Surveying 6.510 1 6 3
Principles of forest road design and layout, including circular curves, grades, cross sections, profiles and earthwork computations. Other topics included are theory and lab work in solar observations, computation of areas of land and balancing of survey coordinates.

Forms Design and Procedure Writing 6.982 3 0 3
A concentrated course on two aspects of systems analysis: design and control of forms and writing procedures. Assignments include generating and analyzing various types of forms and different styles of procedure writing. Emphasis is placed on total systems considerations for determining the criteria used in selecting appropriate forms and procedure formats.
Prerequisite: Introduction to Systems and Procedures 6.944 or consent of instructor.

FORTRAN for Users 2.678 3 0 3
A course for non-programmers covering basic input-output statements, problem definition and documentation, and the use of standard subroutines. Emphasis on using FORTRAN as a tool to solve problems rather than on programming techniques.

FORTRAN IV 6.962 3 0 3
An introduction to FORTRAN IV. Stress is placed on language structure, manipulation of arrays, input/output formats, coding techniques, functions, subroutines, disk files and memory dump debugging. Program assignments involve simple management and science problems.
Prerequisite: Data Processing Math 6.941 or consent of instructor.

Fuel Systems and Carburetion 3.301 2 3 3
A course in the fundamental principles of carburetion and the basics of fuel systems. Detail instruction on the basic carburetor circuits.

Fuel Systems and Carburetion 3.316 3 4 4
A lecture-demonstration course dealing with two-barrel, four-barrel, and multiple-carburetion systems, the diagnosis of problems in the systems and technical coverage of operating principles of the major types of carburetors of today. Theory and principles of carburetor accessory devices, manifolding heat risers, etc. (Students become involved with the actual units in the laboratory.

Fundamentals of Computer Programming 6.948 2 0 2
An introduction to the basic tools and techniques of computer programmers, including problem statements, record layouts, flowcharts, decision tables, coding forms and documentation standards. Programming techniques are

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presented such as loops, switching routines, branches and indexing.

Fundamentals of Exchanging 2.417 3 0 3
Principles and practices in exchanging real property for like property. Analysis of tax situations involved and advantages accruing from certain exchanges.
Prerequisite: Fundamentals of Real Estate Taxation 2.416.

Fundamentals of Fire Prevention 5.101 3 0 3
Organization and function of a fire prevention bureau, fire prevention codes, state and local laws and ordinances, familiarization with principles of fire prevention, the inspector's job and public relations.

Fundamentals of Real Estate Taxation 2.416 3 0 3
An advanced and intensive study of tax principles governing the acquisition, ownership, operation and disposition of real property with emphasis on tax planning and integration of tax concepts with procedural aspects.
Prerequisites: Accounting 6.923 and Real Estate Principles and Practices 2.400.

General Forestry 3.600 3 0 3
An orientation and overall picture of forestry in the United States. It includes how forests and man are interdependent; the role of forests in the building of our country; the distribution and character of our forests; what a forest and forestry are; silvicultural systems; reforestation and the history of forest protection as related to fire, insects, animals and disease.

Gerontology 5.525 3 0 3
The physiological development and psychological dynamics of aging are presented as a continuation of the human growth process. The course is presented from an orientation of involvement of the aging with life rather than a preparation for death.

Group Insurance and Social Insurance 2.225 3 0 3
Analysis of group life and group helath insurance, including products, marketing, underwriting, reinsurance, premiums and reserves. Also, the course discusses socio-economic problems related to old age, unemployment and disability and various public plans that have been developed to meet these problems.

Group Process 5.730 3 0 3
A study of concepts, principles, skills, roles assumed in group process. Emphasis is on team work in small groups.

Growth and Development 5.524 3 0 3
A study of human growth and development from conception to death. Includes physical, emotional, social and spiritual characteristics.

Hazardous Materials 5.108 3 0 3
The chemistry of fire, handling emergencies involving *flammable liquids, gases and solids, cryogenics, combustible* metals, plastics and oxidizing agents.
Prerequisite: Elementary Science for Firefighters or department chairman approval.

Hazardous Materials 5.109 3 0 3
Handling of emergencies involving explosive and unstable materials, rocket propellants, water reactive materials, poisons, corrosives, combustion products and radioactive materials.
Prerequisite: Hazardous Materials 5.108 or department chairman approval.

Health Occupations Overview 5.700 1 0 1
Concepts underlying the health field, health services and resources in the community and the role of the health worker as a member of the health team.

Heat Treatment of Steel 4.849 2 3 3
A study of methods and procedures for improving the characteristics of steel by hardening and tempering. Processes of heat treating include furnace and flame hardening; case hardening; tempering; annealing and normalizing; and hardness and tensile testing. Laboratory time is provided for hardening, tempering and testing demonstrations and experiments.
Prerequisite: Machine Tool Processes 4.802 or approval of department chairman.

Home, Family and Career Management 7.128 3 0 3
Principles of time, energy and money management with emphasis on the problems of combining the role of homemaker and wage earner. Using human and non-human resources and those of the family and the community to meet the goals of the individual family members and the family as a whole. Human resources include attitudes, skills, knowledge and energy. Non-human resources include time, money and community facilities.

Human Resource Technology Practicum Experience 5.443-8 0 9-24 3-8
Students spend a minimum of nine or a maximum of twenty-four hours per week in a human service setting correlating theory with practice. A minimum of 25 term units in practicum experience is required for graduation.

Human Resource Technology I Survey of Institutions and Introduction to Field Placements 5.436 3 0 3
A survey of community resources related to health and welfare problems including mental health facilities. An introduction to the historical development of roles and

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functions of various professional disciplines and emerging roles of paraprofessionals. Ethics and confidentiality also are presented.

Human Resource Technology II
Interviewing Techniques 5.437 3 0 3
Introduction to theory and practice of interviewing. Didactic material coupled with extensive role playing relating to student field placements. Students experience both professional and client roles. Basic purposes and techniques of observation interviewing, summarizing, recording and communicating are discussed.

Human Resource Technology III
Mental Health 5.438 3 0 3
A study of the models used in our culture to describe mental health/illness. Includes an overview of treatment modalities as they relate to various forms of mental health, both medical and socio-economic.

Human Resource Technology IV
Group Skills 5.439 3 0 3
Introduction to group theory and processes. Theoretical and experiential methods are used.

Human Resource Technology V
Group Dynamics and Process 5.440 3 0 3
Introduction to theory of groups and group functioning. Styles of group leadership, roles played by various group members and supervisor–subordinate relationships are defined and discussed. A process is utilized in which the student observes him/herself as part of the group.

Human Resource Technology VI
Communication Skills 5.441 3 0 3
Report writing, interviewing, referrals, legislative activities and the use of technical language are emphasized. Practice in the above areas, outside speakers and didactic presentations will be included.

Hydraulic and
Pneumatic Systems 4.173 2 3 3
Fundamental principles of hydraulic and pneumatic systems. Includes study of the basic components of hydraulic and pneumatic systems and how they are combined to build up various circuits and ultimate use of these circuits. Factors to be considered in the selection, installation and maintenance of hydraulic and pneumatic systems.
Prerequisite: Mathematics 4.202 or approval of department chairman.

Hydraulics 6.112 2 2 3
The first course in the study of hydraulics covers the fundamental properties of fluids, principles of hydrostatic pressure–including Pascal's Law, the hydrostatic paradox, the Archimede's principle–measurement by manometer and the measurement of fluid properties. The relationship of hydrostatic pressure and center of gravity and the effect of hydrostatic pressure exerted against plane surfaces will also be discussed. Time is provided for demonstrations and experiments to clarify the principles and procedures covered in class.
Prerequisite: Fourth term standing or approval of department chairman.

Hydraulics 6.114 2 2 3
Fundamentals of fluid flow, Bernoulli's theorem, flow profiles, stream restrictions (such as weirs, flumes, metering runs), distribution of energy in the stream, flow through pipe, Reynold's Law, Newton's Laws of hydrodynamics, vector representation, hydraulic similitude and dimensional analysis. Time is provided for demonstrations and experiments to help clarify the principles and procedures covered in class.
Prerequisite: Hydraulics 6.112 or equivalent.

Hydrology for Drillers 4.294 3 2 4
A study of hydraulics pertaining to water wells, including water table studies, cone of depression and areas of influence. Factors affecting quality flow; well sizes and well development will also be studied.
Prerequisite: Elementary Geology 4.305 or approval of department chairman.

Income Tax Accounting 2.554 3 3 4
A study of Internal Revenue Code Provisions, tax concepts and how both are applied in specific factual situations. A general overview of the economic political and social ramifications of the law as well as judicial and administrative rulings.
Prerequisite: BA 213 or 6.925.

Industrial Electronics 6.218 3 3 4
An introductory class and laboratory covering the principles and applications of electronic building-block circuits to simple control problems. Industrial component and control symbols, and the operating principles of temperature, pressure, light and related transducers are emphasized.
Prerequisite: Electronic Circuit Concepts 6.212 and Transistor Circuits 6.211 or approval of department chairman.

Industrial Materials 4.122 2 3 3
An introduction to fabrication and engineering materials used in industry. Emphasis is placed on nonferrous and nonmetallic materials including ceramics, plastics, light metals and "space age" metals. Laboratory time is provided to investigate the physical and electrical properties and the methods to determine these properties.

Industrial Materials
and Processes 4.170 2 3 3
An introduction to the materials used by modern industry to manufacture industrial products. The ferrous and nonferrous metals and alloys are covered as well as a number

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of the newly developed "exotic" metals. Emphasis is placed on the non-metallic materials used in industry. Included in the course are the study of the processes and methods of utilizing these industrial materials.
Prerequisite: Machine Tool Processes 4.802 or approval of department chairman.

Industrial Quality Control 6.287 2 2 3
Simple quality control charts and calculations applied to mass produced items. Methods in testing and controlling effluents, industrial waste, sound, air and water quality. Selective topics in quality control of specific interest to individual students.

Industrial Television 6.228 3 6 5
A theory and lab course designed to cover television systems, scanning and synchronization, composite video signals, frequency modulation, television receivers and monitors, picture tubes, power supplies, video amplification, practical design of video amplifiers, brightness-control and DC reinsertions, video detection, automatic gain-control and syncseparation and deflection oscillator and amplifier circuits.

Industrial Television 6.235 3 3 4
A theory and lab course designed to cover television systems, picture transmission, scanning process and the composite signal, camera tubes and circuits, camera video amplifier systems, camera sync and deflection generators and several types of commercial industrial cameras with emphasis on circuit analysis, set-up procedure, operation and adjustment.

IIA—Insurance 21 2.342 3 0 3
A course dealing with the general principles of insurance. Includes the concept of risk, its place in economics, methods of treating risk and the essentials of an insurable risk. Introduction to insurance contracts.
Prerequisite: Introduction to Insurance 2.341.

IIA—Insurance 22 2.120 3 0 3
A continuation of Part I. Gives the student specific knowledge of the property insurance field. Covers fire insurance policies, forms, clauses and rate making, business insurance, F.C. and S., ocean and inland marine, cargo policy, bailees, personal floater, burglary, multiple-line merchantile and flood insurance.

IIA—Insurance 23 2.121 3 0 3
Emphasizes and deals specifically with casuality insurance. The principal emphasis is placed on understanding coverages, policy provisions and concepts peculiar to the common casualty, surety and multiple line contracts. Contracts studied include standard family and special automobile, employers liability, landlord and tenant, general liability, personal liability, workman's compensation.

Insurance Marketing 2.229 3 0 3
Teaches the skills necessary to successfully handle sales situations and accomplish the sales objective in both individual and commercial insurance account situations.

Insurance Occupational Survey Seminar 2.344 1 0 1
A seminar exploring specific insurance occupations. Practicing professionals in the field will be invited as guest speakers. There will be some field trips.

Insurance Principles—Life and Health 2.343 3 0 3
Studies of basic theory, policy structure, pricing structure, and applications of life and health insurance to prepare the student for entry into the insurance industry or to educate the student as a consumer. Also covers rate making, cost analysis and uses of various life and health contracts.
Prerequisite: Introduction to Insurance 2.341 or approval of instructor.

Intermediate Arc Welding 4.154 2 6 4
A continuation of Basic Arc Welding covering ferrous and nonferrous alloys and welding procedures.

Intermediate Arc Welding 4.241 2 12 6
A continuation of Basic Arc Welding covering ferrous and nonferrous alloys and welding procedures. Demonstration and supervised practice of techniques on various metals, applied in fabrication and repair concurrently with related information concerning the use and structure of these metals.
Prerequisite: Welding 4.240 or 4.150 or approval of department chairman.

Internal Combustion Engines 3.300 3 9 6
A course designed to familiarize the student with construction, working principles and methods of servicing the internal combustion engine. In the laboratory, proper use of shop tools and equipment. Engines are disassembled, studied, serviced and properly reassembled using accepted rebuilding and servicing procedures. Written reports of projects are required.

Introduction to Business 2.502 4 0 4
An introductory course concentrating on the activities of the business organization and its operative and managerial functions. The course is intended to orient the student in the field of business.
Transfer Equivalent: BA 101.

Introduction to Calculators 2.658 0 2 1
An introductory course to the use of printing and rotary calculators in the solution of simple mathematical problems encountered in routine business practices.

Introduction to Criminalistics 5.229 3 4 5
Survey of the basic principles and techniques involved in

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criminalistics. Definitions and distinctions between criminal investigation and criminalistics. Includes four hour lab which must be taken concurrently.

Introduction to Data Processing 6.940 2 2 3
An introduction for persons having had no prior knowledge of data processing. Includes a brief discussion of the history of data processing and the current uses of data processing. It covers how computers work and how people interface with computers and control them. In the lab the student is introduced to data processing machines and writing simple computer instructions.
Transfer Equivalent: BA 131.

Introduction to Early Childhood Education 7.129 2 2 3
A beginning course in Early Childhood Education focusing on facilities, staff and program content for different preschool programs. Includes preschools, day care centers, Head Start, parent cooperatives and kindergartens. Weekly observations are scheduled.

Introduction to Fire Protection 5.100 3 0 3
Philosophy and history of fire protection, history of loss of life and property by fire; role and responsibility of the fire department in the community; organization and function of local, county, state, federal and private fire protection agencies and allied organizations; sources of professional literature; survey of professional career opportunities.

Introduction to Insurance 2.341 3 0 3
An introductory course for the student with little or no knowledge concerning insurance or the insurance industry. Explores the history and development of the industry. Covers the insurance mechanism and how it works, the types of insurers and the function of insurance in our society.

Introduction to Law Enforcement 5.200 3 0 3
An overall introductory study of law enforcement. Includes a review of the philosophy and history of police work and of crime and police problems. It studies the organization and jurisdiction on local, state and federal law enforcement agencies. Surveys the professional career opportunities, the qualifications required and police ethics.

Introduction to Operations Research 6.981 3 0 3
An introductory course on the principles used in operations research. Concepts of simulation, model types and construction, simulation methods and techniques, statistical and algorithmic methods of simulation are included.

Introduction to Real Estate 2.401 2 0 2
An orientation to real estate with emphasis on home purchasing, tax and legal considerations.

Introduction to RPG II 2.679 2 3 3
An introduction to RPG II. An emphasis is placed on problem analysis, documentation, simple language structure and program testing. Assignments involve programming simple business oriented programs.
Prerequisite: Introduction to Data Processing 6.940 (or BA 131) or consent of instructor.

Introduction to Specifications 4.102 3 0 3
Acquaints the student with common usage and practice in preparation and interpretation of specifications. Examinations of existing specifications covering current subjects are used whenever possible with the application of theory learned.

Introduction to Systems and Procedures 6.944 3 0 3
Procedures as a basic administrative technique. The principles of organizing, planning and administering a procedure program. Methods of carrying out individual systems and procedure studies. Procedure analysis and improvement techniques, the role of systems and procedures in business management, systems charting, work simplification and measurement.

Introductory Concepts of Dental Assisting 5.411 3 4 5
A basic study of the dental assistant's role with reference to personal regimen, housekeeping, terminology, materials, instruments and equipment. Studies of dental materials and the principles of radiography also are included. Emphasis is placed on the qualifications necessary for success in the dental assistant field.

Investments 2.230 3 0 3
The function of investments and finance in the insurance mechanism. Types of investments and investment objectives employed by life and property-liability insurers. Includes a view of insurance as it relates to personal finances.

Jail Procedures 5.204 2 0 2
A detailed study of jail procedures including the legal basis for commitment of the prisoner and responsibility of the jail to society and the prisoner; the procedures for prisoner receiving, searching; identification and property control; the need for careful selection of jail personnel relating to temperament and personal habits; need for proper prisoner security and protection from contraband; proper feeding, physical and mental health; maintenance of maximum sanitation; proper selection and supervision of trustees; work crews and work releases. Includes field trips to jail facilities.

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Jig and Fixture Drafting	**4.231**	**0**	**8**	**3**

An advanced course in the area of tool drafting. In the lab work, the student uses ingenuity in the design and detailing of jigs and fixtures to perform a variety of machining operations. The adaption of common machine tools to high speed and high precision production is the main objective of this type of design.
Prerequisite: Second-year standing in drafting department or consent of drafting department chairman.

Job Machining Practices	**4.845**	**3**	**12**	**7**

Covers typical job shop applications and sequence followed, with emphasis on speed and quality of finished product.
Prerequisites: Advanced Lathe Practices 4.833, Advanced Milling Machine Practices 4.837, Metal Fabrication and Finishing 4.174.

Juvenile Procedures	**5.218**	**2**	**0**	**2**

A study of the organization, function and jurisdiction of police juvenile division and other juvenile agencies such as county juvenile centers. The processing and detention of juveniles, juvenile statutes, delinquency and juvenile crime prevention are reviewed in detail.

Key Punch I	**6.979**	**1**	**4**	**3**

In this course the student will learn the operation of a key punch machine. Instruction will cover the preparation and use of drum cards and extensive practice using key punch.

Key Punch II	**6.980**	**1**	**4**	**3**

This course is a continuation of Key Punch I. In this course the student will work on building speed and accuracy.
Prerequisite: Key Punch I or consent of instructor.

Land Division and Mapping	**6.335**	**2**	**4**	**3**

An introduction to the basic principles of map layout, methods of platting and photogammetric procedures.

Law Enforcement Information Systems	**5.209**	**3**	**0**	**3**

A survey of computerization and data processing of police recordkeeping and communications systems employed in the use of those systems. The State of Oregon is implementing a system modeled after the National Crime Information Center. The course guides and assists officers and other police personnel in becoming better informed on how to effectively use such systems and improves the understanding and awareness of the information available and how to use it.

Law Enforcement Seminar	**5.230**	**1**	**0**	**1**

Survey of basic techniques for obtaining entry-level employment with law enforcement and other agencies involved in the administration of justice. Special attention is given to aspects of employment placement which relate to the student's immediate and long range goals.

Layout Practices	**4.245**	**2**	**3**	**3**

A study of layout tools and their use in fabricating structural members, bins, hoppers, pipe fittings, chutes, etc. Principles and practices of pattern development for typical forms and fittings will be included.

Librarian Lab	**6.984**	**0**	**6**	**2**

This course is a continuation of the lab portion of Librarian Operations I.
Prerequisite: Concurrent registration in Librarian Operations II.

Logging and Milling	**4.282**	**2**	**6**	**4**

Acquaints the student with the harvesting and transportation of logs and the manufacturing processes and machines in the lumber industry.

Logical Trouble Shooting	**4.274**	**3**	**3**	**4**

A course designed for the gaining of knowledge necessary to deal with a logical approach to trouble shooting. Emphasis is placed on the approach, finding and solving of problems given by the instructor. The use of equipment in servicing is strongly stressed in this course.

Machine Design	**4.603**	**3**	**2**	**4**

Design principles of machine elements and calculations in determining the size and shape of various machine parts. Includes factors which influence the selection of the materials to be used in designing such elements as beams, bearings, clutches, brakes, shafts, bushings, screws, rivets, gears, belts and flywheels. Attention is given to various types of loading conditions, stresses, deformations, fits, finishes and other factors which must be considered in the design of machine elements.
Prerequisite: Fourth term standing or consent of instructor.

Machine Design Lab	**4.232**	**0**	**8**	**3**

Covers practical design as related to the drafting room. Projects are selected that allow the student to develop sets of plans, specifications and related data for simple machines or sub-assemblies of larger machines. Production, costs and materials will be covered in addition to the design-drafting of the projects.
Prerequisite: *Machine Drafting 4.223 or consent of* Drafting department chairman.

Machine Design Lab	**4.233**	**0**	**8**	**3**

A continuation of Machine Design Lab 4.232. More complex assemblies are covered in a manner similar to Machine Design Lab 4.232. The application of cams, gears and descriptive geometry as related to machine drafting are stressed.
Prerequisite: Machine Design Lab 4.232 or consent of department chairman.

Machine Drafting	**4.221**	**1**	**6**	**3**

An introduction in the general area of machine drafting.

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Lettering, the use of drafting machines and instruments and line quality are stressed in this course. Shape description and elements of modern dimensioning are included through the application of problems in the area of orthographic projections, section views and auxiliary views.

Machine Drafting **4.222** **1** **6** **3**
A continuation of machine drafting 4.221. Lettering, line quality and drafting techniques continue to be stressed. Areas of study include the application of precision dimensioning, secondary auxiliary, isometric drawing and related pictorial drawings.
Prerequisite: Machine Drafting 4.221 or approval of department chairman.

Machine Drafting **4.223** **1** **6** **3**
A continuation of Machine Drafting 4.222. Lettering, line quality, and drafting techniques continue to be stressed. Areas of study include revolutions, assembly and production drawings and an introduction to engineering graphics.
Prerequisite: Machine Drafting 4.222 or approval of department chairman.

Machine Shop Automation **4.824** **2** **0** **2**
A study of theory and practices of automation. Mechanical, numerical card and tape controls are studied. History, theories, trends and applications of automated machines are given attention. Field trips are scheduled to supplement classroom activities.
Prerequisites: Mathematics 4.202, Machine Tool Processes 4.804 or approval of department chairman.

Machine Shop Practices **4.841** **3** **6** **5**
Stresses the working conditions of a typical machine shop. Students are assigned projects that require the related technical information and shop skills previously acquired. Instruction includes advanced theory application and extended machine operations. Speed and accuracy are considered of paramount importance.
Prerequisite: Bench and Layout Practices 4.810, Machine Tool Processes 4.806, Mathematics 4.204, Drafting 4.101.

Machine Shop Problems **4.820** **3** **0** **3**
An applied mathematics course. Typical machine shop problems solved with the aid of mathematics. Sections covered include powers and roots of numbers, segments of circles, transportation of various formulae, practical trigonometry, geometrical figures, practical application of logarithms, figuring tapers, tolerances and allowances and gearing problems.

Machine Shorthand I **2.704** **2** **3** **3**
This is a beginning course in machine shorthand as taken on the Stenograph. It includes the study of basic letter and word-forming principles and the taking of dictation in the latter part of the term.

Machine Shorthand II **2.705** **2** **3** **3**
A continuation of Machine Shorthand I. The student should improve in knowledge of the theory of word formation, buildup dictation speed, and become familiar with transcription techniques.
Prerequisite: Machine Shorthand I 2.704.

Machine Shorthand III **2.706** **2** **3** **3**
Further refinement of the theory of machine shorthand as learned in Machine Shorthand I and II to build speed. The course also includes study and practice in transcribing material taken from dictation.
Prerequisite: Machine Shorthand I 2.704 and II 2.705.

Machine Tool Processes **4.802** **2** **3** **3**
Basic machine tool operations, introduction to the principles involved in the operation of the basic machine tools, engine lathe, shaper, drill press, grinder and milling machine.

Machine Tool Processes **4.804** **2** **3** **3**
A continuation of basic Machine Tool Operations 4.802 involving typical setup and machining operations.
Prerequisite: Machine Tool Processes 4.802 or approval of department chairman.

Machine Tool Processes **4.806** **2** **3** **3**
A continuation of the Machine Tool Processes sequence. Introducing the student to production methods, inspection and quality control generally increasing the student's understanding of common industrial practices.
Prerequisite: Machine Tool Processes 4.804 or approval of department chairman.

Management by Objectives—"MBO" **2.644** **3** **0** **3**
The purpose and method of what is perhaps the most dynamic management tool ever discovered. Sometimes termed "managing for results." The basic principles of this idea apply equally to managing a small or large business.

Manufacturing Processes **6.606** **2** **3** **3**
A background of knowledge covering various manufacturing materials and fundamental types of manufacturing methods as employed in cold working processes. Through lecture, demonstration and practical applications, the student is given opportunity to become familiar with the various types of machine tools, tooling, measuring and inspection procedures. Automation is introduced and information is presented to acquaint the student with modern practice of numerical control for machine tools.

Manufacturing Processes **6.610** **2** **3** **3**
A background of knowledge covering the various casting and foundry practices. Through lectures, demonstrations and discussion the student becomes familiar with the production of simple molds, cores and castings and in basic

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heat treatment inspection and testing using both destructive and nondestructive methods.

Mapping and Platting 4.131 1 7 3
An introduction to basic components of maps, subdivisions and plats with particular emphasis on drafting skills and techniques.
Prerequisite: Plane surveying 6.101 or approval of department chairman.

Mechanical Systems 4.171 3 3 4
An introduction to the transfer of power methods used by industry and industrial products with relation to the basic laws of physics. Particular emphasis is placed on the general types of mechanical equipment used, the purpose of the components and the maintenance requirements of the equipment.
Prerequisites: Practical Physics 4.302, Mathematics 4.202 concurrently, or approval of department chairman.

Medical Assisting
Advanced Procedures 5.606 2 2 3
Theory and practice of basic diagnostic and treatment procedures, collection, and preservation of specimens for diagnostic studies.
Prerequisite: Medical Assisting, Basic Procedures 5.602, Medical Terminology 5.600, or approval of department chairman.

Medical Assisting,
Basic Procedures 5.602 2 2 3
A survey of the requirements and qualities for success as a medical assistant. Medical assisting techniques, methods and procedures including assisting the physician with examinations, medical and surgical aseptic procedures, obtaining vital signs, care of equipment and supplies as well as drugs and solutions.

Medical Law and Ethics 5.611 2 0 2
A survey of the manner in which the law affects the practice of medicine and the codes of behavior the medical profession has set for itself.

Medical Machine Transcription 2.569 1 3 2
Typing from machine transcription to build speed, accuracy and understanding of medical case histories, clinical reports, medical insurance forms, medical correspondence and research materials.

Medical Office Management 5.607 3 0 3
Preparation for the medical assistant to handle finances and records with accuracy and efficiency and to provide an understanding of accounting, credits and collection that facilitate working with accountants, auditors and collection agencies in maintenance of good records. Includes a study of typical recording activities and systems in medical offices.

Medical Office Practice 5.609 0 16 3
Practice in clinical situations of medical assisting methods, procedures and techniques.
Prerequisites: Medical Office Procedures 5.602, Medical Terminology 5.600, or approval of department chairman.

Medical Office Procedures 5.604 3 0 3
Techniques, methods and procedures used in the medical office—reception of patients, appointment making and filing. Includes techniques, methods and procedures of processing medical and health records and forms and assisting with meeting and travel arrangements.

Medical Science 5.605 3 0 3
A survey of disease conditions, types of treatment and medical and surgical specialties.
Prerequisites: Medical Assisting, Basic Procedures 5.602, Medical Terminology 5.600, department approval or enrollment in Medical Secretary Curriculum.

Medical Secretary Practicum 2.566 2 2 3
Techniques, methods and procedures used in the medical office. Reception of patients, appointment making, filing and processing medical and health insurance records and forms.

Medical Terminology 5.600 3 0 3
Analysis of anatomical roots, prefixes and suffixes, as well as Greek and Latin verbs and adjectives in building a medical vocabulary. Examination of representative anatomical structures, diseases, operations, tumors and descriptive terms by simple analysis of a word.
Prerequisite: Medical Assisting, Basic Procedures 5.602 or approval of department head.

Medical Terminology 5.610 3 0 3
A continuation of Medical Terminology 5.600.

Medical Transcription 5.603 1 2 2
Introduction to the techniques of transcribing from the recorded voice to the typewriter. Operation of the transcriber and transcribing mailable copy with speed and efficiency. Practice includes transcribing letters, case histories, pathological reports and other medical records.

Merchandising 2.105 2 3 3
Study of application of principles of line and design to merchandise display problems of space utilization, improvisions, seasonal display, lighting and organization of merchandise in a display.
Prerequisite: Retailing 2.108.

Metal Fabrication and Finishing 4.174 2 4 3
Designed to develop the concept of the production

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sequence of a completed part or machine from the fabrication and assembly processes to and including heat treating and final finishing. The student performs the procedure step by step in proper sequence, utilizing knowledge acquired in previous courses.
Prerequisites: Drafting 4.105, Machine Tool Processes 4.806, Welding 4.150, Industrial Materials and Processes 4.170.

Metallurgy 6.602 2 3 3
Covers principles relating to metals, structures, and physical properties. The uses, heat treatments and testing of various metals are explored. Laboratory time is provided for demonstrations and experiments to aid classroom studies.
Prerequisite: Introductory Chemistry 6.275 or equivalent.

Methods of Supervision 4.287 3 0 3
Develops a basic knowledge in the techniques of supervision. The course covers all aspects of supervision such as leadership, organization, communications, morale, job analysis, job training, accident prevention, planning time studies, cost analysis, etc.
Prerequisite: Psychology of Human Relations 1.608.

Microwaves 6.242 2 3 3
Theory and laboratory course designed as an introduction to microwaves. Theoretical and practical approach to X-band techniques of measurements are emphasized. Waveguide elements and components, frequency measurement devices, ferrite devices and active microwave devices are studied. Transmission of energy from generator to receiver in a practical microwave communication system serves as the outline of the course presentation.
Prerequisite: Antenna and Transmission Lines 6.231.

Moot Court 5.214 2 3 3
A study of proper courtroom procedures with emphasis on the part played by the police witness. The proper attire for the witness, his demeanor in court, his manner of response to questioning and his maintenance of a strictly unbiased and impartial attitude are reviewed and studied. The student participates in moot court sessions gaining experience in court procedures.

Motor Vehicle Law 5.219 2 0 2
A study of the Oregon laws concerning motor vehicles and their operation, particularly as they relate to traffic patrol and enforcement of the traffic laws and codes.

Music for Young Children 7.130 3 0 3
An introduction to music and related activities appropriate to the preschool child; includes rhythm and dance, songs and games, use of instruments, use of music for concept formation, enjoyment and appreciation.

Natural Cover Fire Protection 5.151 3 2 4
The organization, methods, tactics, and strategy of safety controlling and extinguishing grass, brush and forest fires; use of hand tools, portable pumps, motorized apparatus, aircraft and helicopters, chemicals and other related equipment used in the suppression of natural cover fires; forest and wildland fire prevention programs.

Network Analysis 6.230 2 0 2
Develops new techniques and concepts in mastering problems encountered in design and maintenance of electronic circuits. Field theory is utilized. The concept of admittance is used in mathematical and graphical solutions.

New Automotive Developments 3.326 3 0 3
A course designed to make the student aware of new changes that are occurring everyday in the automotive field. The primary concern is emission control devices of all types used on the major brand automobiles. Includes changes dealing with safety, economy and operation of the vehicles, such as transistor or "electronic" ignitions, transistor regulators, G.M.'s new integral alternator regulator designs and others.

24 term units

Nursing I–II–III 5.701-5.702-5.703 4 12 8
A study of the basic physio-psycho-social concepts and principles of nursing practice. Emphasis is placed on meeting basic needs of people for health including basic nursing skills, communication, interpersonal and problem solving skills in a variety of nursing situations. Nursing I places an emphasis on physical aspects of health, Nursing II on mental aspects of health and Nursing III on physical, mental, social growth and developmental patterns in maternal and child health. The courses run concurrently. Theory and practice are correlated in appropriate areas.

18 term units

Nursing IV–V 5.704-5.705 4 15 9
A study of basic needs of children and adults with longterm or acute illnesses. Nursing IV includes a study of the rehabilitative process in meeting needs of people in a variety of nursing situations dealing with chronicity of illness. Nursing V is a study of fluid and electrolyte imbalance in a variety of nursing situations dealing with acuity in illness. The courses run concurrently. Theory and practice are correlated in appropriate areas.

Nursing VI 5.706 4 16 9
A study of basic needs of children and adults in more complex nursing situations. Includes the care of groups of people and the care of children and adults with multiple problems in crises and emergency situations.

Nursing VII 5.720 3 0 3
A study of trends and practice in the nursing profession emphasizing the present role of nursing in the promotion

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of individual, family and community health and its implication for social change.

Observing and Guiding Behavior I **7.131 2 2 3**

Focuses upon individual patterns of growth and behavior of children with special attention to the techniques of recording and reporting; the role of the assistant in working with young children; techniques of guiding, supervising and evaluating activities. Laboratory experiences are arranged.

Observing and Guiding Behavior II **7.132 2 4 4**

A continuation of the experiences gained in Observing and Guiding Behavior I. Focus is still upon individual patterns of growth and behavior of young children with special attention to the techniques of recording and reporting; the role of the assistant in working with children; techniques of guiding, participating, supervising and evaluating activities. Lab experiences are included.

Prerequisite: Observing and Guiding Behavior I.

Office Management **2.643 3 0 3**

A study of the broad scope of responsibilities of the administrative manager. Includes portrayal of the centralization of office services necessitating a knowledge of planning, organizing and controlling of business services, systems and procedures.

Office Procedures **2.641 2 2 3**

Emphasis on duties involved in handling office supplies, mail and other transmittal services, using telephone and telegraph facilities, information sources; and preparing office records and reports. Office relations and job application are stressed.

OS Concepts and Facilities **6.971 3 0 3**

A study of the concepts and facilities of the IBM OS/VSI operating system as well as an introduction to job control language. Students run exercises on the IBM System/370 Model 125 located in the college computer center.

OS Job Control Language **6.972 3 0 3**

An advanced study of OS/VSI job control language. Exercises involve preparing and running various JCL decks on the college's IBM/370 Model 125.

OS Utilities and Data Management **6.985 3 0 3**

A study of various file organization methods as well as the criteria for selecting one organization method over another. OS/VSI utility and sort programs are also used to generate and manipulate data files. Exercises involve designing and creating data files, given various manual systems for controlling business records.

Prerequisite: OS Concepts and Facilities 6.971 or consent of instructor.

Oxyacetylene Cutting **4.242 0 2 1**

A course in the use and care of oxyacetylene cutting equipment.

Prerequisite: Current enrollment in the one-year welding curriculum or approval of department chairman.

Oxyacetylene Welding **4.163 0 4 2**

A continuation of Basic Oxyacetylene Welding with emphasis on special applications such as castings repair, hard surfacing, hard facing, etc. related to maintenance and repair works.

Personal Development **2.518 1 1 1**

Designed to assist the individual in becoming a valuable employee and to lead a more satisfying personal life. Attitude development is stressed as the keystone to success, with subjects such as posture, movement, figure analysis, proper clothing, exercise, diet, grooming, business and social etiquette, and communication as supporting structure.

Personal Development Dynamics **7.133 2 2 3**

A course designed to assist the student in reorganizing his or her best potentials as an individual in a chosen vocation. Areas include wardrobe selection and accessories, consumer education, care of skin and hair, exercise and diet and creating a pleasing image through poise and posture.

Personnel Principles and Supervision **2.685 3 0 3**

A study of the principles of public relations, employee-employer relations, business customs, business ethics, the social side of business, importance of personality, relationships with others, evaluation and the field of personnel supervision.

Personnel Screening and Investigation **5.233 3 0 3**

A detailed study of possible screening procedures, testing, applications and interview procedures for the applicant and new employee. The course is broad and flexible enough to meet a great variety of business and industrial needs. Covers all facets of the applicant (or personnel) investigation, its extent and limitations.

Photogrammetry I **4.235 0 8 3**

An introduction to mapping procedures using aerial photo interpretation skills. Map construction is developed using standard methods, equipment and symbols.

Photogrammetry II **4.237 0 8 3**

A continuation of aerial photo interpretation methods.

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Topographic map construction skills using anaglyphic mapping equipment are developed.
Prerequisite: Photogrammetry I 4.235 or consent of department chairman.

PL/I 6.959 3 0 3
An introduction to PL/I. Stress is placed on language structure, manipulation of arrays, input/output descriptions, coding techniques, disk files and memory dump debugging. Program assignments involve simple management and science problems.

Plane Surveying 6.101 2 6 4
A beginning study of surveying techniques. Fundamentals of chaining and leveling, care and adjustment of surveying instruments and office procedures. Provision is made by appropriate field work for practical application of the techniques learned.

Plane Surveying 6.103 2 6 4
A continuation of Plane Surveying 6.101. A study of the engineer's transit and its uses and an introduction to stadia surveying and leveling.
Prerequisite: Plane Surveying 6.101 and Technical Math 6.261 or equivalent.

Plywood, Composite and Laminated Wood Products 6.285 2 3 3
Manufacture, properties, uses and testing of plywood particleboard, hardboard, insulation board and lumber laminates, plastic overlays and veneers. Commercial requirements, specifications and quality control.

Police Administration 5.216 3 0 3
A study of budget, finance, care and handling of equipment of police agencies. Acquaints the working officer as well as command personnel of the problems and needs involved in administering a department. Provides a broader knowledge and understanding on the part of the law enforcement officer concerning other department operations of a parallel nature in the particular unit of government such as city government, county, etc.

Police Personnel Management 5.231 3 0 3
A survey of recruitment, training, testing and supervisory functions in the criminal justice system. Emphasis is placed on general principles, current practices and rationale. Specific oral and written testing procedures are practiced and analyzed.

Police Report Writing 5.223 3 0 3
One of the fundamental tools of any law enforcement agency is the written report. Covers the basic principles of composition and forms of writing reports. Subjects covered are basic English, why reports are written, types of reports, format, effectiveness of writing styles, gathering and marshalling facts, methods of writing reports, typing reports and visual aids.

Policies and Forms I — Property and Liability 2.227 3 0 3
A study of the various basic forms in property and casualty insurance as well as riders and endorsements commonly included in the policies. Includes the underwriting and actuarial assumptions related to each basic form.

Policies and Forms II — Life and Health 2.228 3 0 3
A study of the various basic forms, amendments, riders and forms in life and health insurance, including all forms of life, health and hospital coverages as well as variable life and variable annuity contracts and includes underwriting and actuarial assumptions which relate to the various contracts.

Power Systems 4.172 3 4 4
A study of the operation, maintenance and minor repair of two-cycle and four-cycle gasoline and diesel engines. Instruction includes proper procedures in making minor service adjustments and repairs to these units. Laboratory and classroom experience in the theory of operation and the component parts of these engines.
Prerequisite: Practical Physics or approval of department chairman.

Power Trains 3.305 3 6 5
A course designed to familiarize the student with operation, removal, repair and replacement of the essential power train components of the automobile. It includes proper methods of determining which parts should be replaced, when, and how to order them.

Practical Descriptive Geometry 6.127 1 2 2
The use of graphic principles in the solution of simple and complex mathematical problems involving space, angular and geometric relationships. The use of the auxiliary view in point. Line and plane problems are stressed. Problems from industrial applications are studied.
Prerequisite: Two terms drafting or approval of department chairman.

Practical Nursing 5.520 4 12 8
A study and identification of the basic needs of self and patients. Skills involved in meeting these basic needs of patients. Introduces the roles and scope of functions of the practical nurse and her relation to other members of health and nursing teams; history, trends and organizations in practical nursing; ethical and legal implications; human relationships; personal and vocational growth.

Practical Nursing 5.521 6 24 14
A study of the needs of patients in illness. The implication of symptoms and treatment of common, representative conditions as related to basic nursing care and skills. Special diets, medications and elimination included as therapeutic needs. Students receive three weeks experience with children, three weeks nursing adults and four weeks in care of

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mothers and newborns. All students are able to share patient observations and experience in group conference to help integrate the age factor as it relates to needs of patients. The laboratory experiences also provide opportunity to make application of learning from the course Growth and Development which is offered concurrently.
Prerequisite: Practical Nursing 5.520, grade 2.0 or approval of department chairman.

Practical Nursing 5.522 6 24 14
Students assist in more complex nursing situations in meeting basic needs of patients. Care of the mentally ill, critically ill and chronically ill.
Prerequisite: Practical Nursing 5.521, grade 2.0 or approval of department chairman.

Principles of Advertising 2.100 3 0 3
General principles involved in the psychological, social and economic phases of advertising and its relationship to other phases of marketing.
Prerequisite: Principles of Marketing 2.104.

Principles of Marketing 2.104 3 0 3
An introductory course dealing with the consumer as the focal point of marketing activities and the application of the marketing management: pricing, products, distribution and promotion. Treats marketing as a total system.

Problems of Physical Evidence 5.220 3 0 3
Presentation of the function and purpose of the police crime laboratory, large and small, and the use of a mobile laboratory in the collection, preservation and transportation of evidence, including properly identifying it and wrapping it while preserving its evidential value. Familiarization of laboratory services available to police through crime laboratories of the state, F.B.I., large city departments and public and private laboratories. The study of laboratory techniques, capabilities and limitations in the examination of firearms, clothing stains, blood, poisons, narcotics, automobiles, etc.

Production MIG Welding 4.165 1 6 3
Students set up and weld under production situations. Instruction in the proper selection of the MIG process to use in different production instances.
Prerequisite: Advanced MIG Welding 4.252 or department chairman approval.

Project Graphics 4.135 0 4 2
Gives some applications which may be found in Forestry and Civil Engineering. It includes the making of plot plans, working drawings and plotting of field data. The problems used are those which might be found in these fields as standard industrial applications.
Prerequisite: Drafting 4.101 or approval of department chairman.

Property Management 2.422 2 0 2
A study of the business practices and principles of managing the property of others for a fee. Includes such factors as maintenance and repairs and personnel supervision.
Prerequisite: Real Estate Principles and Practices I 2.400.

Psychology for the Police Officer 5.217 3 0 3
A specialized study in the field of psychology as it applies to criminal behavior, including deviant and abnormal behavior and relating the law enforcement officer to his daily contacts with the public in the communities where he is employed.

Public Land Survey 6.134 3 0 3
A review of the laws and procedures for the surveying and subdivision of public lands including the preparation of field notes and plats.

Pulp and Paper Technology 4.281 3 3 4
Fundamental processes of the pulp and paper industry. Mechanical and chemical pulping, refining, screening, filling, sizing and sheet formation. Cooking liquors, recovery of chemicals, fiber recycling and testing of pulp and paper products.

Radio Servicing 4.264 2 0 2
A study of overall radio circuits and the problems of these circuits. Service techniques, procedures and case histories are studied. The radios are broken into basic types for study and each type analyzed according to its peculiar characteristics.

Radio Servicing Laboratory 4.265 0 6 2
An application of the materials covered in the Radio Servicing theory class. Some circuits are breadboarded for analysis. The remaining time is spent on actual receivers—doing voltage measurements, resistance measurements, circuit tracing, alignment and general circuit analysis. Trouble is installed in radios to simulate actual field conditions.

Rating and Underwriting I — Property and Liability 2.222 3 0 3
A continuation of the underwriting and actuarial studies of property and casualty insurance begun in Policies and Forms I, with in depth study of the basic practices and decisions made by an insurance company.
Prerequisite: Policies and Forms I 2.227.

Rating and Underwriting II — Life and Health 2.223 3 0 3
A continuation of the underwriting and actuarial studies of life and health insurance begun in Policies and Forms II, with in depth study of the basic practices and decisions made by an insurance company.
Prerequisite: Policies and Forms II.

Real Estate Appraisal I 2.408 3 0 3
Theories, functions, and purposes of appraisal. Residential, income property and land appraisal; principles of valuation,

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including cost, market and income approach; techniques for determining condemnation, insurance, loan, purchase and sales values.

Real Estate Appraisal II 2.409 3 0 3
Continuation of Real Estate Appraisal 2.408 with emphasis on specific problem areas such as commercial appraisals, farm appraisals, industrial appraisals.
Prerequisite: Real Estate Appraisal I 2.408.

Real Estate Appraisal III 2.411 3 0 3
Continuation of Real Estate Appraisal 2.409 with emphasis on real estate assessment and the ad valorem tax. Techniques for county assessment, tax computation and ratios used in government computation are emphasized.
Prerequisite: Real Estate Appraisal II 2.409.

Real Estate Counseling 2.440 3 0 3
A case study approach to the problems of counseling with clients on real estate purchases, exchanges, speculation and investment.
Prerequisite: Sixth term standing or instructor approval.

Real Estate Finance 2.406 3 0 3
Policies, problems and risks involved in financing and investing in various types of real property. Includes analysis of taxation, exchanges, sources of loan funds, institutional and government policies and instruments and methods of loan processing.
Prerequisite: Real Estate Principles and Practices I 2.400.

Real Estate Law 2.402 3 0 3
A practical study of Oregon real estate law emphasizing the more complex aspects of ownership, use and transferability of real estate as encountered by brokers and others who deal with real property. Covers contracts, titles, deeds, leases, liens, covenants, conditions, restrictions, easements, estates, probate and landlord-tenant relationships. Includes a review of significant Oregon cases.
Prerequisite: Real Estate Principles and Practices I 2.400.

Real Estate Principles and Practices I 2.400 3 0 3
A study of the nature, importance and character of real property; the real estate business; the real estate market; the real estate brokerage; taxes and assessment; contracts and ownership. The course also prepares the student to receive information that will be presented later.

Real Estate Principles and Practices II 2.414 3 0 3
A continuation of Real Estate Principles and Practices I. The student progresses in the study of real estate documents and instruments. Introduces accepted standards of ethical conduct and the implications of various actions concerning rights in real property.
Prerequisite: Real Estate Principles and Practices I 2.400.

Real Estate Salesmanship and Promotion 2.420 3 0 3
A study of all factors involved in promoting increased sale, including the analysis of advertising points, writing of realty ads and general promotion of sales, brochures, and mail advertising. Characteristics and qualifications of successful real estate salesmen, including prospecting for sales, sales aids and tools, sales letters, records and reports, handling objections and public relations for salesmen will be emphasized.

Records Management 2.642 2 2 3
The study of principles of efficient control of business records including criteria for determining storage, disposition or retention and selection of equipment and supplies. Detailed instruction in alphabetic indexing and numerical systems is presented through lecture, reading and practical application.

Regulations/Law (Oregon Insurance Code) 2.226 1 0 1
A study of the Oregon Revised Statutes pertaining to insurance in Oregon, with special emphasis on agents and adjusters practices, fair trade practices and consumer protection afforded by the Insurance Code.

Rescue and First Aid 5.120 1 2 2
This course is designed to provide firemen with essential skills for rescuing victims trapped in a variety of situations. American Red Cross Multimedia First Aid course is included for basic first aid skills.

Retailing 2.108 3 2 4
Study of functions of retail store operation such as buying and selling, sales promotion, pricing, store operation, finance and control and personnel.
Prerequisite: Principles of Marketing 2.104.

Risk/Management Analysis 2.231 3 0 3
A study of the operations of various types of businesses to determine what hazards exist and then how to best treat these hazards with an insurance program. Includes agent-company relations in developing relevant programs which cover all needs.

Route Survey 6.507 1 6 3
The location and selection of a route for current modes of transportation. The student will use the transit and machine calculators to lay out a route on the ground and do the necessary computations.
Prerequisite: Survey Computations 6.500, fourth term standing, or approval of department chairman.

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RPG II for Programmers	**6.988**	**2**	**2**	**3**

This course is an accelerated course consisting of a study of all of the features of the RPG II language. The student writes several RPG II programs that print various kinds of reports as well as build and maintain disk files. Emphasis is placed on principles of management, accounting, systems analysis, data management, disk files, independent research and problem solving.
Prerequisite: Systems Analysis 6.945 or consent of instructor.

Salesmanship	**2.109**	**3**	**0**	**3**

A study of techniques of personal selling and the relationship of personal selling to advertising, sales promotion and customer services. Treats personal selling as a part of the total marketing system.

Sanitary Engineering	**6.140**	**2**	**2**	**3**

A study of domestic and industrial water supply and waste disposal collection, storage and treatment facilities.

Scaling Practices	**3.617**	**2**	**6**	**4**

Theory and principles of scaling. Considerable time is spent scaling logs for net scale. Types of defect and deductions for each are discussed in conjunction with mill observations.

Secretarial Practicum	**2.710**	**2**	**2**	**3**

An advanced course in secretarial procedures, utilizing all previous training plus addition of other areas of specialization. Decision making and quality production is stressed.
Prerequisite: Office Procedures 2.641 and second-year standing or consent of instructor.

Semi-Conductors	**6.237**	**2**	**3**	**3**

Covers the physical principles underlying the behavior of semi-conductors, transistors and other solid state devices as well as their application to various electronic circuits. The physics pertinent to transistors and semi-conductors are discussed as are characteristics and ways in which they operate. The use of semi-conductor devices in various amplifiers, oscillators and switching circuits is covered with emphasis on developing concepts and knowledge basic to transistor and semi-conductor theory and practice.
Prerequisite: Transistor Circuits 6.211 or approval of department chairman.

Sheet Metal Drafting	**4.230**	**0**	**8**	**3**

A study of the production of sheet metal development patterns. Parallel line development, radial line development and triangulation are covered. Typical methods and materials of pattern development are stressed.
Prerequisite: Second-year standing in drafting department or consent of department chairman.

Shop Projects	**4.254**	**1**	**2**	**2**

Practical experience in maintenance and repair of weld shop machines, accessories and fixtures. Selected fabrication and repair projects also are used to develop resourcefulness and confidence in the application of skills and knowledge developed in concurrent courses.
Prerequisite: Concurrent registration as a full-time student in the welding program or approval of department chairman.

Shop Safety	**4.253**	**1**	**0**	**1**

A survey of principles of safety for industry. Includes the use of films and case studies to develop an awareness of hazards and positive attitudes toward prevention of accidents.

Shorthand	**2.620**	**2**	**3**	**3**

Beginning shorthand, required of those students without previous shorthand training and students desiring a brush-up of basic shorthand theory. A study of simplified principles in Gregg Diamond Jubilee shorthand which should enable the student to take simple dictation and transcribe it in the early part of the course.
Prerequisite: None.

Shorthand and Transcription	**2.621**	**2**	**3**	**3**

A continuation of Shorthand 2.620. Deals with special forms, abbreviated forms, punctuation, and compound words in connection with writing and transcribing exercises to build speed and accuracy.
Prerequisite: Shorthand 2.620 or equivalent.

Shorthand and Transcription	**2.622**	**2**	**3**	**3**

Includes advanced vocabulary, phrase building, and word building principles. All are based on the basic shorthand principles learned in Shorthand 2.620 and 2.621.
Prerequisite: Shorthand 2.621 or equivalent, or consent of instructor.

Sketching	**4.118**	**0**	**3**	**1**

Technical sketching techniques and skills as used in drafting room and industrial applications. Laboratory time is devoted to identification of freehand sketching techniques and application.

Small Business Management	**2.557**	**3**	**0**	**3**

A study of general functions and procedures used in operation of a small business. An introduction to the basic aspects of managing a small business. The five management functions of planning, organizing, staffing, actuating and controlling are applied in the areas of a small business.
Prerequisite: Second-year standing or consent of instructor.

Small Pump Installation	**4.295**	**3**	**4**	**4**

Practice and understanding of the skills necessary for pump installation and operation under a variety of conditions. Various pumps and pump installations are studied with an emphasis placed on efficient economical operation. Water

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flow measurement is studied to determine adequate well flow.

Soil Mechanics **6.124** **2** **3** **3**
A study of index of properties of soil, hydraulic and mechanical properties; soil drainage and plastic equilibrium. Laboratory experiments and projects cover each phase of study.
Prerequisite: Second-year standing or approval of department chairman.

Solid State Servicing **4.272** **3** **3** **4**
A study of the principles of trouble shooting solid state circuits. The students circuit trace and trouble shoot solid state circuit of projects constructed by the student. Commercial units also are worked on with emphasis on how the circuits operate and the effects of problems within these circuits.

Special Dictation and Transcription (Medical) **2.567** **2** **3** **3**
Further development of shorthand, typewriting and English into efficient skills with emphasis on medical vocabulary.
Prerequisite: Speed Building 2.549.

Special Dictation and Transcription (Medical) **2.568** **2** **3** **3**
A continuation of Special Dictation and Transcription 2.567 (Medical).

Special Dictation and Transcription (Professional) **2.537** **2** **3** **3**
Further development of shorthand, typewriting and English into effective skills with emphasis on vocabulary of different business areas.
Prerequisite: Speed Building 2.549.

Special Dictation and Transcription (Professional) **2.538** **2** **3** **3**
A continuation of Special Dictation and Transcription 2.537 (Professional).

Special Drilling Problems **4.297** **3** **0** **3**
An introduction to a variety of special drilling problems which might be caused by geological formations, tool or machine failure. A study is made of a variety of methods used for tool recovery.
Prerequisite: Sixth term standing in the program or approval of department chairman.

Speed Building **2.549** **2** **3** **3**
A thorough and extensive review of shorthand, advanced principles, phrases and shortcuts. Emphasis on speed development in dictation and transcription, vocabulary development, efficient and correct procedure for preparation of business correspondence.
Prerequisite: Shorthand 2.620, 2.621, 2.622 or SS 111, 112, and 113.

State Drilling Standards and Record Keeping **4.293** **3** **0** **3**
A survey of the state standards as set down for the water well drilling industry in terms of health and sanitation, fair practices, ethics and standard drilling procedures. Required record keeping and record study also are included.

Strength of Materials **6.105** **2** **3** **3**
A study of the stresses and strains that occur in bodies when subjected to tensile, compressive and shearing forces, including the common theory of beams. The distribution and magnitude of stresses are examined in welded and riveted joints, thin wall cylinders, torsional members and beams. Practice problems emphasize the materials studied.
Prerequisite: Applied Mechanics 6.109 and Technical Math 6.266 or equivalent.

Strength of Materials **6.128** **2** **3** **3**
A study of index of properties of soil, hydraulic and mechanical combination of forces and their effects on various structural members. Includes a study of failure of structural connection and laboratory tests of materials.
Prerequisite: Strength of Materials 6.105 or equivalent.

Structural Analysis and Design **6.130** **1** **3** **2**
Determination of stresses induced by loads on structures of wood, steel, concrete; selection of appropriate constructional members and suitable connections; loading conditions causing compression, tension, shear, torsion and bending; practical design procedures relating to various structural members, beams, girders, columns and footings.
Prerequisite: Applied Mechanics 6.109; Strength of Materials 6.105.

Structural Drafting **4.111** **0** **8** **3**
Deals with the utilization of structural design data for the production of structural working drawings. Specifically, drafting and coordinating plans and details for a specific structure emphasizing layouts, procedures and terms standard to the construction industry.
Prerequisite: Second-year standing in drafting department or consent of department chairman.

Supervised Field Experience **7.134** **1** **9** **4**
Experience in working with children in an organized group setting. Assisting with supervision of the various daily activities in a preschool program.
Prerequisite: Observing and Guiding Behavior II.

Survey Computations **6.500** **1** **6** **3**
A study of trigonometric and geometric formulas, mechanical computers and integrating instruments, area computations, traverse calculations, leveling and plotting surveys. Field trips and problems are used as needed.

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Survey Law	**6.132**	**3**	**0**	**3**

A course in which the student studies the changes in requirements of a land surveyor, his legal responsibilities, obligations and liabilities.

System 370
Concepts and Facilities **6.956 3 0 3**

This course consists of a study of the hardware and software components of the IBM System/370 Model 125 DOS/VS computing system as well as an introduction to job control.

System 370
DOS/VS Job Control **6.949 3 0 3**

An advanced study of DOS/VS job control. Emphasis includes linkage editor statements, disk and tape label statements and utilization of the librarian programs for affecting the system libraries.

Prerequisite: System 370 Concepts and Facilities 6.956.

Systems Analysis **6.945 3 0 3**

Fundamentals of automated systems and procedures. Techniques and principles of systems analysis and design, data gathering, feasibility studies, problem analysis, systems economics, forms design and control, procedure writing and the planning involved in the installation of electronic data processing systems.

Prerequisites: Introduction to Systems and Procedures 6.944 and COBOL II 6.963 or consent of instructor.

Systems Generation **6.973 1 5 3**

A study of the planning and procedures involved in generating a DOS/VS operating system for an IBM System/370 Model 125. Students generate a complete system, gaining hands-on experience in the college computer center. Emphasis is placed on systems documentation, systems planning, operational considerations, independent research and problem solving.

Prerequisites: System 370 DOS/VS Job Control 6.949 and Systems Analysis 6.945 or consent of instructor.

Technical Diagram
Interpretation **3.309 1 3 2**

A course designed to give the student fundamentals in freehand sketching of objects related directly or indirectly to the automotive field. The sketching involves pictorial representation, sectional views and dimensioning. The methods of diagramming are studied, including symbols, and how to read diagrams (related to wiring diagrams in the automobile) and how to draw and use diagrams.

Technical Illustration **4.228 0 8 3**

Various methods of pictorial drawing. Exploded view drawings are stressed and pencil and ink shading is used. Both free-hand and template drawings are covered.

Prerequisite: Second-year standing.

Technical Illustration **4.229 0 8 3**

A continuation of Technical Illustration 4.228. The illustration of more complex pictorial presentations, exploded views and charting methods. Use of a variety of media and techniques.

Prerequisite: Technical Illustration 4.228 or consent of the department chairman.

Television Principles **4.266 3 0 3**

An introduction to the principles of television theory and circuits. A study of underlying principles of television transmission, the makeup of the television signal and the receiver circuits. Each receiver circuit is analyzed individually as to the principle of operation and possible trouble causes.

Television Principles Laboratory **4.267 0 8 3**

A laboratory study of the principles of the Television Principles theory class. Receiver circuits are traced and analyzed. Trouble shooting procedures are practiced. Time is spent on reading and interpreting schematics. Closed circuit TV is used to demonstrate signal origination.

Television Servicing **4.268 3 0 3**

A study of the overall television receiver and the problems of the television receiver circuits. Service techniques, service procedures and case histories are studied.

Television Servicing Laboratory **4.269 0 8 3**

Circuits of the television receivers are analyzed, both within the receivers and with the use of breadboards. Some of the breadboard models are substituted within the receiver for the like section of the receiver. Voltage readings, oscilloscope patterns, resistance readings and other testing procedures are used and results analyzed. Troubles are installed in TV receivers and practice gained in analyzing, determining and correcting troubles. Black and white sets are given complete audio and video alignment including tuners.

The Exceptional Child **7.125 3 0 3**

Understanding the exceptional child: the emotionally disturbed, the mentally accelerated, the slow learner, the physically handicapped and the cultural and economically disadvantaged. Curriculum development, parent involvement and community resources.

Prerequisite: Development in Childhood II or consent of instructor.

Timber and Steel Construction **6.125 3 3 4**

A study of steel and wood fasteners and connectors, timber beams and columns. Structural members are analyzed for

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design features. Field trips give visual application. Laboratory time is used for testing.
Prerequisite: Structural Analysis and Design 6.130 or equivalent.

Tool and Fixture Design and Application **4.847 2 4 3**
An overview of design and machining of tool fixtures and jigs. Application of drill jigs, special work holding devices, indexing work holders, templates for form turning and other application. Class time is devoted to design theory with laboratory time spent on design of special fixtures for production runs.
Prerequisite: Advanced Lathe Practices 4.833, Advanced Milling Machine Practices 4.837, Metal Fabrication and Finishing 4.174.

Tools and Equipment **3.605 1 2 2**
Principles of the proper use of the hand tools and power tools most commonly used in forestry work. Includes fundamentals of falling and bucking, sharpening edged tools and safety in the woods. Tools studied include files, axes, pulaskis, hazel hoes, shovels, peevees, wedges, sledges and chain saws.

Topographic Map Interpretation **4.130 2 2 3**
A study of topographical map interpretation in relationship to water location including the principles governing interpretation of water table maps, developing water table profiles and the effect of surface topography.

Traffic and Patrol **5.210 3 0 3**
Methods of movement of traffic with safety through the use of public education, enforcement and engineering. Also, the different phases of the uniform patrol division and its relationship to other divisions of the police department. The duties of the patrolman as the first officer at the crime scene are studied.

Transcribing Machine Operation **2.663 1 4 3**
Dictation of letters, memos, reports and techniques of transcribing from the recorded voice to the typewriter. Operation of the transcriber and transcribing mailable copy with speed and efficiency.
Prerequisite: Typing 2.606 or equivalent.

Transcribing Machine Operation **2.667 1 4 3**
A continuation of Transcribing Machine Operation 2.663, building the transcribing efficiency of the student from machine dictated material. English skills and typing speed and accuracy will be improved to a usable, on-the-job level.
Prerequisite: Transcribing Machine Operation 2.663 or consent of instructor.

Transistor Circuits **6.211 3 6 5**
A continuation of Transistor Fundamentals 6.210. Applying the theory of transistor operation to practical amplifier circuits. Methods of biasing, effects of inverse feedback, temperature stability, frequency response and cascaded stages are studied and tested in the laboratory.
Prerequisite: Transistor Fundamentals 6.210 or approval of department chairman.

Transistor Fundamentals **6.210 3 3 4**
Fundamentals of semiconductor physics, presenting the junction diode, its construction, operation and applications, as a bridge to understanding transistors. The structure of transistors and their operation in basic common-base, common-emitter and common-collector circuits comprise the last half of the course. Laboratory experiments illustrate diode and transistor theory and operation.
Prerequisite: Electrical Theory DC 6.200 and Technical Mathematics 6.261, or approval of department chairman.

Transistors and Circuits Theory **4.259 3 6 5**
A study of electron theory, operation of the transistor, transistor characteristics, amplifiers, oscillators, radio and television circuits, new developments of transistors and servicing of transistor circuits. The laboratory section of this course is used to apply theories and materials covered in the theory section of the course.

Transport Security **5.236 3 0 3**
A study of problems of security in the transportation industry, including airlines, trucking lines and railway transportation. Emphasis is placed on hijacking and skyjacking. The skyjacker profile is analyzed and modus operandi in such crime studied. Equal stress is placed on protective measures and investigative operations in this broad field.

Tree Identification **3.610 1 2 2**
A review of basic botany necessary for tree identification including taxonomy, flower and plant parts with emphasis on fruit, bark and twig characteristics. Deals with the common commercial coniferous species of the Pacific Northwest with emphasis on those species native to Oregon.

Tree Identification **3.611 1 2 2**
A continuation of Tree Identification 3.610 with emphasis on the native hardwoods of Oregon. The common forest shrubs are included.

Trends in Practical Nursing **5.523 2 0 2**
Additional information as to the role and responsibility of a graduate practical nurse emphasizing such areas as interpersonal relationships, communications, legal aspects, code of ethics, nursing organization and career opportunities.

Tune-up and Diagnosis **3.330 3 9 6**
Designed to familiarize the student with tune-up and diagnosis procedures of the gasoline internal combustion engine,

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including use of diagnostic equipment on the actual vehicle during laboratory practice. Through classroom and laboratory experience the student learns methods of repairing electrical and fuel systems related to tune-up and diagnosis of these systems along with proper repair procedures, keyed to actual experience on components and vehicles during lab periods.

Typing, Advanced **2.608** **1** **3** **2**
Corrective and acceleration drills to develop a minimum typing speed of 50 words per minute. Emphasis on production of various papers encountered in a business office.
Prerequisite: Typing 2.607 or equivalent, or consent of instructor.

Typing, Basic **2.606** **1** **3** **2**
Required only of students having had no previous typing or students typing fewer than 30 words per minute. Covers the parts and construction of the more common makes of typewriters, the keyboard, utilizing the touch system and basic centering techniques. The student should develop rhythm in his movements and attain a typing speed of at least 30 words per minute. Basic letter, table, memo and report forms are studied.

Typing, Intermediate **2.607** **1** **3** **2**
A continuation of Typing 2.606 with emphasis on increasing the typing speed and accuracy to at least 40 words per minute for an average grade of "C." Mastery of various forms of business communications along with application of editorial skills, and technical procedures will also be stressed.
Prerequisite: Typing 2.606 or equivalent plus entry level speed of 30 wpm.

Typing, Professional **2.708** **1** **3** **2**
This course utilizes all previously learned typing skill in performance of office-type projects. Emphasis will be on decision making and use of skill in completing projects similar to those done in business offices by typists and secretaries. It is an excellent course preparatory to beginning employment.
Prerequisites: Typing, Advanced, 2.608, or consent of instructor.

Typing, Skill Building **2.709** **1** **3** **2**
This course is designed to improve typing skill (keyboard proficiency, typing speed, and accuracy). It may be taken at any time after a person has learned the keyboard. It is excellent preparation for students who feel their skill is not at a level high enough for advanced work in typing or who merely want to strengthen their skill.
Prerequisite: Typing 2.606 or consent of instructor.

Use of Instruments I **4.260** **2** **0** **2**
A study of various instruments used in the servicing of radio, Hi-Fi, television and other equipment. The principles and the usage of the instruments are studied as they apply to the field of servicing. Both regular and short-cut methods of usage are discussed and demonstrated. The materials of the course closely follow the needs of the servicing courses and applications may be made in the service labs.

Use of Instruments II **4.261** **2** **0** **2**
A continuation of the Use of Instruments with more advanced instruments and methods.

Utilities and Data Management **6.965** **2** **2** **3**
A study of the various file organization methods as well as the criteria for selecting one organization method over another. DOS/VS utility and sort programs are also used to generate and manipulate data files. Exercises involve designing and creating data files, given various manual systems for controlling business records.
Prerequisite: System 370 DOS/VS Job Control 6.949 or consent of instructor.

Water Distribution System **5.117** **3** **0** **3**
Main systems: hydrants—size, gridding, distribution; residential and commercial districts; fire flow requirements; pumping stations; high pressure systems; storage tanks and cisterns; mobile supplies.

Wave Generation and Shaping **6.234** **2** **3** **3**
A class and laboratory introduction to pulse techniques. Begins with an introduction to pulses, giving their historical development, typical applications, nomenclature, importance of pulse shapes and responses of frequency-selective circuits to pulses. Includes theory and operation of limiter and clipper circuits, differentiating and integrating circuits, and D-C restoration. Various multivibrator circuits, synchronization circuits, and applications of multivibrators are studied.
Prerequisite: Fourth term standing or approval of department chairman.

Weld Shop Problems **4.249** **2** **12** **6**
A review and application of the welding, layout, and fabrication processes covered during the year. A study and practice of production welding methods, electrode consumption and method selection is included. Fabrication and assembly projects are selected to present typical layout, fabrication and production problems.
Prerequisite: Satisfactory completion of the first and second terms of the welding curriculum.

Welding **4.150** **1** **3** **2**
An introductory survey of welding technology correlating technical information with actual practice to provide an understanding of the composition of various metals and methods of fabrication used in construction, maintenance and repair. Includes set-up and operation of oxyacetylene and arc welding equipment; demonstrations and practice in

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welding, brazing and soldering ferrous and nonferrous metals and their alloys.

Welding 4.153 1 3 2
A course in fundamentals and application of arc welding, oxyacetylene welding, brazing and cutting pertaining to the automotive industry.

Welding for Certification 4.167 1 9 4
A continued laboratory course designed to train certified welders. Extensive practice on simulated tests required for certification in plate and pipe welding is followed by the test and certification by the state if the student qualifies. A study of welding procedures, previously covered, as they apply to heavy guage welding is included.
Prerequisite: Successful completion of basic and intermediate welding courses. Certification test fee is determined by the number of students involved and the type of test. The fee must be paid at least one week prior to the test date.

Welding Metallurgy I 4.247 2 0 2
The fundamentals of metallurgy pertaining to welders. Covers identification of ferrous metals, distortion, stress relieving, flame straightening, hardening plus various metallurgical problems.
Prerequisite: Successful completion of term one of the one-year welding curriculum or approval of department chairman.

Welding Metallurgy II 4.248 2 0 2
A continuation of Welding Metallurgy I covering the common nonferrous metals and chromium alloys.

Well Drillers Operations Lab 4.298 0 4 1
A supplement to existing lab hours as needed, providing practical application of knowledge and skills learned in previous and current well drilling and related subjects. Included will be such things as drilling operations, well development, installation, maintenance and repair of equipment.

Wood Adhesives and Coatings 6.279 3 2 4
Basic physical and chemical nature of wood. Wood finishing, synthetic resins, adhesion principles and coating techniques. Quality control practices in paint, furniture and glue manufacturing plants and laboratories.

Wood Industry Economics 4.286 3 0 3
An introduction to the position of the wood industry in the economics structure; factors involved and production costs, marketing and sales.

Wood Preservation and Drying 6.282 3 2 4
Problems and control of wood-destroying agencies. Pressure and non-pressure treatments, fire-retardant chemicals. Methods of drying lumber and processed wood. Practices, equipment and plant visits.

Wood Products Marketing 3.614 2 3 3
An introduction to all aspects of wood products marketing from the producer to the consumer, taking into consideration the relationships of quality control, traffic, wholesaling, retailing, financing, ordering and merchandising.
Prerequisite: Quality Control in Wood Products 6.287.

Wood Structure and Identification 6.280 1 6 3
Basic wood structure and the gross features of wood. Provides the student with the ability to identify the common species of the softwoods and hardwood in the form of solid wood and wood fiber.

Work Experience 5.122-5.127 0 9 3
A continuing on-the-job training program providing practical training in areas of firefighting skills, fire prevention work, apparatus and equipment, operation and maintenance, alarm and dispatching, station organization and management, responsibility and leadership, inspections, prefire planning and other fire fighting duties.

Zoning, Community Planning and Subdivision 2.425 3 0 3
A course dealing with zoning law and the application of zoning to subdivisions. Also looks at community planning methods and alternatives.
Prerequisite: Second-year standing or instructor approval.

BUSINESS ADDENDUM

Municipal and Governmental Accounting **2.559** **3 0 3**

Study of the theory relating to accounting for governmental bodies and nonprofit organizations. Involves the study of budgets, general and specialized funds, fixed assets, liabilities, property taxes, interfund relations, cash procedures, accounting for public schools, federal government accounting, institutional accounting, cost accounting and published reports of governmental and nonprofit entities.

BA 263 Real Estate Law 3 hours

1) To enable the student to better understand the complexities of Oregon real estate law. 2) To enable the student to identify when he is dealing in a problem area with a client. 3) To recognize the necessity and services available from a competent attorney specializing in real property. 4) To familiarize the student with his role as agent in the agency relationship between broker and client.

Prerequisite: One course in Real Estate Principles or Practices.

BA 264 Real Estate Finance 3 hours

1) To enable the student to understand the operation of real estate mortgage market and its ability to compete with other desired products purchased on credit. 2) To enable the student to identify forces that modify the operation of the mortgage market, and the availability of funds for the mortgage market. 3) To investigate various lending policies as it influences investment modes in a real property asset. 4) To familiarize the student with various methods of financing various types of real property.

Prerequisite: One course in Real Estate Principles or Practices.

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P.O. BOX 1007 (4000 LANCASTER DR. N.E.) SALEM, OREG. 97308