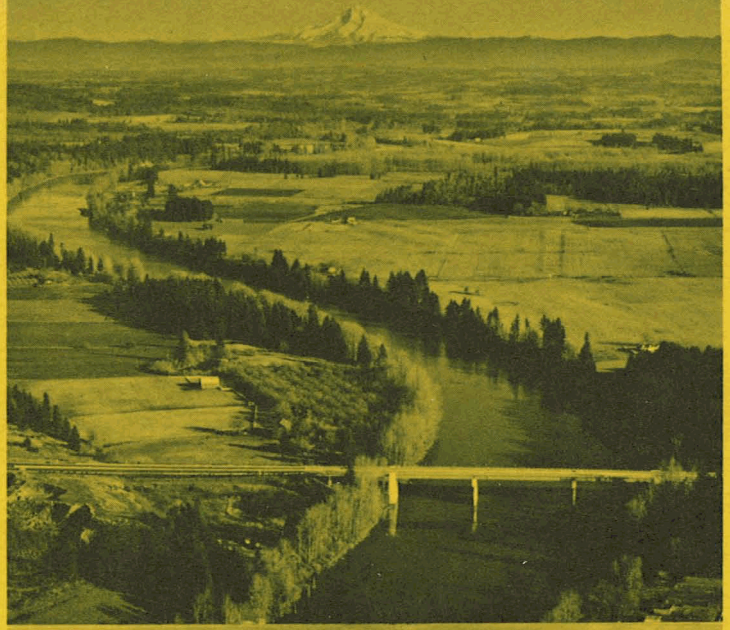
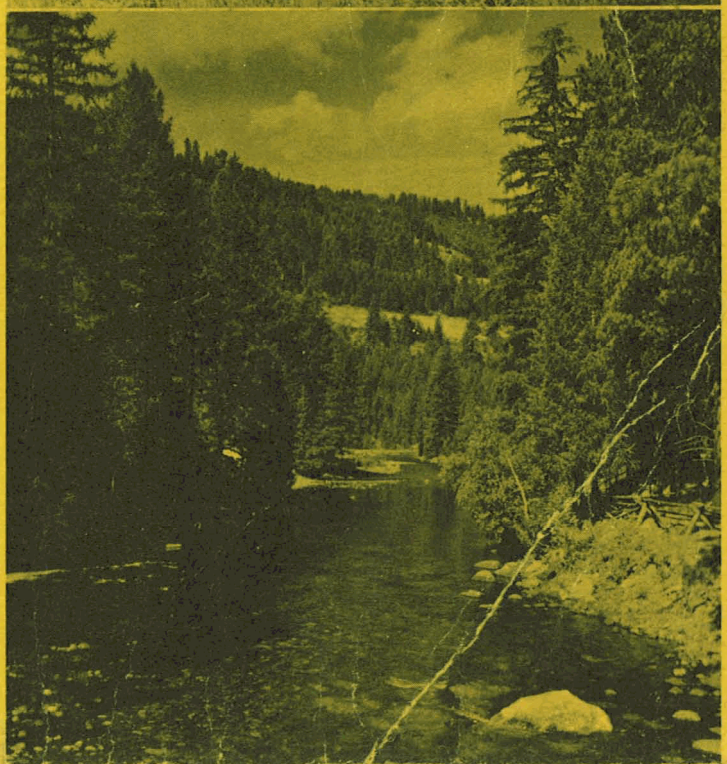
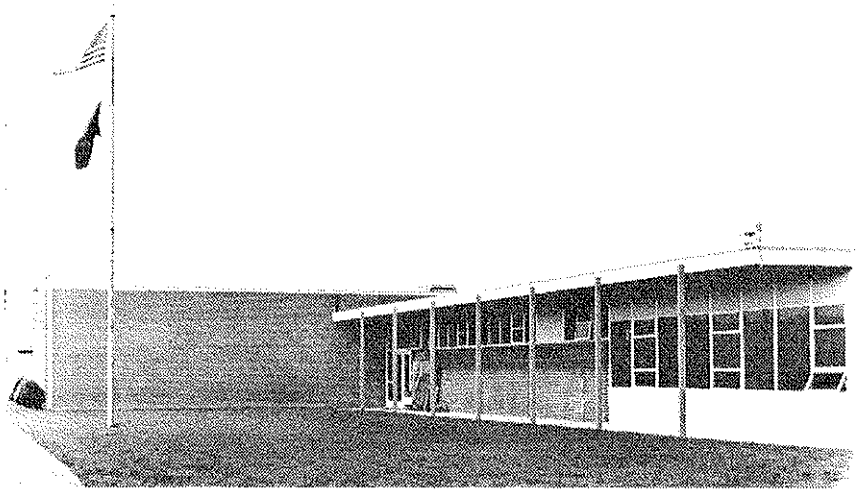
CHEMEKETA COMMUNITY COLLEGE

CATALOG 1971-72







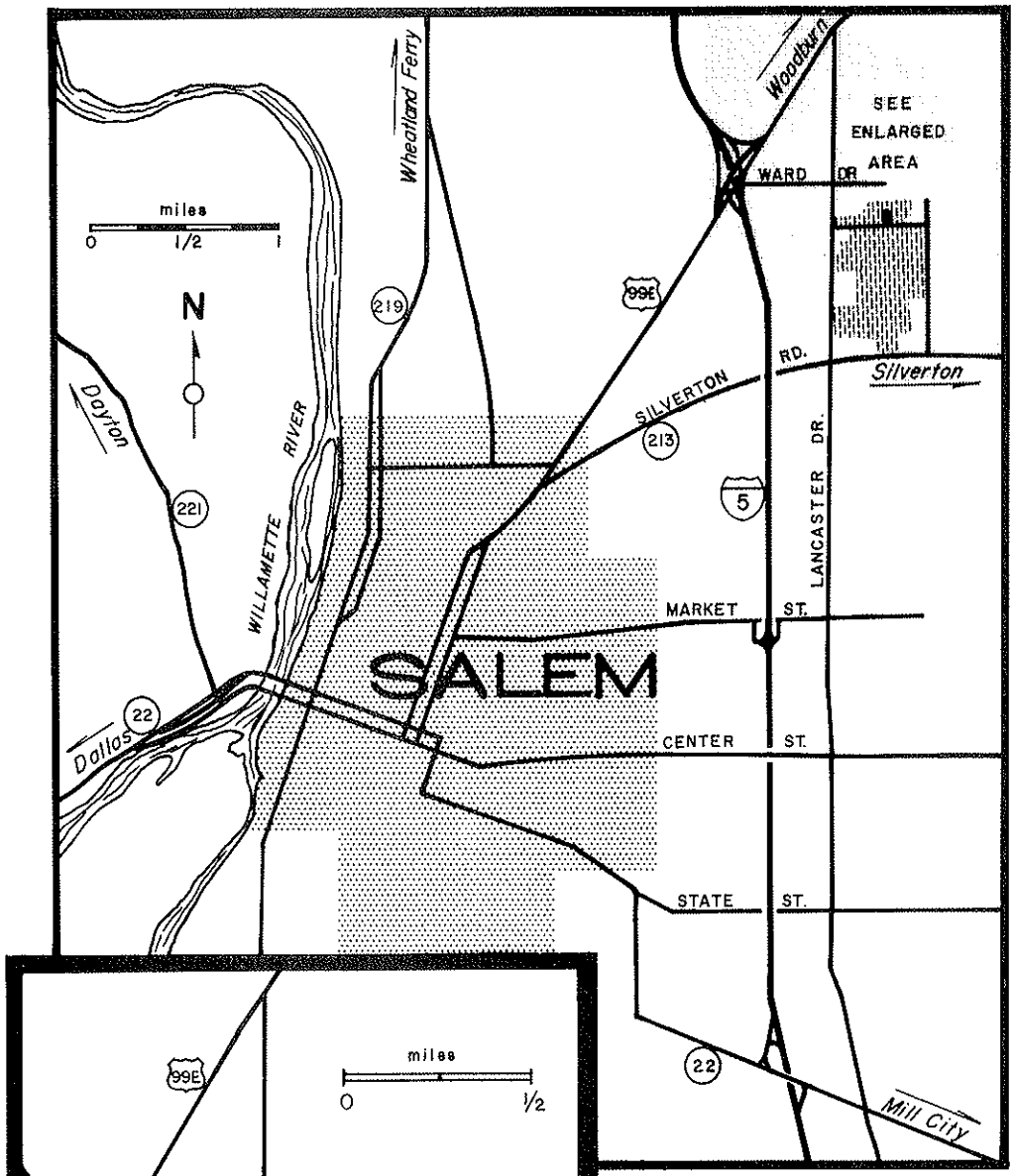
1971-72 Catalog

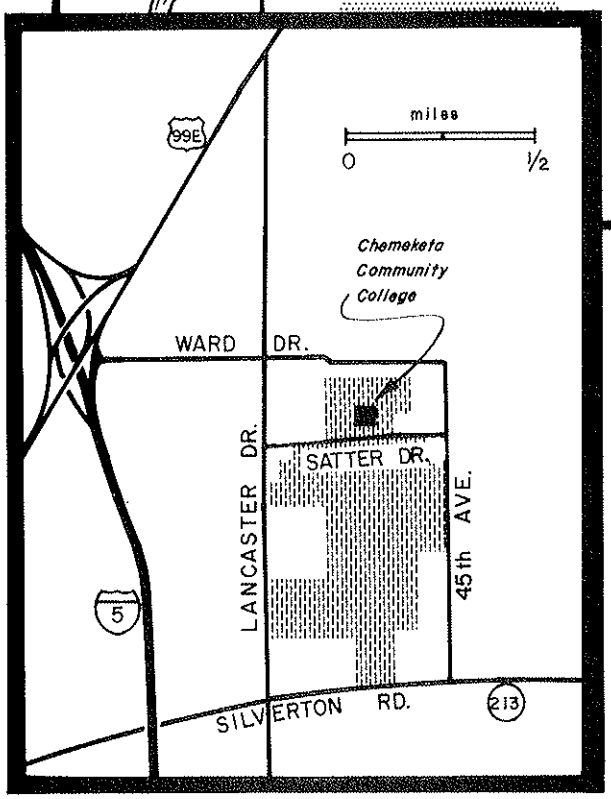
CHEMEKETA

COMMUNITY COLLEGE

Salem, Oregon 97303

585-7900





SITE OF

CHEMEKETA COMMUNITY COLLEGE

4389 SATTER DR. NE

SALEM, OREGON

97303

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ACADEMIC CALENDAR

Fall Term – 1971

Registration	September 20-23
Last day to register without penalty	September 27
Classes in regular session	September 27
Last day to register for Fall Term	October 8
Last day to make class or program changes	October 8
Veteran's Day Holiday	October 25
Midterm Evaluation	November 1-5
Thanksgiving Holiday	November 25-26
Last day to withdraw from classes without responsibility for grades	December 10
Final Examinations	December 14-16
End of Fall Term	December 17

Winter Term – 1972

Registration	*January 3
Last day to register without penalty	January 3
Classes in regular session	January 4
Last day to register for Winter Term	January 14
Last day to make class or program changes	January 14
Midterm Evaluation	February 7-11
Last day to withdraw from classes without responsibility for grades	March 10
Final Examinations	March 14-16
End of Winter Term	March 17

Spring Term – 1972

Registration	**March 27
Last day to register without penalty	March 27
Classes in regular session	March 28
Last day to register for Spring Term	April 7
Last day to make class or program changes	April 7
Midterm Evaluation	May 1-5
OCCA Convention	May 12
Memorial Day Holiday	May 29
Last day to withdraw from classes without responsibility for grades	June 2
Final Examinations	June 5-7
Graduation Exercises	June 9
End of Spring Term	June 9

Fall Term – 1972

Registration	September 18-21
Classes in regular session	September 25

*Winter Term registration will be accepted during Christmas vacation. Office is open December 21, 22, 23

**Spring Term registration will be accepted during spring vacation. Office is open March 21, 22, 23

GOVERNING BOARD

FRANK T. CROW, Chairman, Stayton

ART HEBERT, Vice Chairman, Sheridan

ANNE BELL, Rickreall

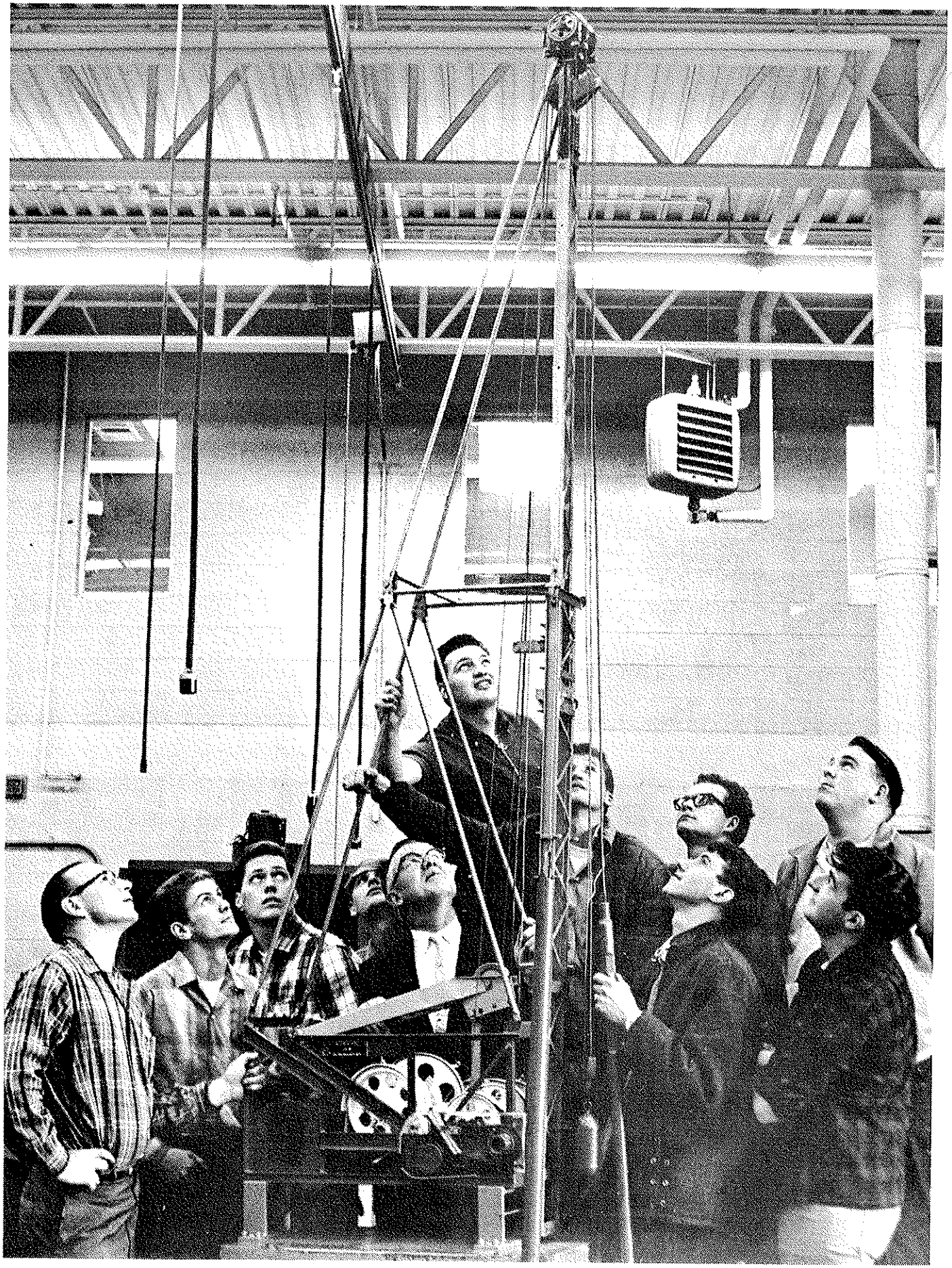
LARRY B. BEVENS, Salem

J. EARL COOK, Salem

ROBERT SAWTELLE, Woodburn

GEORGE G. STROZUT, Salem

COLLEGE PRESIDENT PAUL F. WILMETH



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 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 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 recongnizing the worth of each individual.

IMPLEMENTATION OF THE PHILOSOPHY

In view of this nature, role, and philosophy of 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 compentent, trained workers who have learned basic skills in specialized fields. Upon successful completion 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, paralleling those of the lower division of Oregon's colleges and universities, are offered for the first time this year with the second year planned for 1972.

ADULT EDUCATION provides opportunities for continuing education and individual enrichment for those who wish to improve technical or vocational skills, re-train for a new position, or simply for avocational purposes. These courses are open to all residents of the district in approximately 25 locations. 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

Among Oregon's community colleges, Chemeketa Community College is a newcomer. And, although it is a young institution – established in 1969 – it is linked to 15 years of sound operation and development of Salem Technical Vocational Community College.

Chemeketa became the product of this historical background with the decision of its first Board of Directors

to use the programs and facilities of Salem Tech as the base of expansion for the new community college.

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 far-sighted 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 some date, the first Board of Directors was elected, and the membership organized at once to work on the problems confronting the new district which was then free to expand and become 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.

The Chemeketa Community College Board of Education is comprised of seven elected representatives from the four – county district.

On October 23, 1969, the Board selected the first president for the College, naming Paul F. Wilmeth, who had served as Director of the Salem College since its establishment as a vocational school in 1955. 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 1100 full-time students on a new, but crowded, campus on Satter Drive in Salem. This is the foundation upon which the Board chose to build the new community college.

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

During its first year, ending June 30, 1971, the new College Board and administration moved rapidly on an expansion program to develop a comprehensive community college – completing the College's long range plan, taking steps toward accreditation, studying potential vocational programs, initiating a lower division transfer program, acquiring 122 acres in additional campus acreage (bringing, the total to 146), working toward completion of the first phase of construction plans for the new college campus, and providing adult education courses for an enrollment of 9,619 in Salem and 22 outlying areas of the district.

ACCREDITATION

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

Chemeketa is, at present, a recognized candidate for full accreditation with the Northwest Association of Secondary and Higher Schools.

THE STUDENTS

Chemeketa Community College is the fastest growing community college in Oregon – yet a personal and individual approach to student learning problems is taken.

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 243,000 distributed over 2,600 square miles. It serves more than 9,000 persons each year. The variety of students provides a valuable social interaction not available in other institutions.

THE STAFF

There are nearly 450 full – and part-time highly qualified and carefully selected faculty members serving Chemeketa students.

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

Seventeen two-year technical courses leading to Associate in Science Degrees; eight one-year programs leading to certificates of completion, and a short three-month concentrated nursing assistant course comprise the career programs at Chemeketa.

TRANSFER COURSES

The lower division transfer courses are being offered Chemeketa students for the first time this fall. The offerings include approximately 48 – 50 term hours each term which are transferable to Oregon four-year colleges and universities. The second year of the transfer program is planned for initiation in the fall of 1972.

ADULT EDUCATION

Adult education classes are offered in all areas of the Community 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.

Adult basic education courses provide an opportunity for educational achievement for those who have never reached an eighth grade level. General Education Development classes and examinations are offered to adults who would like to obtain a Certificate of Equivalency.

Adults who attend special classes offered by the College have the opportunity to earn a high school diploma.

A variety of supplementary occupational classes are offered in apprenticeship, business education, data processing, drafting, electronics, fire protection, home economics, industrial-mechanical, law enforcement, real estate, secretarial science, and supervisory training. Many additional courses are offered in subjects for enrichment and avocational interests.

For adults interested in working toward a baccalaureate degree, Chemeketa offers a broad variety of lower division transfer courses approved by the Oregon State System of Higher Education. These are offered in Salem and outlying communities.

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

The adult schedule of classes is printed separately. Full information on the schedule of offerings and location of classes is available at the Adult Community Education Office, 4389 Statter Drive N. E., Salem, Oregon, Telephone 585-7900.

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.

CAMPUS LOCATION AND BUILDINGS

The 146 – acre campus of Chemeketa Community College is in Northeast Salem centrally located beneath snow-capped mountains in the heart of the Mid-Willamette Valley. It is nearly at the geographical center of the college district.

The campus includes eight permanent and temporary major buildings:

Main classroom building and library. This building facing Satter Drive, is situated conveniently in the center of the traffic pattern which students follow in their daily activity. The main classroom building houses the campus closed circuit television studio, electronics laboratories, drafting rooms, lecture-demonstration rooms, specially equipped health and dental laboratories, business and office program laboratories, the data processing center, home economics classrooms, and study skills center. In addition to classrooms and library, this building houses 10 staff offices, the Division Dean of Math, Science and Related Engineering office, clerical pool office, audio-visual center which provides films, filmstrips, slides, audio and visual tapes, graphic services and other educational media resources, and a student lounge with snack vending machines. The main classroom area was constructed in 1963.

Two Shop Buildings. These structures, the first constructed at the time of the main building and the second in 1965, are joined by a covered walkway to each other and the main building. Located to the east of the main building, they house mechanical programs, welding, and well drilling.

Counseling Services, Registrar, and Business Offices. Complete student service areas are included in this building. These include admissions procedures, counseling, financial aids, health services, registrar, and business office. This temporary structure is located between the main building and shop area.

Faculty Office Building. This temporary building, located to the north of the main building, includes staff offices.

Bookstore. This temporary building houses complete book store and supplies for the college students including selected novelty items. It is located west of the main building between the faculty offices and student union.

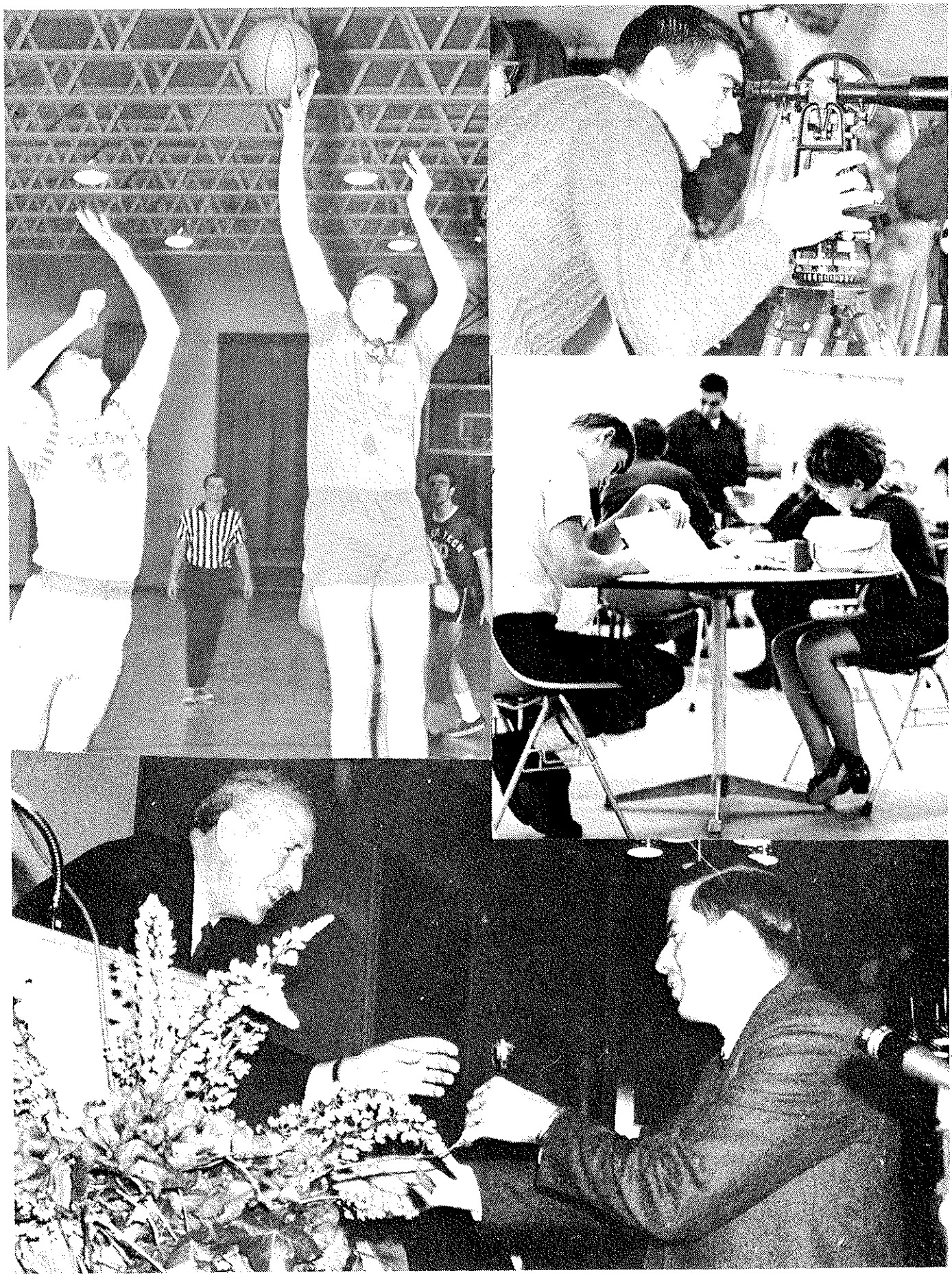
Student Lounge. Located west of the main building and south of the bookstore, the student lounge is the central activity point of students, socially and for club use. The lounge includes the Associated Student Body Office and the office of the Coordinator of Student Activities, a counseling staff member who directs and assists with student organizations and activities.

Administration Building. The President's Office, conference room, and Planning and Development Office are located in the building on the south end of the campus to the west of the student lounge.

Miscellaneous Buildings. Other classrooms are housed in temporary units north of the main buildings.

Several off-campus buildings accommodate the Adult Education Offices and additional home economics classrooms. The Adult Education Office is located at 4020 Lancaster Drive N. E. The Adult learning Center for Adult Basic Education and General Education Development is located at 3756 Portland Road N. E.

Additions for 1971-72 include a temporary biology laboratory, library wing, and additional classrooms.



ADMISSIONS INFORMATION AND ACADEMIC REGULATIONS

ADMISSIONS AND REGISTRATION

Admissions Policy

Chemeketa Community College subscribes to the "Open Door" policy admission. 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.

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 classes not designed to apply to a degree program need not follow the formal steps for application for admission.

Information and Assistance

Preadmission and preregistration guidance interviews may be arranged Monday through Friday throughout the calendar year. If desired, appointments for interviews may be arranged by calling the Student Affairs Department, 585-7900. Evening counselors are available for interviews Monday through Thursday of each week in the regular College year.

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. Submit a non-refundable $10 application fee which is applied to tuition.
3. Complete and submit health questionnaire (students registering for physical education classes* must submit a student health form signed by a physician.)
4. Provide an official transcript of all previous high school, college or GED records.

Students will be 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.

Early applications are particularly critical in some health occupations programs due to limited student stations available in community health agencies, available staff, and standards set by regulatory bodies. Applications for admission are accepted at any time and should be made as early as possible. This early application is essential for the College to carry out the selection procedures involved in the Health Occupations programs. High school students are encouraged to apply after completion of their junior year.

Applicants accepted for health occupations programs will begin at the first available opening in the program. Programs begin each fall. In some programs at some times, applicants may have a wait of more than a year before the start of classes.

Selection is based on high school records, ACT results, GATB results, references, and an interview with a member of the health occupations staff. A limited number of spaces in programs is reserved each year for qualified spring high school graduates. Applicants who are not accepted are encouraged to consult with the College Staff to plan a program to meet entry criteria at a later date or select an alternate goal.

Application for health occupations programs requires an advance registration fee of $40.00. This fee is applied to the total quarter tuition fees. It is non-refundable in the event the applicant does not complete registration, but it may be applied to fees for future registration within two years.

*These classes will be offered only if facilities and staff are available.

Class Registration Policies and Procedures

Registration in particular classes and programs follows admission to the College. An interview with a counselor is required of all new applicants. Ideally, the preregistration interview follows testing and precedes class registration.

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.

All applicants, except transfer students from other colleges, with 15 quarter hours of "C" or better, are requested to submit the results of the American College Test (ACT) or the Scholastic Aptitude Test (SAT) prior to entrance. The test is not a prerequisite for admission, but is important for guidance purposes.

Students not submitting results of one of the above tests may be required to take an English and mathematics placement battery scheduled by the College. Frequently, applicants are asked to take the General Aptitude Test Battery (GATB) to assist the counselor and student in planning for college and occupational success.

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 all College facilities, and other student privileges.

Full time in-district students living within a radius of 14 mi.	$ 90.00 per term
Full time students within 14-24 miles	80.00 per term
Full time students beyond 24 miles	70.00 per term
Full time out-of-district students	120.00 per term
Full time out-of-state students	400.00 per term
Part-time students	9.00 per term unit

Students registering for 10 or more hours per term pay full tuition. Students taking both day and evening classes may have to pay evening class tuition fees in addition to the day tuition fees.

Residence

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

(1) A minor whose parent or legal guardian lives within the College District.
(2) Over age 21 and is a resident of the College District.
(3) Is married and lives within the District.

Late Registration Fee

A fee of $1.00 per school day, but not to exceed $5.00, 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

Associated Student Body Membership	$7.50
Locker Fee - Optional	2.50 per term
Laboratory fees for certain courses	Vary by course

The total of other fees per term generally does not exceed $15.00 per term.

Books and Supplies

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

ACADEMIC REGULATIONS

Additional details concerning the Academic Regulations may be found in the student handbook.

Academic Probation

To remain in good standing, students are expected to maintain a 2.00 grade point average. If, after a student has attempted two or more quarters his cumulative grade point average is less than 2.00 the student's work may be reviewed by the Student Progress Committee which may place him on probation.

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.

Suspension

Any student who consistently fails to meet the standards in course work or consistently fails to adjust to the College environment will have his record reviewed by the Student Progress Committee which may suspend the student from the College. The committee will determine the length of such a suspension and the time and conditions when 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 Student Progress Committee for review.

Credit by Examination

Under certain circumstances formal credit may be obtained through examination. Petitions for examination for credit are initiated at the Student Affairs Office during the first two weeks of a term in which the course is offered. The petition must be approved by the dean of the division responsible for the subject area involved. The exam must be passed with a grade of C or better for credit.

The examination fee will be equal to the tuition per credit hour cost for less than full-time students. It is payable at the time the examination is scheduled.

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

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 the Student Affairs Office. It is advisable that the substitution be discussed with a counselor and the student's Department Chairman before being submitted.

Substitution is allowed upon approval of the Department Chairman and Division Dean if a student can show that such a substitution will benefit him without detracting from the quality of his preparation.

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.

Removal Of Incomplete

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 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 G.P.A. 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 some programs, a number of the career program courses are not designed for transfer to four-year institutions.

Transcripts

Official transcripts of grades may be requested through the Registrar's Office. Graduating students are entitled to five free transcripts. Additional copies are issued for a fee of $1.00 each.

Transfer Credits from Other Colleges

If a student has been dismissed from another college or university for academic or disciplinary reasons, he should petition the Office of Student Affairs for admission. Students whose petitions are approved are admitted on probation. Transfer credits are not accepted for courses with less than a "C" grade.

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.

Transfer of credits is not automatic. The student must request transfer of these credits in person at the Office of Student Affairs.

Program Changes

A change in a student's course schedule may be made during the program adjustment period (see the academic calendar). These changes are to be approved by a counselor and Department Chairman. Choice of courses during this period is limited. Student Schedule Change Forms are available at the Office of Student Affairs.

Withdrawal from Classes

Students who withdraw from class are to complete the appropriate forms in the Office of Student Affairs. Day students should confer with a counselor. Evening students also are encouraged to confer with an instructor or counselor prior to withdrawal.

Students seeking to withdraw from a class must complete the withdrawal procedures. Failure to do so may result in a failing grade. 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%

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 student ceased to attend classes. The application fee is deducted before applying the refund schedule.

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.

GRADUATION REQUIREMENTS

Degrees and Certificates

Chemeketa Community College grants the Associate in Science Degree. It is planned that the Associate in Arts Degree will be added as the second year of the transfer program is completed. 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 to 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 curricula. 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.

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 Student Affairs 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 diplomas at the June graduation ceremonies or have their diplomas mailed to them after commencement.

GENERAL INFORMATION

Student Financial Aids

Information concerning educational loans, scholarships, and part-time work is available at the Office of Student Affairs. Financial aids that the student may obtain normally cover the difference between attendance costs and what the student and his family are able to provide.

The Office of Student Affairs will forward upon request a Financial Aid Application and a pamphlet which describes the scope and diversity of the financial aid opportunities available at the College. The College presently provides the following financial aid programs: Education Opportunity Grants, National Defense Student Loans, College Work Study Program, Law Enforcement Education Loans and Grants, Guaranteed Student Loans, Associate Degree Nursing Scholarships, Associate Degree Nursing Loans, Part-time Employment, locally sponsored scholarships and loans provided by organizations and individuals in the College District, and Chemeketa Community College Board Talent Grants.

Job Placement

Chemeketa Community College conducts an active program to assist currently enrolled students in finding part-time employment and to aid graduates in obtaining full-time employment. On-Campus employment for currently enrolled students is limited to 15 hours per week when the College is in session.

Factors considered in determining eligibility for work referral are counselors' recommendations, the number of hours that a student is enrolled, grades, financial needs, skills, and work experience. Students are encouraged to discuss employment opportunities with their counselor or the Director of Student Affairs.

Student Records

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

Student Activities

Chemeketa Community College recognizes the educational, recreational, and social values of a well integrated program of student activities. A program has been developed in response to student interests and needs. Student organizations include the Associated Student Body, Smoke Signals (the student newspaper), Circle K, The Instrument Society of America, ASCET, Forestry Club, Phi Beta Lamba, Student Nurses of Oregon, and Office Occupations Association. For further information, see the student handbook.

Athletics

Throughout the year, Chemeketa students may participate in a variety of intramural activities, including bowling, volleyball, softball, basketball, skiing, and golf. The activities are coordinated by the Student Affairs Office.

Participation in intercollegiate sports is limited to students maintaining a 1.50 grade point average, a minimum of 10 units per term, and normal progress toward a definite educational objective. Chemeketa teams include cross country, basketball, baseball, track, and golf.

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.

Health Services

Chemeketa maintains a First Aid Office. Students are expected to have general medical needs met by their personal physician, dentist, or clinics.

Student Health and Accident Insurance

Chemeketa Community College provides an accident insurance program for students attending the College or participating in College activities. Inter-scholastic sports require special coverage.

A supplementary low-cost health and accident insurance program is available through the College for students and their dependents. The cost of this supplementary program is:

Student only	$10.00 per quarter
Student and one dependent	23.35 per quarter
Student and two or more dependents	32.25 per quarter

Additional information about either of the health and accident programs may be obtained at the Student Affairs Office or the College Business Office.

Selective Service

Information regarding selective service regulations may be obtained at the Office of Student Affairs. Requests for deferment must be filed each year at the Registrar's Office.

Veterans

All 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 acknowledgment 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 the veteran's basic entitlement. A counselor can help the veteran establish eligibility and arrange for a tutor.

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.

TECHNICAL-VOCATIONAL PROGRAMS

TECHNICAL-VOCATIONAL ASSOCIATE DEGREE AND CERTIFICATE PROGRAMS

Among the fastest growing occupational groups in the United States are the technicians. The expanding economy and increased emphasis on technical fields have caused an unprecedented and urgent need for college-level technicians to assist in scientific, health science, and engineering fields as well as for trained technologists in business and industry.

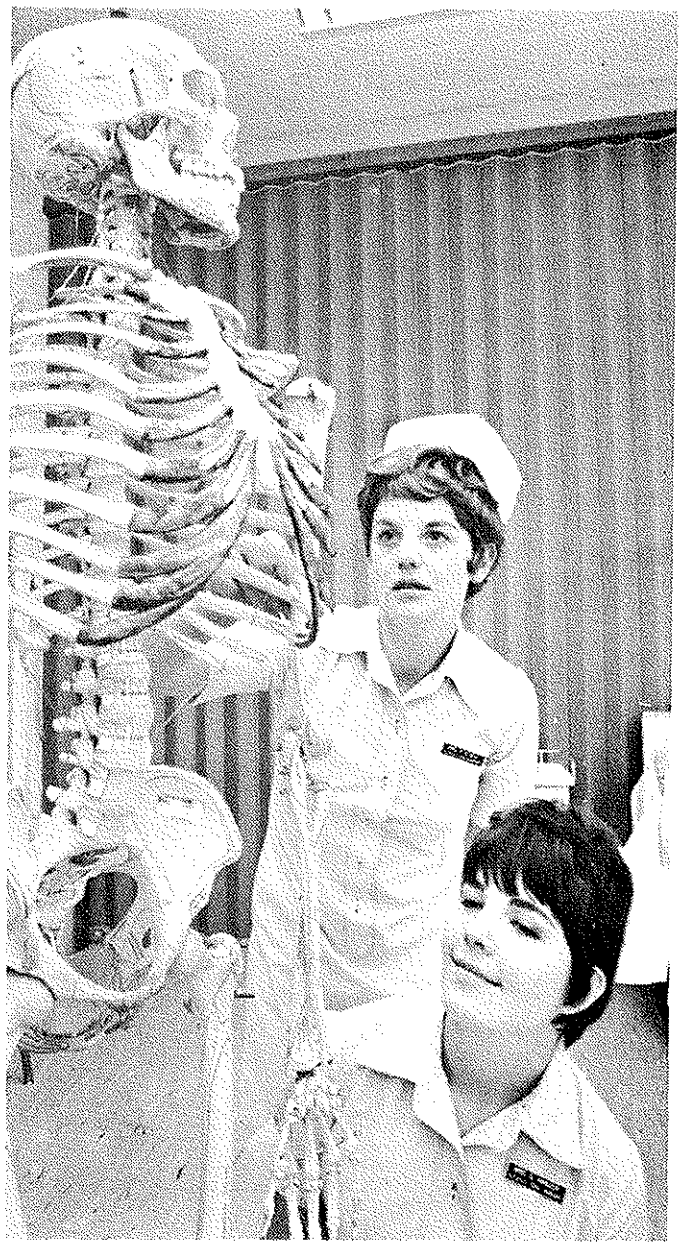
Men and women with technological training serve in many capacities. They may serve as direct support personnel to scientists and engineers. Although technicians are frequently directed by a scientist or engineer, they often work independently. Many tasks formerly left to highly-trained professionals now are performed by technicians.

Today, one of the major demands is for an increased work force capable of adjusting to the ever-changing technological concepts, to more efficient methods of putting new ideas into practice, and to meeting the business and industrial demands of society and the individual.

Chemeketa Community College offers one and two-year programs as well as intensive short courses to meet these demands.

The aim of the Chemeketa technical-vocational programs is to develop gainful skills for employment in a wide range of technical fields, to provide students with the technical knowledge essential for proficiency in semi-professional occupations that offer adults and youth professional growth, challenge, and self-satisfaction. The programs develop the highly-specialized skills needed in each field of employment, abilities in dealing with people, and work habits necessary for successful employment so that the graduate can enter and advance in a chosen field and may participate in the development of the civil structure and social life of his community.

Although subject matter emphasis in all Chemeketa technical-vocation programs is concentrated on specialized technical subjects, a core of general education courses also is required. These include such courses as English language, psychology, speech and economics. In addition to the practical value of these courses; this core provides the student with a background of general education which will permit him greater latitude in selection of subsequent educational goals and give him a common ground of cultural experience with colleagues and fellow employees in any field.



Two-year Programs

BUSINESS TECHNOLOGY

The two-year business curriculum is designed to prepare the student for effective participation and leadership in business, industry, and government. It develops skills, attitudes, and the understanding necessary for entry and advancement in positions in the business office such as junior accountants, supervisory trainees, and many other business-oriented occupations. The study develops an adequate foundation for continuing improvement in business skills and understanding essential to identification and solution of managerial problems.

Upon satisfactory completion of the requirements in the Business Technology Program, the student is awarded an Associate in Science Degree.

Associate in Science Degree: Required 98 Term Units.

BUSINESS TECHNOLOGY CURRICULUM

FIRST YEAR

Term 1

Hours Class	Work Lab	Course Title	Course No.	Term Units
3		Communication Skills	1.101	3
1	4	*Typing	2.607	3
3		Business Mathematics	2.650	3
1	1	Personal Development	2.518	1
3		Introduction to Psychology	1.606	3
3		Accounting	6.920	3

Term 2

3		Business and Public Administration	2.502	3
3		Communication Skills	1.104	3
1	4	Typing	2.608	3
3		Business Mathematics	2.653	3
1	3	Business Machines	2.660	2
3		Accounting	6.921	3

Term 3

3		Business English Fundamentals	2.673	3
1	3	Business Machines	2.661	2
2	2	Records Management	2.642	3
3		Accounting	6.922	3
3		Psychology of Human Relations	1.608	3

SECOND YEAR

Term 4

3		Business Correspondence	2.672	3
3		Business Economics	1.524	3
3		Cost Accounting	2.576	3
2		Introduction to Data Processing	6.940	2
1	2	Computer Center Control Operations	2.680	2
1	8	**On-the-job Training and Seminar	2.676	3
1	4	**On-the-job Training and Seminar	2.677	2
2	3	Computer Programming (RPG)	2.679	3

Term 5

3		Report Writing	1.106	3
3		Business Law	2.320	3
1	2	Business Dictation or Transcribing Machine Operation	2.668 2.663	2
3		Intro. to Systems and Procedures	6.944	3
2	2	Applied Data Processing	2.681	3
3		Office Management	2.643	3
1	8	**On-the-job Training and Seminar	2.676	3
1	4	**On-the-job Training and Seminar	2.677	2

Term 6

3		Personnel Principles & Supervision	2.685	3
2	2	Public Speaking	1.610	3
3	3	Applied Data Processing	2.682	4
3		General Education Elective or		3
3		Fortran for Users	2.678	
1	8	**On-the-job Training and Seminar	2.676	3
1	4	**On-the-job Training and Seminar	2.677	2

***Students are required to spend a total of 12 hours in work experience and two hours of class seminar during their second year.*

CIVIL AND STRUCTURAL ENGINEERING TECHNOLOGY

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 chsoen 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, and 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 expereince 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, preparing specifications for materials, or participating 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	Inspector
Assistant Engineer	Construction Estimator
Senior Draftsman	Cost Estimator
Surveyor	Contractor's Assistant
Civil Engineering Technician	Technical Writer
Structural Designer	Computer
Supt. of Construction	Engineering Aide
Instrument Man, Survey	

Associate in Science Degree: Required 104 Term Units.

CIVIL AND STRUCTURAL ENGINEERING TECHNICIAN CURRICULUM

FIRST YEAR

Term 1

Hours Class	Work Lab	Course Title	Course No.	Term Units
3	2	Applied Physics	6.370	4
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

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 Surverying	6.103	4
4		Technical Mathmatics	6.262	4

Term 3

1	2	Practical Descriptive Geometry	6.127	2
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

SECOND YEAR

Term 4

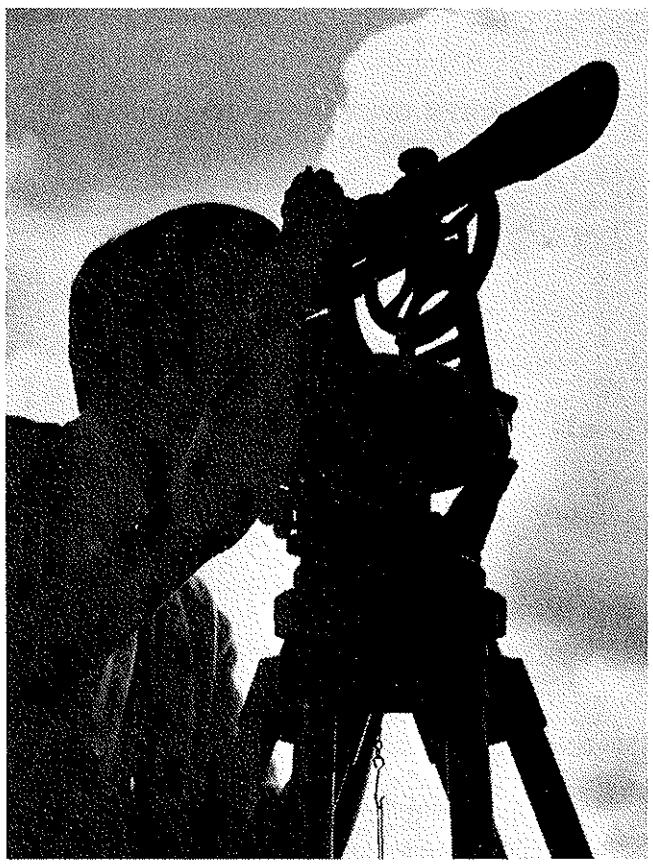
2	4	Land Division and Mapping	6.335	3
2	3	Strength of Materials	6.128	3
3		Contracts and Specifications	6.118	3
1	3	Earthwork Computations and Estimates	6.528	2
1	6	Route Surveying	6.507	3
3		Introduction to Psychology	1.606	3

Term 5

2	2	Hydraulics	6.112	3
2	3	Construction Estimating	6.110	3
1	3	Structural Analysis and Design	6.130	2
3	3	Timber and Steel Construction	6.125	4
2	3	Environmental Quality Control	6.139	3
3		General Education Elective		3

Term 6

2	2	Hydraulics	6.114	3
2	3	Concrete Construction and Design	6.123	3
	4	Structural Drafting	4.111	2
2	2	Sanitary Engineering	6.140	3
2	3	Soil Mechanics	6.124	3
3		General Education Elective		3



DATA PROCESSING TECHNOLOGY

The objective of the Data Processing Program is to provide training for individuals preparing for positions in the various fields of business data processing and for those persons already engaged in the field who desire futher training.

The Technology is comprised of two options — Computer Operations Technician and Computer Programming Technician.

The Computer Operations Technician Program provides for concentrated study and experience in data center operation and management. The data center has a medium-sized computer, operated in a job shop environment serving business and scientific users.

The Computer Programming Technician Curriculum provides concentrated study and experience in business data processing, computer programming, management procedures, and management science. The second year provides options for systems programming, advanced business systems programming, and operations research.

Upon satisfactory completion of the requirements in the Data Processing Program, the student is awarded an Associate in Science Degree, signifying that the student is prepared to effectively fuction and advance in the many job areas of the Data Processing Field.

Associate in Science Degree:

Computer Operations Technician: Required 107 Term Units

Computer Programmer Technician: Required 107 Term Units

COMPUTER OPERATIONS TECHNICIAN CURRICULUM

FIRST YEAR

Term 1

Hours Class	Work Lab	Course Title	Course No.	Term Units
3		Accounting	6.923	3
3		Communication Skills	1.101	3
3		Data Processing Mathematics	6.941	3
2		Introduction to Data Processing	6.940	2
3		Fundamentals of Computers & Programming	6.948	3
3	3	Computer Programming (PL/1)	6.959	4

Term 2

3		Accounting	6.924	3
3		Communication Skills	1.104	3
2		Data Processing Mathematics	6.943	2
3		System 360 Concepts	6.958	3
2	12	Computer Center Operation	6.951	6
3		Business and Public Administration	2.502	3

Term 3

3		Accounting	6.925	3
2		Computing Systems	6.956	2
3		Data Processing Management	6.946	3
2	12	Computer Center Operations	6.952	6
3		Report Writing	1.106	3

SECOND YEAR

Term 4

3		Introduction to Systems and Procedures	6.944	3
3		System 360 DOS/TOS Facilities	6.975	3
2	2	Computer Programming (PL/1	6.960	3
3		Introduction to Psychology	1.606	3
3	12	Computer Center Operations	6.953	6

Term 5

3		Automated Systems and Procedures	6.945	3
1	2	Analysis of Operation Problems	6.972	2
3		Business Economics	1.524	3
3		DOS & OS Operations Management	6.957	3
3	12	Computer Center Operations	6.954	6

Term 6

5	3	Operations Management Case Study	6.978	6
2		Data Communications	6.976	2
3		Psychology of Human Relations	1.608	3
2	12	Computer Center Operations	6.955	6

COMPUTER PROGRAMMING TECHNICIAN CURRICULUM

FIRST YEAR

Term 1

Hours Class	Work Lab	Course Title	Course No.	Term Units
3		Accounting	6.923	3
3		Communication Skills	1.101	3
3		Data Processing Mathematics	6.941	3
2		Introduction to Data Processing	6.940	2
3		Fundamentals of Computers & Programming	6.948	3
3	3	Computer Programming(PL/1)	6.959	4

Term 2

3		Accounting	6.924	3
3		Communication Skills	1.104	3
3		Data Processing Mathematics	6.942	3
3	6	Computer Programming (Cobol)	6.961	4
3		System 360 Concepts	6.958	3
3		Business and Public Administration	2.502	3

Term 3

3		Accounting	6.925	3
2	1	Computing Systems and Job Control	6.949	2
3	6	Computer Programming(Fortran)	6.962	4
3		Data Processing Management	6.946	3
3		Report Writing	1.106	3
3		Introduction to Psychology	1.606	3

SECOND YEAR

Term 4

3		Cost Accounting	2.576	3
3		Introduction to Systems & Procedures	6.944	3
3	4	Operations Research	6.966	5
2	2	Utility and Sort Programs	6.965	3
3	6	Computer Programming (Assembler)	6.969	5

Term 5

3		Automated Systems and Procedures	6.945	3
3		Business Economics	1.524	3
3		Computer Operating Systems	6.973	3
		Select One		
3	3	Operations Research	6.967	4
3		Business Law	2.320	3
		Select One		
3	6	Computer Programming (Assembler)	6.970	5
3	6	Computer Programming (Cobol)	6.963	5

Term 6

3		Psychology of Human Relations	1.608	3
3		Computer Operating Systems	6.974	3
		Select One		
2		Data Communication	6.976	2
1	4	Computer Graphics	6.977	3
		Select One		
3	6	Computer Programming (Assembler)	6.971	5
3	6	Computer Programming (Cobol)	6.964	5

DRAFTING TECHNOLOGY

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 97 Term Units.
Mechanical Drafting Technician: Associate in Science Degree: Required 102 Term Units.

DRAFTING TECHNICIAN CURRICULUM

FIRST YEAR

Term 1

Hours Class	Work Lab	Course Title	Course No.	Term Units
3		Communication Skills	1.101	3
3		Introduction to Psychology	1.606	3
4		Technical Mathematics	6.261	4
	2	Slide Rule Operations	6.137	1
1	6	Plane Surveying	6.101	4
	3	Sketching	4.118	1
1	6	Machine Drafting	4.221	3

Term 2

3		Communication Skills	1.104	3
4		Technical Mathematics	6.262	4
2	6	Plane Surveying	6.103	4
2	3	Manufacturing Processes	6.606	3
	2	Engineering Problems	6.138	1
2		Dimensioning and Layout	4.224	2
	5	Machine Drafting	4.222	2

Term 3

3		Psychology of Human Relations	1.608	3
4		Technical Mathematics	6.266	4
2	3	Manufacturing Processes	6.610	3
1	7	Mapping and Platting	4.131	3
1	2	Practical Descriptive Geometry	6.127	2
	5	Machine Drafting	4.223	2

SECOND YEAR

Term 4

3	2	Applied Physics	6.370	4
	8	Architectural Drafting	4.226	3
	8	Cam and Gear Drafting	4.225	3
	4	Electrical Drafting	4.103	2
3		Introduction to Specifications	4.102	3

Term 5

3	2	Applied Physics	6.371	4
	8	Architectural Drafting	4.227	3
	8	Technical Illustration	4.228	3
3		Business Economics	1.524	3
3		General Education Elective		3

Term 6

3	2	Applied Physics	6.366	4
	8	Sheet Metal Drafting	4.230	3
	5	Technical Illustration	4.229	2
	4	Structural Drafting	4.111	2
	8	Jig and Fixture Drafting	4.231	3

MECHANICAL DRAFTING TECHNICIAN CURRICULUM

FIRST YEAR

Term 1

Hours Class	Work Lab	Course Title	Course No.	Term Units
3		Communication Skills	1.101	3
2	2	Mathematics	4.200	3
3		Introduction to Psychology	1.606	3
2	3	Machine Tool Process	4.802	3
	3	Sketching	4.118	1
1	6	Machine Drafting	4.221	3

Term 2

3		Communication Skills	1.104	3
2	2	Mathematics	4.202	3
3	2	Practical Physics	4.302	4
2	3	Machine Tool Processes	4.804	3
	5	Machine Drafting	4.222	2
3		General Education Elective		3

Term 3

3		Report Writing	1.106	3
2	2	Mathematics	4.204	3
1	2	Practical Descriptive Geometry	6.127	2
2	3	Manufacturing Processes	6.610	3
	5	Machine Drafting	4.223	2
3		General Education Elective		3

SECOND YEAR

Term 4

4		Technical Mathematics	6.261	4
	2	Slide Rule Operations	6.137	1
	2	Applied Physics	6.370	4
1	3	Welding	4.150	2
	4	Electrical Drafting	4.103	2
	8	Cam and Gear Drafting	4.225	3

Term 5

4		Technical Mathematics	6.262	4
3		Business Economics	1.524	3
1	9	Project Drafting	4.119	4
	8	Technical Illustration	4.228	3
3		Elective		3

Term 6

3		Employer-Employee Relations	4.500	3
	5	Technical Illustration	4.229	2
	8	Sheet Metal Drafting	4.230	3
	8	Jig and Fixture Drafting	4.231	3
2	4	Elective		3

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, micro-wave station operations and maintenance, calibration, commercial and domestic maintenance, and other areas using vacuum tubes and semi-conductor 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 the 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 Computor Technician
- Microwave Radio Technician
- Electronic Instrument Service Technician
- Industrial Electronic Technician Supervisor
- Electronic Equipment Designer
- Electronic Engineering Technician

Associate in Science Degree: Required 110 Term Units

ELECTRONIC ENGINEERING TECHNICIAN CURRICULUM

FIRST YEAR

Term 1

Hours Class	Work Lab	Course Title	Course No.	Term Units
3	3	Electrical Theory DC	6.200	4
	2	Slide Rule Operations	6.137	1
4		Technical Mathematics	6.261	4
3	2	Applied Physics	6.370	4
	4	Drafting	4.101	2
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	2	Applied Physics	6.371	4
3	3	Transistor Fundamentals	6.210	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	Introductory Chemistry	6.275	4

SECOND YEAR

Term 4

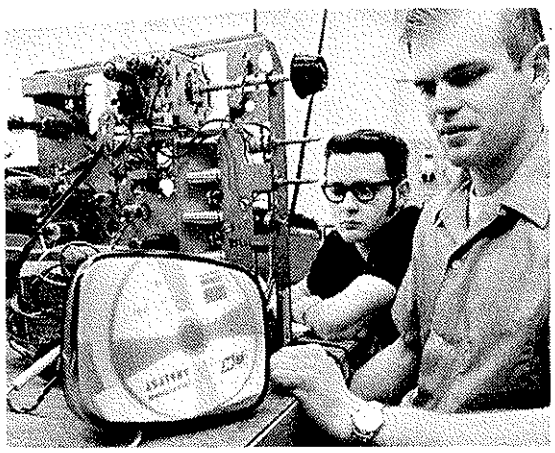
3		Electrical Mathematics	6.115	3
2	6	Electronic Circuit Concepts	6.212	4
2	3	Wave Generation and Shaping	6.234	3
2	3	Semiconductors	6.237	3
2		Network Analysis	6.230	2
3		General Education Elective		3

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



FIRE PROTECTION TECHNOLOGY

This curriculum provides the student with a knowledge adequate to understand the significance and implications of procedures performed at the entry level of the fire protection field. Sufficient skills are presented to make a desirable employee for more than one field of fire protection.

The curriculum is designed to provide a broad base of technical and general subject matter. Instruction centers around elements normally not obtained through experience alone. Such background most certainly enhances promotional and specialization opportunities.

Upon satisfactory completion of the requirements of the program, the student is awarded an Associate in Science Degree, signifying that the student is prepared to effectively function and advance in an interesting, challenging, and rewarding field offering a wide scope of employment opportunities. Employment opportunities for graduates are found in municipal fire departments, fire equipment sales companies, insurance companies, industrial security organizations, and forest-connected industries. The majority of opportunities are available in municipal fire departments that have specific physical and social requirements. A prospective student interested in this field should check on these requirements before entrance into the program.

Certain core courses of the curriculum are available for presently employed firefighters as in-service training to broaden their knowledge and increase their potential in the field.

Industrial expansion and population growth has increased the need for trained fire protection personnel with specialized knowledge and skills to serve our communities. Emergencies involving radioactive materials, space age fuels agricultural chemicals, and a multitude of potential hazards--unknown a decade ago--demand new and improved equipment and methods to combat them. Fire protection agencies today--whether they are municipal, industrial, forestry, or other related fields seek highly skilled individuals who are willing and able to master these specialized fields.

Associate in Science Degree: Required 97 Term Units.

FIRE PROTECTION TECHNICIAN CURRICULUM

FIRST YEAR

Term 1

Hours Class	Work Lab	Course Title	Course No.	Term Units
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

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

Term 3

3	2	Fire Science	6.995	4
2	2	Fire Pump Construction & Operations	5.105	3
3	2	Rescue and Emergency Care	5.120	3
	9	Work Experience	5.124	3
3		General Education Elective		3

SECOND YEAR

Term 4

3	2	Fire Science	6.996	4
3		Blueprint Reading for Firemen ..	5.119	3
3		Fundamentals of Fire Prevention	5.101	3
3		Hazardous Materials	5.108	3
		Technical Electives		6

Term 5

3		Hazardous Materials	5.109	3
		Technical Electives		9
3		General Education Elective		3

Term 6

3		Report Writing	1.106	3
		Technical Electives		12

Technical Electives

3	2	Natural Cover Fire Protection ..	1.151	4
	9	Work Experience	5.125	3
3		Fire Protection Systems & Extinguishers	5.106	3
3		Fire Department Organization & 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 & Techniques	5.110	3
3		Fire Insurance Principles and Grading Schedules	5.111	3

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 112 Term Units

FOREST PRODUCTS TECHNICIAN CURRICULUM

FIRST YEAR

Term 1

Hours Class	Work Lab	Course Title	Course No.	Term Units
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	6.103	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
2	2	Analysis (Mathematics)	4.207	3
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
2	2	Forest Photogrammetry	3.624	3

SECOND YEAR

Term 4

3	3	Forest Products	4.281	4
2	3	Quality Control in Wood Products	6.285	3
2	3	Wood Preservation and Finishing	6.282	3
3	2	Practical Physics	4.300	4
3	2	Chemistry	6.276	4
3		Introduction to Psychology	1.606	3

Term 5

3		Consumer Economics	1.525	3
1	6	Wood Structure and Identification	6.280	3
2	3	Elementary Wood Physics	6.281	3
1	6	Quality Control in Wood Products	6.287	3
3	2	Practical Physics	4.302	4
3		Psychology of Human Realtions	1.608	3

Term 6

2	3	Wood Products Marketing	3.614	3
2	6	Logging and Milling	4.282	4
3		Method of Supervision	4.287	3
3		Wood Industry Economics	4.286	3
3		Employee Employer Relations	4.500	3
2	3	Elementary Wood Chemistry	6.279	3

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 107 Term Units

FOREST TECHNICIAN CURRICULUM

FIRST YEAR

Term 1

Hours Class	Work Lab	Course Title	Course No.	Term Units
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	6.103	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
2	2	Analysis (Mathematics)	4.207	3
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	2	Introductory Chemistry	6.275	4

SECOND YEAR

Term 4

3	2	Natural Cover Fire Protection	5.151	4
1	6	Route Surveying	6.507	3
2	6	Logging and Milling	4.282	4
3	2	Practical Physics	4.300	4
3		Introduction to Psychology	1.606	3

Term 5

3		Consumer Economics	1.525	3
1	6	Wood Structure and Identification	6.280	3
2	6	Scaling Practices	3.617	4
3	2	Practical Physics	4.302	4
3		Psychology of Human Relations	1.608	3
	2	Forest Pathology	3.607	1

Term 6

2	3	Wood Products Marketing	3.614	3
3		Methods of Supervision	4.287	3
3		Employee-Employer Relations	4.500	3
3		Wood Industry Economics	4.286	3
3	4	Power Systems	4.172	4
3		General Education Elective		3

INDUSTRIAL-MECHANICAL TECHNOLOGY

These curricula prepare students for employment in industry and business in positions involving research, design development, production, application, operation maintenance, or sales of machines, tools and metal products. They prepare the student for application of scientific and technical knowledge and methods, combined with technical skills in support of industrial and business objectives. Students receive technical knowledge and basic skill training for occupational proficiency.

MACHINE SHOP TECHNICIAN PROGRAM

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.

Job opportunities for graduates of this program are available in manufacturing, job shops, specialty, general machine or fabrication shops, or in maintenance departments of large manufacturing or processing plants.

Associate in Science Degree: Required 100 Term Units

MACHINE SHOP TECHNICIAN CURRICULUM

FIRST YEAR

Term 1

Hours Class	Work Lab	Course Title	Course No.	Term Units
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	4	Industrial Materials & 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 & Pneumatic Systems	4.173	3
2	4	Metal Fabrication and Finishing	4.174	3
2	4	Advance Lathe Practices	4.833	3
2	4	Advance 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		Employer-Employee Relations	4.500	3
3		General Education Elective		3

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.

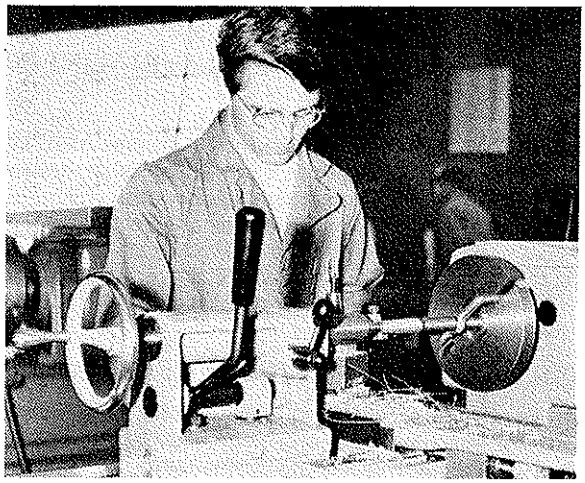
A Welding and Fabrication Technician is skilled in the use of oxy-acetylene welding and cutting equipment, manual arc, tungsten inert gas, and metallic inert gas processes. He has a good working knowledge of shop blueprints and welding symbols, jig fabrication and assembly processes.

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.

Job opportunities for graduates are available in manufacturing, job shops, specialty welding or fabrication shops, construction and maintenance departments of large plants. There are opportunities also in sales of materials and equipment or quality control and development.

Associate in Science Degree: Required 105 Term Units

WELDING AND FABRICATION TECHNICIAN CURRICULUM



FIRST YEAR

Term 1

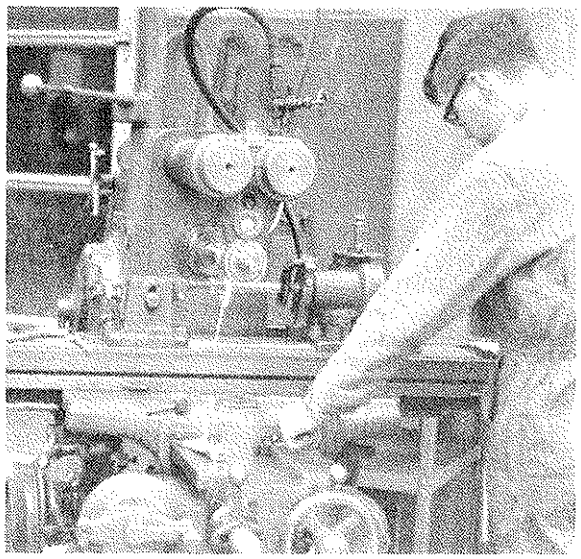
Hours Class	Work Lab	Course Title	Course No.	Term Units
2	6	Electric Arc Welding	4.160	4
2	3	Blueprint Reading and Sketching	4.244	3
2	3	Machine Tool Processes	4.802	3
2	2	Mathematics	4.200	3
3		Communication Skills	1.101	3
	4.	Drafting	4.101	2
1		Shop Saftey	4.253	1

Term 2

2	6	Basic Oxy-Acetylene 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

2	6	Inert Gas Processes	4.247	4
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	Oxy-Acetylene 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
2	8	Inert Gas Welding Techniques	4.164	4
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
2	6	INERT Gas Processes	4.247	4

in lieu of

1	3	Tungsten INERT Gas Weld.		2
1	3	Metallic		

LAW ENFORCEMENT

This course of study offers an occupational preparatory curriculum designed for young men and women preparing for career employment in police departments, sheriff's offices, state police, and law enforcement-related positions. It also provides opportunities for those already engaged in law enforcement to obtain educational advancement for improvement of competency and a broader understanding of the role of law enforcement in today's society. It has been developed in cooperation with the Oregon State Department of 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, in addition to proof of physical, emotional, intellectual, moral, and citizenship standards suitable for law enforcement employment. Fingerprinting and limited investigation 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.

Associate in Science Degree: Required 96 Term Units

LAW ENFORCEMENT CURRICULUM

FIRST YEAR

Term 1

Hours Class	Work Lab	Course Title	Course No.	Term Units
3		Communication Skills	1.101	3
3		Introduction to Psychology	1.606	3
3		Introduction to Law Enforcement	5.200	3
	4	Laboratory Science 1	5.225	2
3		Crime and Delinquency 1	5.201	3
3		Constitutional Government	1.601	3

Term 2

3		Communication Skills	1.104	3
3		Sociology	1.310	3
3		Administration of Justice	5.203	3
3		Crime and Delinquency II	5.202	3
3		Law Enforcement Information Systems	5.209	3
3		Psychology of Human Relations	1.608	3

Term 3

3		Police Report 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
		Select One		
3		State and Local Government	5.221	
2		Jail Procedures	5.204	2

SECOND YEAR

Term 4

2	2	Public Speaking	1.610	3
3		Criminal Investigations II	5.207	3
3		Criminal Law I	5.211	3
3		Traffic and Patrol	5.210	3
	3	Laboratory Science II	5.226	1
3		Problems of Physical Evidence	5.220	3

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
1	2	First Aid	5.450	2
	3	Laboratory Science III	5.227	1

Term 6

3		Criminal Investigations III	5.208	3
2	3	Moot Court	5.214	3
3		Criminal Law III	5.224	3
2		Motor Vehicle Law	5.219	2
2	2	Mathematics	4.200	3

ADULT LAW ENFORCEMENT CURRICULUM

Enrollment is restricted to full-time employees of law enforcement agencies and duly authorized reserves. A total of 90 term units is required to complete requirements for an Associate in Science Degree. Accomplishment is recognized through issuance of the following certificates:

Basic Certificate	**Term Unit**
Communication Skills	3
Occupational courses	12
Elective	3
	18

Certificate *(Basic Certificate and 27 Term Units)*

Communication Skills	3
Introduction to Psychology	3
Occupational courses	12
Elective	3
Approved experience or elective	6
	27

Associate in Science Degree *(Certificate and 45 Term Units)*

Psychology of Human Relations	3
Public Speaking	3
General Education Elective	3
Occupational Courses	6
Elective	12
Approved experience or elective	18
	45

ADULT COURSES GIVEN OR SCHEDULED

Hours Class	Work Lab	Course Title	Course No.	Term Units
3		Community-Police Relations	9.301	3
3		Police Budget Matters	9.303	3
3		Crime and Delinquency I	9.307	3
3		Crime and Delinquency II	9.309	3
3		Police Report Writing	9.312	3
3		Criminal Investigations III Narcotics	9.311	3
3		Criminal Law I	9.304	3
3		Criminal Law II	9.306	3
3		Criminal Law III	9.308	3
3		Criminal Investigations	9.302	3
3		Criminal Investigations Homicides	9.310	3
3		Police Information Systems	9.323	3
3		Constitutional Law	9.317	3
3		Police Photography	9.322	3
3		Police Administration	9.316	3
3		Problems of Physical Evidence	9.313	3
3		Police-Community Liaison	9.324	3
3		Introduction to Law Enforcement	9.298	3
3		Juvenile Procedures	9.320	3
3		Police Personnel Management	9.327	3
3		Criminal Investigations – Burglary	9.328	3
3		Criminal Investigations – Sex	9.329	3
3		Psychology for the Law Enforcement Officer	9.325	3

Other courses will be added as appropriate.

MECHANICAL ENGINEERING TECHNOLOGY

This curriculum provides depths of understanding in technical requirements of occupations in modern mechanical design and production. The program provides the educational background necessary for many functions in such jobs as: design draftsmen, tool designer, research assistant, or engineering assistant. The curriculum is designed to provide a broad technical competence needed for these jobs rather than the specific skills or techniques required for a single skill occupation. The instruction centers around occupational elements that normally cannot be obtained through experience alone - elements such as physical metallurgy, materials, and processes and principles of machine design. The program of study is designed and arranged to provide the student with an understanding of the materials and processes commonly used in the technology, extensive knowledge of a field of specialization with an understanding of the engineering and scientific activities that distinguish the field, and a facility with mathematics and proficiency in the application of physical science processes that is pertinent to the individual's field of technology.

The mechanical engineering graduate is often an essential member of a technical team composed of engineers, scientists, and skilled craftsmen. As a member of this team the technician contributes to innovation, research, development, design, and production that is vital to industry and national welfare.

The curriculum includes instruction in application of established scientific and engineering knowledge in support of industrial objectives. Emphasis is placed on developing an ability to apply knowledge to practical problems.

The graduate may enter the field of manufacturing, experimental shops, and development labs, performing such tasks as redesigning tools for efficiency, making cutting tools, jigs, and special fixtures.

Graduating technicians trained in this technology may assist engineers in design and development work by making free hand sketches, rough layouts of machinery and other equipment, using engineering data and specifications. They help in determining whether a proposed design change is practical and how much it will cost to produce. They may be called upon to apply their knowledge of elementary mechanical engineering principles to solve particular design problems such as those involving tolerances, stresses, strain, friction, and vibration.

Upon satisfactory completion of the requirements in the Mechanical Engineering Technology Program, the student is awarded an Associate in Science Degree, signifying that the student is prepared to effectively function and advance in the many job areas of the technology.

Examples of opportunities are:

Junior Mechanical Engineer
Production Technician (Planning-Control)
Metallurgy Technician
Technical Writer
Method Analyst
Process Technician
Junior Engineering (Drafting)
Safety Technician
Tool, Jig, and Fixture Technician
Instrumentation Technician
Production Inspector
Time Study Technician

Associate in Science Degree: Required 104 Term Units.

MECHANICAL ENGINEERING TECHNICIAN CURRICULUM

FIRST YEAR

Term 1

Hours Class	Work Lab	Course Title	Course No.	Term Units
	2	Slide Rule Operations	6.137	1
4		Technical Mathematics	6.261	4
3	2	Applied Physics	6.370	4
	4	Drafting	4.101	2
3		Communication Skills	1.101	3
1	3	Welding	4.150	2
3	2	Introductory Chemistry	6.275	4

Term 2

2	3	Metallurgy	6.602	3
2	3	Manufacturing Processes	6.606	3
	2	Engineering Problems	6.138	1
4		Technical Mathematics	6.262	4
3	2	Applied Physics	6.371	4
	4	Drafting	4.105	2
3		Communication Skills	1.104	3

Term 3

2	3	Manufacturing Processes	6.610	3
2	3	Strength of Materials	6.105	3
1	2	Practical Descriptive Geometry	6.127	2
4		Technical Mathematics	6.266	4
3		Report Writing	1.106	3
2	3	Applied Mechanics	6.109	3

SECOND YEAR

Term 4

3	3	Mechanisms	6.612	4
3	2	Electricity	6.208	4
3		Introduction to Psychology	1.606	3
2	3	Applied Mechanics	6.111	3
2	3	Strength of Materials	6.128	3

Term 5

2	2	Hydraulics	6.112	3
2	3	Industrial Instrumentation	6.253	3
3	2	Machine Design	4.603	4
2	3	Applied Thermodynamics	6.615	3
3		General Education Elective		3

Term 6

2	2	Applied Fluid Power	6.117	3
2	6	Design Problems	4.605	4
2	3	Industrial Instrumentation	6.254	3
2	3	Applied Heat Power	6.616	3
3		General Education Elective		3

REAL ESTATE TECHNOLOGY

This curriculum provides depth of understanding in the requirements of the occupations in and associated with the real estate industry.

Real estate appraisal, property management, real estate finance, title and escrow, sales and brokerage are among the various fields of interest considered in this curriculum.

The two-year program in Real Estate presents, in broad scope, the essential information for satisfactory performance in these occupational areas.

An evening program also is provided, presenting courses which will be of value to persons presently employed in real estate occupations and who wish to enhance professional ability by continued study. The instructors for these courses are selected for their prominence in the various specialized areas of real estate.

Upon satisfactory completion of the requirements of the Real Estate Technology Program, the student is awarded an Associate in Science Degree.

Associate in Science Degree: Required 99 Term Units.

REAL ESTATE CURRICULUM

FIRST YEAR

Term 1

Hours Class	Work Lab	Course Title	Course No.	Term Units
3		Legal Aspects of Real Estate	2.400	3
3		Accounting	6.920	3
3		Business Mathematics	6.918	3
3		Communication Skills	1.101	3
1	3	Business Machines	2.660	2
3		General Education Elective		3

Term 2

3		Applied Mathematics in Real Estate	2.405	3
3		Communication Skills	1.104	3
3		Real Estate Principles	2.410	3
3		Business Law	2.320	3
3		Accounting	6.921	3
3		Business Economics	1.524	3

Term 3

3		Introduction to Psychology	1.606	3
3		Real Estate Finance	2.406	3
3		Real Estate Law	2.402	3
2	2	Public Speaking	1.610	3
3		Accounting	6.922	3
1	4	Typing	2.606	3

SECOND YEAR

Term 4

2		Real Estate Salesmanship	2.415	3
3		Real Estate Practices	2.404	3
3		Real Estate Trends and Development	2.412	3
1	4	Elements of Design and Construction	2.418	3
3		Fundamentals of Real Estate Taxation	2.416	3
1	8	*Real Estate Work Experience	2.431	3
1	4	*Real Estate Work Experience	2.432	2

Term 5

3		Real Estate Sales Promotion	2.420	3
2	1	Subdividing and Community Planning	2.438	2
3		Real Estate Appraisal	2.408	3
2		Property Management	2.422	2
3		Fundamentals of Exchanging	2.417	3
1	8	*Real Estate Work Experience	2.431	3
1	4	*Real Estate Work Experience	2.432	2

Term 6

3		Real Estate Appraisal	2.409	3
3		Commercial and Investment Properties	2.419	3
3		Real Estate Counseling	2.440	3
2	3	Construction Estimating	6.110	3
1	8	*Real Estate Work Experience	2.431	3
1	4	*Real Estate Work Experience	2.432	2

**Students are required to spend a total of 12 hours in Work Experience and 2 hours of classroom assignment.*

TECHNICAL NURSING

The Technical Nursing Program prepares selected students for the technical nurse roles as a beginning staff nurse in hospitals and other health agencies. The graduate is awarded an Associate Degree in Nursing and is eligible to take the licensure examination for becoming a registered nurse in the State of Oregon.

The 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. Nursing courses must be taken in sequence, and a minimum grade of C is required in each nursing course to continue the sequence. Any change in sequence must be approved by the Department Chairman. Learning experience in the appropriate clinical laboratories are planned as an integral part of the nursing courses for students to participate in patient family nursing situations.

Applicants must meet the admission criteria for the Technical Nursing Program and have a high school grade average of 2.0 or above.

Associate in Science Degree: Required 97 Term Units

TECHNICAL NURSING CURRICULUM

FIRST YEAR

Term 1

Hours Class	Work Lab	Course Title	Course No.	Term Units
4	12	Nursing: Fundamentals	5.701	8
1		Health Occupation Overview	5.700	1
3	3	Basic Science Principles	5.721	4
3		General Psychology	Psy201	3
3		English Composition	Wr 111	3

Term 2

4	12	Nursing: Mental Health and Retardation	5.702	8
3	3	Human Anatomy and Physiology	5.722	4
3		General Psychology	Psy202	3
3		English Composition	Wr 112	3

Term 3

4	12	Nursing: Maternal and Child Health	5.703	8
3	3	Microbiology	5.723	4
3		General Psychology	Psy203	3

SECOND YEAR

Term 4

4	15	Nursing: Chronic Illness	5.704	9
3		Fundamentals of Speech	Sp111	3
3		Group Process	5,730	3

Term 5

4	15	Nursing: Acute Illness	5.705	9
3		Introduction to Political Science	Ps206	3
3		Anthropology	Anth214	3

Term 6

4	16	Nursing: Advanced	5.706	9
3		American Government	Ps201	3
3		Nursing Trends and Practice	5.720	3

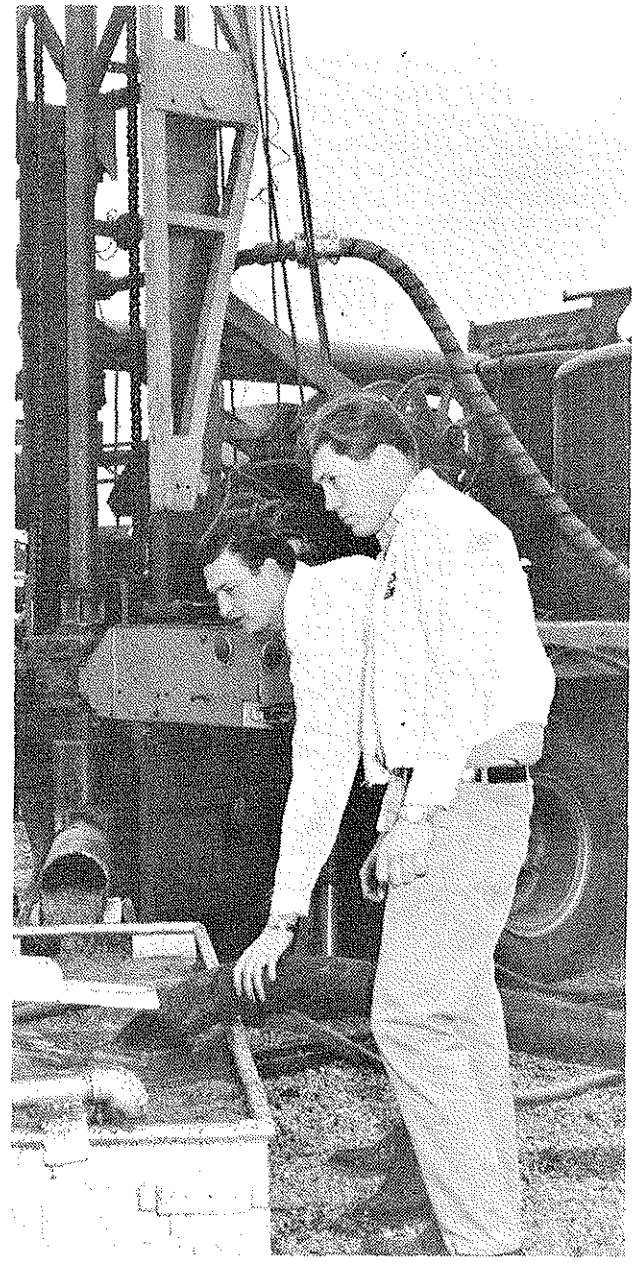
WELL DRILLING TECHNICIAN

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.

Job opportunities for the graduate of this program are found in job shops, specialty shops, 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 TECHNOLOGY CURRICULUM

FIRST YEAR

Term 1

Hours Class	Work Lab	Course Title	Course No.	Term Units
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 & 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
2	6	Welding for Certification	4.166	4
2	4	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 & Record Keeping	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	4	Mechanical Systems	4.171	4
3	4	Drilling Machine Maintenance & Repair	4.296	4
2	4	Engine Theory & 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		Introduction to Psychology	1.606	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

One-year Programs

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. The study includes mixing of filling materials, instruments and their uses, preparation of the patient, sterilization, and other general and specialized courses in dental science. Dental office management is an integral part of the program and includes instruction in areas such as reception of patients, office records, fees, and other business practices.

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 from the dentist.

Typical duties include preparation of patients for treatment, mixing filling materials and dental cement, checking and sterilizing equipment, taking inventories, and ordering supplies. Laboratory duties include studying models of teeth, casting inlays, and taking 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 bills and is responsible for the general appearance of the office.

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

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.

DENTAL ASSISTANT CURRICULUM

Hours Class	Work Lab.	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
1	4	Introductory Concepts in Dental Assisting	5.411	2
1	4	*Typing	2.633	3
3		Communication Skills	1.101	3
Term 2				
2	6	Chairside Assisting and Basic Lab Procedures	5.403	4
	3	Applied Roentgenology	5.408	1
3		Dental Sciences	5.404	3
2	3	Dental Office Management	5.410	3
1	4	Typing	2.634	3
3		Introduction to Psychology	1.606	3
3		Communication Skills	1.104	3
Term 3				
2	3	Advanced Laboratory and Chairside 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		General Education Elective		3

*Basic Typing is required of students typing less than 30 words per minute.

GENERAL DRAFTING

The General Drafting Program prepares students for employment in drafting jobs that require a broad knowledge of the fundamental aspects of drafting and a minimum of specialization. The program is designed to give the student a supporting background in basic mathematics, physical sciences, and communication skills which, along with the drafting work, prepare a proficient general draftsman.

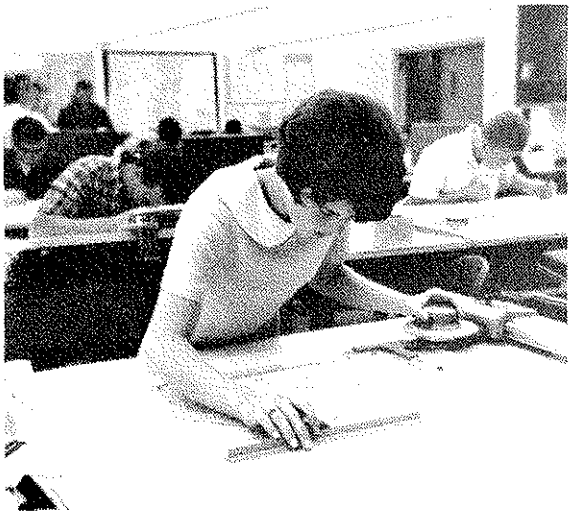
After satisfactory completion of the requirements of the General Drafting Program, the student is awarded a Certificate of Completion and is prepared to effectively function and advance in many drafting areas.

Examples of opportunities are:

General Drafting
Machine Draftsman
Tracer

GENERAL DRAFTING CURRICULUM

Hours Class	Work Lab.	Course Title	Course No.	Term Units
Term 1				
	4	Drafting	4.101	2
1	1	Geometric Construction	4.120	1
	3	Sketching	4.118	1
2	7	Introduction to Fabrication Practices	4.100	4
2	2	Mathematics	4.200	3
3		Communication Skills	1.101	3
Term 2				
	4	Drafting	4.105	2
	4	Electrical Drafting	4.103	2
1	9	Project Drafting	4.119	4
2	2	Mathematics	4.202	3
3		Communication Skills	1.104	3
1	7	Introduction to Mapping	4.132	3
Term 3				
	4	Mechanical Drafting	4.109	2
	8	Project Drafting	4.121	3
2	2	Mathematics	4.204	3
3	2	Practical Physics	4.302	4
	7	Architectural Drawing	4.107	3



MEDICAL ASSISTANT

A Medical Assistant is a person trained to assist the licensed physician in his office. There is a steady demand for young women in this field performing in various types of medical offices. The duties range from assisting with the physical examination, to receptionist and office responsibilities. Each office differs in its requirements.

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 in three principal areas of work assignment: the reception of patients, understanding business practices and medical record keeping, and the technical aspects of assisting with medical procedures.

The one-year curriculum includes general education subjects, orientation to the health occupations, basic sciences, and technically-oriented courses in medical and office procedures. The third term includes supervised experience in clinics, physicians' offices, and selected areas of hospitals. Nurses, medical assistants, and teachers of commercial and general education subjects constitute the faculty and Advisory Committee.

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

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

Hours Class	Work Lab.	Course Title	Course No.	Term Units
Term 1				
1		Health Occupations Overview	5.700	1
3		Communication Skills	1.101	3
3		Business Mathematics	2.650	3
1	4	*Typing	2.633	3
3	3	Basic Sciences for Health Occupations	5.601	4
3		Medical Office Procedures	5.604	3
3	3	Medical Assisting, Basic Procedures	5.602	4
Term 2				
3		Communication Skills	1.104	3
1	4	Typing	2.634	3
3		Human Anatomy and Physiology	5.608	3
2	3	Medical Office Management	5.607	3
1		First Aid	5.513	1
3		Medical Terminology	5.600	3
3		Elective		3
Term 3				
3		Medical Science	5.605	3
2	2	Medical Assisting, Advanced Procedures	5.606	3
3		Business Correspondence	2.672	3
3		Psychology of Human Relations	1.608	3
	16	Medical Office Practice	5.609	3

*Basic typing required of students typing less than 20 words per minute.

OFFICE OCCUPATIONS

The Office Occupations curriculum provides two options, both designed to develop the skills and understanding necessary for entry into employment in business.

The Clerk-Stenographer option stresses basic training in the stenographic skills with emphasis on shorthand and including typing, business machines, basic bookkeeping, communication skills, filing, and other office procedures.

The General Business option stresses preparation for entry into general office or junior accounting positions with emphasis on accounting and including typing, business machines, communication skills, filing, and office procedures.

The job opportunities in these fields are more than adequate in Salem and the surrounding vicinity.

The Certificate of Completion is awarded to those individuals who satisfactorily complete the required courses within the curriculum.

CLERK-STENOGRAPHY CURRICULUM

Term 1

Hours Class	Work Lab	Course Title	Course No.	Term Units
1	4	*Typing	2.607	3
3		Communication Skills	1.101	3
3		Business Mathematics	2.650	3
3	4	Shorthand and Transcription	2.620	4
1	1	Personal Development	2.518	1
2	2	Records Management	2.642	3
3		Elective		3
Term 2				
1	4	Typing	2.608	3
1	3	Business Machines	2.660	2
3		Business English Fundamentals	2.673	3
3	4	Shorthand and Transcription	2.621	4
3		Secretarial Accounting	2.651	3
2		Elective		2
Term 3				
1	3	Business Machines	2.661	2
3		Business Correspondence	2.672	3
2	2	Office Procedures	2.641	3
3	4	Shorthand and Transcription	2.622	4
1	3	Applied Stenography	2.675	2

GENERAL BUSINESS CURRICULUM

Term 1

Hours Class	Work Lab	Course Title	Course No.	Term Units
1	4	*Typing	2.607	3
3		Communication Skills	1.101	3
2	2	Records Management	2.642	3
3		Business Mathematics	2.650	3
3		Accounting	6.920	3
1	1	Personal Development	2.518	1
3		Elective		3
Term 2				
1	4	Typing	2.608	3
1	3	Business Machines	2.660	2
3		Business English Fundamentals	2.673	3
3		Accounting	6.921	3
5		Electives		5
Term 3				
1	3	Business Machines	2.661	2
3		Business Correspondence	2.672	3
2	2	Office Procedures	2.641	3
3		Psychology of Human Relations	1.608	3
3		Accounting	6.922	3

**Prerequisite: Satisfactory completion of Typing 2.606 or by placement test (30 wpm net requirement must be met).*

PRACTICAL NURSING

The Practical Nurse is a person prepared in an approved educational 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 communication skills. Clinical laboratory experience is 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 at least 17 years of age, graduate 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.

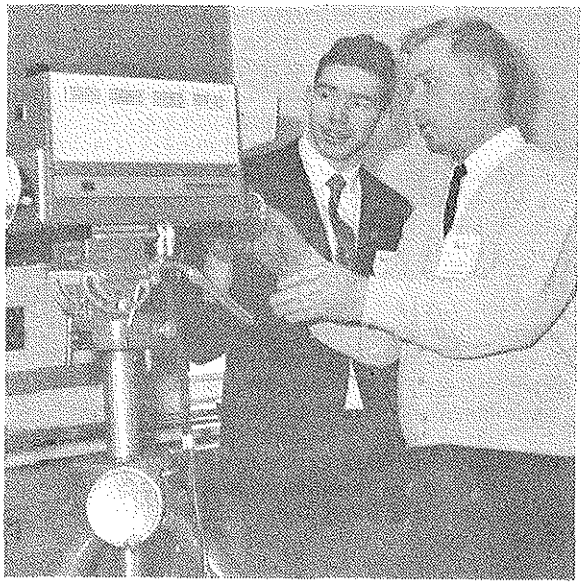
The Certificate of Completion is awarded to those individuals who have completed the requirements outlined in the general information section of this catalog.

PRACTICAL NURSING CURRICULUM

Term 1

Hours Class	Work Lab.	Course Title	Course No.	Term Units
1		Health Occupations Overview	5.700	1
3	15	Practical Nursing	5.520	8
3		Communication Skills	1.101	3
3		Human Anatomy and Physiology	5.608	3
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 hour



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 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 serviceman are included in the theory courses as needed.

Upon completion of the program, each trainee is qualified to take an entry job in the field of radio and television servicing, has a good background in radio and television theory and maintenance, and is familiar with both vacuum tube and transistor circuits. The graduate also has a proficient knowledge in the use and application of test equipment.

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.

Examples of opportunities are:

Radio-TV Serviceman
Hifi Serviceman
Sound System Maintenance Man
Auto Radio Serviceman
Factory Service Representative
Electronic Parts Salesman

TELEVISION-RADIO SERVICE CURRICULUM

Hours Class	Work Lab.	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		Vacuum Tube and Circuits Theory	4.257	5
	6	Vacuum Tube and Circuits Theory Lab	4.258	2
Term 2				
3	6	Transistors and Circuits Theory	4.259	5
2		Radio Principles	4.262	2
	6	Radio 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		Business Management	2.202	3

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.

Job opportunities for the graduate are found in job shops, specialty shops, production, and maintenance shops.

Examples of job opportunities are:

Oxygen Cutter
Arc Cutter
Oxy-Acetylene Welder
Welding Helper
Arc Helper
Pipeline Welder

WELDING CURRICULUM

Hours Class	Work Lab.	Course Title	Course No.	Term Units
Term 1				
2	9	Basic Arc Welding	4.240	4
2	6	Basic Oxy-Acetylene Welding	4.161	4
2	3	Blueprint Reading and Sketching	4.244	3
2	2	Shop Arithmetic	4.246	3
	2	Shop Projects	4.250	1
Term 2				
2	12	Intermediate Arc Welding	4.241	5
	8	Intermediate Oxy-Acetylene Welding	4.243	2
2	3	Layout Practices	4.245	3
1		Shop Safety	4.253	1
	2	Shop Projects	4.251	1
Term 3				
2	6	Inert Gas Processes	4.247	4
2	6	Welding for Certification	4.166	4
3	9	Weld Shop Problems	4.249	5
	2	Shop Projects	4.252	1

Short-term Programs

NURSING ASSISTANT

The Nursing Assistant Program is a three-month course to prepare manpower for aide positions in nursing homes, hospitals, and public health agencies.

The program is open to male and female applicants. Age is open with evaluation based on evidence of maturity and potential ability to accomplish the expected objectives. The optimum age range is from 20 to 50 years. Satisfactory health is essential for working in close personal contact with patients; therefore, a physical examination is required for admission.

Upon satisfactory completion of the program requirements, the student is awarded a Basic Certificate.

Program Content:
Introduction
The Patient's Physical Environment
The Patient's Daily Living Activities
Therapeutic Health Measures
Job Application Procedures
Total length of program: One academic term.

LOWER DIVISION COLLEGE TRANSFER

The purpose of the Chemeketa Community College lower division transfer courses, which were added this year, is two-fold.

They may be incorporated into the college's technical-vocational programs providing the student flexibility in later educational endeavors. Moreover, the transfer courses provide technical-vocational students with a background of general education and science information which will permit them to join other educated men in attacking the problems of the society and the universe in which they live.

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.

Chemeketa Community College offers most of the lower division courses required by colleges and universities in many fields. All work taken at the community college which follows the curricular patterns of the four-year institutions is transferable.

All transfer courses in Oregon community colleges are approved by the Oregon State System of Higher Education, and all instructors of these courses also are approved until the schools are accredited.

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, in the Chemeketa Community College Library, and in the office of many high school counselors.

College transfer students should consult the catalog of 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 will assist in building the required course-work program at Chemeketa.

The current general requirements for most major fields in Oregon colleges and universities are listed in this section of the Chemeketa Community College catalog. It is suggested that electives be selected which will strengthen the student's major interests and meet the requirements of the university to which he plans to transfer.

This section concentrates on the general requirements for many major fields for transfer to Oregon colleges and universities; however, it is not possible to list the more than 50 separate majors one might pursue in institutions in this state.

Students should refer to the Course Descriptions for specific contents of courses.

AGRICULTURE

Freshman Year

COURSE NO.	COURSE TITLE	F	W	S
Wr111, 112	English Composition	3	3	
Ch104, 105, 106, or *201, *202, *203	General Chemistry	4-5	4	4
Mth 101	College Algebra	4		
Mth 102	Trigonometry		4	
*Mth 200	Calculus w/Anal. Geom.			0
**PE 180 or 190	Physical Education	1	1	
HE 250	Personal Health			2
SP111	Fundamentals of Speech			3
	Electives	3	3	3

ANTHROPOLOGY

Freshman Year

COURSE NO.	COURSE TITLE	F	W	S
Wr111, 112	English Composition	3	3	
*Anth 101, 102, 103	Gen. Anthropology			
Bl101, 102, 103	General Biology	4	4	4
	Foreign Lang. or Lit. Sec.	3	3	3
**PE 180/190	Physical Education	1		1
HE250	Personal Health		2	
	Elective			3

ARCHITECTURE, INTERIOR ARCHITECTURE AND LANDSCAPE ARCHITECTURE

Freshman Year

COURSE NO.	COURSE TITLE	F	W	S
Wr111	*English Composition*	3		
Hst101, 102, 103	HST. of Western Civil.	3	3	3
Mth102	Trigonometry	4		
*Mth200	Calculus w/Anal. Geom.			
Sc. Seq.	For students not required to take mathematics; Biology/Chemistry Sequence	5-4	4	4
*Art291	Drawing			
*Art201, 202, 203	Survey of Visual Arts			
**PE180, 190	Physical Education	1		1
HE250	Personal Health		2	
	* Basic Design or Electives	3	3	3

**Will not be offered in 1971-72*

***Will be offered only if facilities are available*

ART

Freshman Year

COURSE NO.	COURSE TITLE	F	W	S
Wr.111, 112	English Composition	3	3	
	Science or Math Seq.	3-4	3-4	3-4
	Soc. Science Seq. or			
	*Foreign Language Seq.	3	3	3
*Art291	Drawing			
*Art195, 196,197	Basic Design			
*Art290 Ser.	Painting			
** PE180, 190	Physical Education	1		1
HE250	Personal Health		2	
	Electives			3

BIOLOGY, BOTANY, ENTOMOLOGY, MICROBIOLOGY, ZOOLOGY, GENERAL SCIENCE

Freshman Year

COURSE NO.	COURSE TITLE	F	W	S
Wr.111, 112, 113	English Composition	3	3	3
Mth *200,*201,*202	Calculus, w/Anal. Geom.			
Ch104, 105, 106				
Ch*102,*202,*203				
*201,*202,*203	General Chemsitry	4-5	4	4
	Humanities or Social Science			
	Sequence	3	3	3
** PE180, 190	Physical Education	1		1
HE250	Personal Health		2	

BUSINESS ADMINISTRATION

Freshman Year

COURSE NO.	COURSE TITLE	F	W	S
*BA101	Intro. to Business			
SP111	Fundamentals of Speech		3	
	Math	4	4	4
Wr111,112	English Composition	3	3	
	Soc. Science Sequence	3	3	3
**PE180, 190	Physical Education	1		1
HE250	Personal Health		2	
	Electives			

COMMUNITY SERVICE AND PUBLIC AFFAIRS

Freshman Year

COURSE NO.	COURSE TITLE	F	W	S
Wr111, 112	English Composition	3	3	
** PE180, 190	Physical Education	1	1	
	Literature Sequence	3	3	3
Soc204, 205, 206	General Sociology	3	3	3
PS100	American Government	4		
*PS205	International Relations			4
HE250	Personal Health		2	
	Electives	2-3	2-3	5-6

DENTISTRY

Freshman Year

COURSE NO.	COURSE TITLE	F	W	S
Wr111, 112	English Composition	3	3	3
Ch104, 105, 106 or				
*201, *202,*203	General Chemistry	4-5	4	4
Mth 101	College Algebra	4		
Mth 102	Trigonometry		4	
*Mth200	Calculus & Anal. Geom.			
	Social Science sequence	3	3	3
**PE180, 190	Physical Education	1		1
HE250	Personal Health		2	

Will not be offered in 1971-72

Will be offered only if facilities are available.

EDUCATION (ELEMENTARY)

Freshman Year

COURSE NO.	COURSE TITLE	F	W	S
Wr111, 112	English Composition	3	3	
*Mth191, 192, 193	Math for Elem Teachers			
*GS104, 105, 106	Physical Science			
	Literature sequence			
** PE180, 190	Physical Education	1		1
HE250	Personal Health		2	

ENGINEERING

Freshman Year

COURSE NO.	COURSE TITLE	F	W	S
Mth95	Intermediate Algebra	4		
Mth101	College Algebra		4	
Mth102	Trigonometry			4
*Ch201, 202, 203	Gen. Chemistry	4-5	4	4
Wr111, 112, 113	English Composition	3	3	3
**PE180, 190	Physical Education	1	1	
HE250	Personal Health			2
	Electives	3	3	3

GEOGRAPHY

Freshman Year

COURSE NO.	COURSE TITLE	F	W	S
Wr111, 112	English Composition	3	3	
*Geog105, 106, 107	Int. Geog.			
Bi101, 102, 103	General Biology	4	4	4
	*Foreign Lang. or Math	4	4	4
** PE180, 190	Physical Education	1		1
HE250	Personal Health		2	
	Elective			3

GEOLOGY

Freshman Year

COURSE NO.	COURSE TITLE	F	W	S
Wr111, 112	English Composition	3	3	
	Literature Sequence	3	3	3
	Mathematics	4	4	4
Ch104, 105, 106				
*201, *202, *203	General Chemistry	4-5	4	4
**PE180, 190	Physical Education	1		1
HE250	Personal Health		2	
	Elective			3

FORESTRY

Freshman Year

COURSE NO.	COURSE TITLE	F	W	S
Bi101, 102, 103	General Biology	4	4	4
Ch104, 105, 106				
*201, *202, *203	General Chemistry	4-5	4	4
Mth101	College Algebra	4		
Mth102	Trigonometry		4	
*Mth200	Calculus & Anal. Geom.			
Wr111, 112, 113	English Composition	3	3	3
** PE180, 190	Physical Education	1		1
HE250	Personal Health		2	

GENERAL ARTS AND LETTERS

Freshman Year

COURSE NO.	COURSE TITLE	F	W	S
Wr111, 112	English Composition	3	3	
	Literature Sequence	3	3	3
	*First Year Foreign Language			
	or Social Science Sequence	3	3	3
	Science Sequence	4	4	4
**PE180, 190	Physical Education	1		1
	Electives			3

GENERAL SCIENCE OR GENERAL STUDIES IN SCIENCE

Freshman Year

COURSE NO.	COURSE TITLE	F	W	S
Wr111, 112	English Composition	3	3	
	Literature Sequence	3	3	3
	Mathematics	4	4	4
Ch104, 105, 106				
*201, *202, *203	General Chemistry	4-5	4	4
Bl101, 102, 103	General Biology	4-5	5	5
**PE180, 190	Physical Education	1		1
HE250	Personal Health		2	
	Elective			3

GENERAL SOCIAL SCIENCE

Freshman Year

COURSE NO.	COURSE TITLE	F	W	S
Wr111, 112	English Composition	3	3	
	Literature Sequence	3	3	3
	Math above 101 or Science Sequence	3-4	3-4	3-4
	History Sequence	3	3	3
** PE180, 190	Physical Education	1		1
HE250	Personal Health		2	
	Elective	2		3

HISTORY

Freshman Year

COURSE NO.	COURSE TITLE	F	W	S
Wr111, 112, 113	English Composition	3	3	3
HST101, 102, 103	History of Western Civilization	3	3	3
	Literature Sequence	3	3	3
	Science Sequenee	3-4	3-4	3-4
*PE180, 190	Physical Education	1		1
HE250	Personal Health		2	
	Electives	1-2		

LAW (PREPROFESSIONAL PROGRAM)

Freshman Year

COURSE NO.	COURSE TITLE	F	W	S
Wr111, 112, 113	English Composition	3	3	3
HST101, 102, 103	History of Western Civilization	3	3	3
	Literature Sequence	3	3	3
	Science Sequence	3-4	3-4	3-4
*PE180, 190	Physical Education	1		1
HE250	Personal Health		2	
	Electives	1-2		

LAW ENFORCEMENT

Freshman Year

COURSE NO.	COURSE TITLE	F	W	S
Wr111, 112	English Composition	3	3	
SOC204, 205, 206	General Sociology	3	3	3
	Humanities or Science Seq.	3-4	3-4	3-4
*PE180, 190	Physical Education	1		1
HE250	Personal Health		2	
	Elective			3
LE 111, 112, 113	Law Enforcement and Society	3	3	3
SP111	Fundamentals of Speech	3		

MATHEMATICS

Freshman Year

COURSE NO.	COURSE TITLE	F	W	S
Wr111, 112	English Composition	3	3	
	Literature Sequence	3	3	3
	Foreign Language or Biological Science Sequence (Biology)	4-5	4	4
	Math Sequence	4	4	
*PE180, 190	Physical Education	1		1
HE250	Personal Health		2	
	Electives			3

MEDICAL TECHNOLOGY

Freshman Year

COURSE NO.	COURSE TITLE	F	W	S
Wr111, 112, 113	English Composition	3	3	3
Ch104, 105, 106, *201, *202, *203	Chemistry General	4-5	4	4
Mth95	Intermediate Algebra	4		
Mth101	College Algebra		4	
Mth102	*Trigonometry*			4
*PE180, 190	Physical Education	1		1
HE250	Personal Health		2	

MEDICINE (PREPROFESSIONAL PROGRAM)

Freshman Year

COURSE NO.	COURSE TITLE	F	W	S
Wr111, 112, 113	English Composition	3	3	3
Ch104, 105, 106, *201, *202, *203	General Chemistry	4-5	4	4
Mth101	College Algebra	4		
Mth102	Trigonometry		4	
*Mth200	Calculus & Analytical Geom. Humanities Sequenee	3	3	3
PE180, 190	*Physical Education*	1		1
HE250	Personal Health		2	

NURSING (PREPROFESSIONAL PROGRAM)

Freshman Year

COURSE NO.	COURSE TITLE	F	W	S
Wr111, 112, 113	English Composition	3	3	3
Ch104, 105, 106, *201, *202, *203	General Chemistry	4-5	4	4
	Literature Sequence	3	3	3
	Social Science Sequence	3	3	3
*HEC225	Nutrition			
SP111	Fundamentals of Speech	3		
*PE180, 190	Physical Education	1	1	
	Elective		3	

PHARMACY (PREPROFESSIONAL PROGRAM)

Freshman Year

COURSE NO.	COURSE TITLE	F	W	S
Wr111, 112, 113	English Composition	3	3	3
Bl101, 102, 103, *Z201, 202, 203	*General Biology or* General Zoology	4	4	4
Mth101	College Algebra	4		
Mth102	Trigonometry		4	
*Mth200	Calculus & Analytical Geom.			
Ch104, 105, 106, *201, *202, *203	General Chemistry	4-5	4	4
*PE180, 190	Physical Education	1	1	
HE250	Personal Health			2

PHYSICAL EDUCATION

Freshman Year

COURSE NO.	COURSE TITLE	F	W	S
Wr111	*English Composition*	3		
Bl101, 102, 103	General Biology	4	4	4
Ch104, 105, 106 *201,*202,*203	General Chemistry	4-5	4	4
	Literature Sequence	3	3	3
PE180, 190	Physical Education	1	1	1
	Social Science Elective		3	3

Will not be offered in 1971-72

**Will be offered only if facilities are available*

PHYSICS

Freshman Yeaf

COURSE NO.	COURSE TITLE	F	W	S
Wr111, 112	English Composition	3	3	
	Literature Sequence	3	3	3
Mth101, 102, *200	Mathematics Courses	4	4	
Ch104, 105, 106, *201, *202, *203	General Chemistry	4-5	4	4
*PE180, 190	Physical Education	1		1
HE250	Personal Health		2	
	Elective			3

POLITICAL SCIENCE

Freshman Year

COURSE NO.	COURSE TITLE	F	W	S
Wr111, 112	English Composition	3	3	
	Literature Sequence	3	3	3
	Science or Math Sequence	4	4	4
HST101, 102, 103	History of Western Civil.	3	3	3
*PE180, 190	Physical Education	1		1
HE250	Personal Health		2	
	Electives	2-3	2-3	2-3

SECRETARIAL SCIENCE-BUSINESS

Freshman Year

COURSE NO.	COURSE TITLE	F	W	S
Wr111, 112	English Composition	3	3	
SS111, 112, 113	Stenography	3	3	3
SS121, 122, 123	Typing	2	2	2
*BA101	Intro. to Business			
	Lit. or Science Sequence	3-4	3-4	3-4
*PE180, 190	Physical Education	1		1
HE250	Personal Health		2	
	Electives		2-3	5-6

SOCIOLOGY

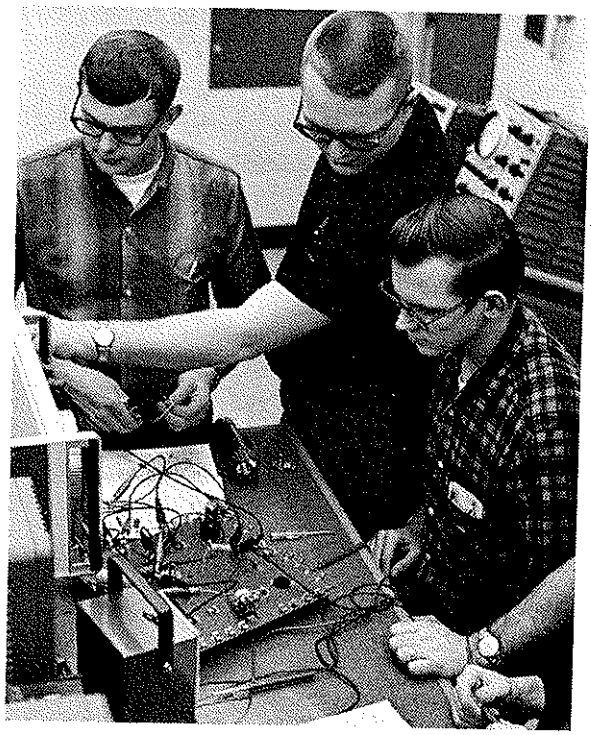
Freshman Year

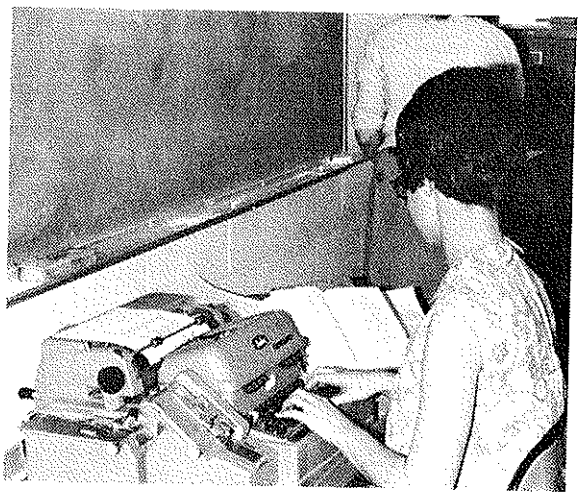
COURSE NO.	COURSE TITLE	F	W	S
Wr111, 112	English Composition	3	3	
	Literature Sequence	3	3	3
	Science or Math Sequence	4	4	4
	Social Science Sequence	3	3	3
*PE180, 190	Physical Education	1		1
HE250	Personal Health		2	
	Electives	2	3-5	7

SPEECH AND THEATER

Freshman Year

COURSE NO.	COURSE TITLE	F	W	S
Wr111, 112	English Composition	3	3	
	Literature Sequence	3	3	3
	Foreign Language or Math	4	4	4
SP111, 112, 113	Fund. of Speech	3	3	3
*PE180, 190	Physical Education	1		1
HE250	Personal Health		2	
	Electives	2		3-5





'll not be offered in 1971-72
Will be offered only if facilities are available.

COURSE DESCRIPTIONS

TRANSFER COURSE DESCRIPTIONS

HUMANITIES

ENGLISH

Eng **104, 105, 106. Introduction to Literature. 3 hours each.**
A study of literature and the nature of literary experience through the reading of great works of prose and poetry drawn from English and other literature. Works representing the principal literary types are studied in their entirety when possible, with emphasis on such elements as structure, style, characterization, imagery, and symbolism.

Sp **111, 112, 113. Fundamentals of Speech. 3 hours each.**
Projects in extempore speaking. Primary emphasis on content and organization; stresses adjustment to speaking situations, effective delivery, audience motivation, and language of speech.

Wr **111, 112, 113. English Composition. 3 hours each.**
The fundamentals of English composition; frequent written themes. Special attention to correct fundamentals and the organization of papers.

SCIENCE AND MATHEMATICS

SCIENCE

Bi **101, 102, 103. General Biology. 4 hours each.**
Biological principles applied to plants and animals. 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.

Ch **104, 105, 106. General Chemistry. 5, 4, 4 hours.**
An introduction to general, inorganic chemistry. Basic concepts of atomic structure and its effect on the behavior of matter, the laws of chemical change, and the manipulation of scientific quantities. Prerequisite: Satisfactory background in high school algebra. 104, four lectures, one three-hour laboratory; 105, three lectures, one three-hour laboratory; 106, three lectures, one three-hour laboratory.

MATHEMATICS

Mth **95. Intermediate Algebra. 4 hours.**
No credit allowed if taken after Mth 101 or any more advanced mathematics course. Not acceptable toward meeting science group requirement at the University of Oregon. Prerequisite: One year of high school algebra and one year of geometry.

Mth **101. College Algebra. 4 hours.**
Prerequisite: One and one-half years of high school algebra or Mth 95.

Mth **102. Trigonometry. 4 hours.**
Prerequisite: Mth 101.

SOCIAL SCIENCE

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

Hst **201, 202, 203. History of the United States. 3 hours each.**
From colonial times to the present.

Ps **100. American Governments: Concepts and Institutions. 4 hours.**
Introduction to the concepts of American government, including federalism, and separation of powers; its institutions, including the Presidency, Congress, and the Supreme Court. (PS100, 203, and 203 constitue a sequence.)

PS **202. American Governments. 4 hours.**
Consideration of the politics and policies of American national government, utilizing the concepts and understandings of modern political science. (PS 100, 202, 203 constitute a sequence.)

PS **203. State and Local Governments. 4 hours.**
Introduction to American state and local government with emphasis on comparative political behavior in states and communities. (PS 100, 202, 203 constitute a sequence.)

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

Soc **204, 205, 206. General Sociology. 3 hours.**
The basic findings of sociology concerning the individual, culture, group life, social institutions, and factors of social change.

P.E. – HEALTH COURSES

***PE** **180. Physical Education (Women). 3 hours per week, 1 credit.**
A variety of activities taught for physiological and recreational values. A total of five terms required for all lower division women students. 1 hour each term.

PE **190. Physical Education (Men). 3 hours per week, 1 credit.**
A variety of activities taught for physiological and recreational values. A total of five terms required for all lower division men students. 1 hour each term.

HE **250. Personal Health. 3 hours.**
Study of personal health problems of men and women with emphasis on implications for family life. Mental health, communicable diseases, degenerative diseases, nutrition.

PROFESSIONAL COURSES

JOURNALISM

J **224, 225, 226. Introduction to Journalism. 2 hours each.**
Recommended for prejournalism majors; open to nonmajors. 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.

**Subject to arrangements for facilities and staff.*

LAW ENFORCEMENT

LE 111, 112, 113. Law Enforcement and Society. 3 hours each.
Orientation in law enforcement; history and philosophy of enforcement of criminal laws; administration of justice; etiology of criminal behavior; correctional treatment; professional career opportunities.

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 had 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.

GENERAL EDUCATION COURSE DESCRIPTIONS

		Lec.	Lab.	Term 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 inter-relationship 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.

Basic Reading Tactics	1.110	3	0	3

Basic Reading skills. Emphasis on an orderly mastery of habits and skills with application of appropriate techniques and materials. Upon appraising student needs, each phase of basic reading is upgraded.

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.

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.

Constitutional Government	1.601	3	0	3

A study of the Constitution of the United States and its meaning to the individual through government. This course is 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 he 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. The course is 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 of this course 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 & 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 inter-personal relations on the job. Motivation, feelings, and emotions are considered with their particular reference to the application to the 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.

Public Speaking	1.610	2	2	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 instructor approval.

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.

MATHEMATICS COURSES

Analysis (Mathematics)	4.207	2	2	3

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 or equivalent and Slide Rule Operations 6.137.

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 equity ownership.
Prerequisite: Business Mathematics 2.600 or department chairman approval.

Business Mathematics 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.

Business Mathematics 2.650 ..... 3 ..... 0 3
Practical mathematics including problems composed of whole numbers, fractions, measurements, formulas, graphs, and roots. The mathematics used in determining dosage is included as related information.

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 Mathematics 2.650.

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.

Data Processing Mathematics 6.942 ..... 3 ..... 0 3
Applied mathematics for electronic computer applications. Provides a practical foundation for the solution of business, business management and applied science problems, coordinate systems and trigonometry.

Data Processing Mathematics 6.943 ..... 2 ..... 0 2
A continuation of 6.941 with an emphasis on mathematics needed in computer operation and management.
Prerequisite: Data Processing Mathematics 6.941.

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.

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.

Mathematics 4.200 ..... 2 ..... 2 3
Practical mathematics including problems composed of whole numbers, fractions, measurements, formulas, graphs, and roots.
Prerequisite: Ability to profit from instruction.

Mathematics 4.202 ..... 2 ..... 2 3
Practical mathematics for skilled workers, including the fundamentals of applied algebra and applied geometry, including symbols, equations, ratios and proportion, exponents, radicals, formulas, geometric lines and shapes, common geometric constructions, and introductory applied trigonometry.

Mathematics 4.204 ..... 2 ..... 2 3
Concentrates on actual problems encountered by machinists, precision inspectors, tool-and-die makers, draftsmen, tool designers, and other workers in related industrial occupations. It applies arithmetic, algebra, geometry, trigonometry, and their various phases to jobs encountered in every day industry. The emphasis is on the actual problem-solving aspects growing out of various jobs. It is a continuous and more thorough coverage of many areas studied in the prerequisite, Math 4.202.

Practical Descriptive Geometry 6.127 ..... 1 ..... 2 2
A brief review of advanced drafting problems taking the student further into the field of descriptive geometry principles. In the introduction of detailed drawing from assembly drawing, the principles of *Descriptive Geometry are shown to be necessary for* the draftsman,
Prerequisite: Third Term standing or approval of department chairman.

Shop Arithmetic 4.246 ..... 2 ..... 2 3
A one-term course in basic arithmetic used in the welding shop. It will cover addition, subtraction, multiplication, division, ratios, and triangles in preparation for layout work and calculation of time and material costs, depositation, rates, etc.

Slide Rule Operations 6.137 ..... 0 ..... 2 1
A study of the slide rule applicable to problem solving in technical fields. This study involves care, adjustment, and manipulation of the slide rule, and practical application of slide rule operation with emphasis on problem-solving and accuracy.

Technical Mathematics 6.261 ..... 4 ..... 0 4
Covers algebraic operations including the study of first and second degree equation solutions by analytic and graphical means, exponents and radicals, and their respective applications to technologies. Concurrent with the above, a review of plane geometric principles and an introduction to the fundamental trigonometry operations is offered.

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, graphs of trigonometric formulas, densities and equations, and graphs of trigonometric functions.
Prerequisites: Technical Mathematics 6.261 or equivalent.

Technical Mathematics 6.266 ..... 4 ..... 0 4
An applied course in mathematics on the technician level covering simultaneous quadratic equations, ratio and proportion, binomial theorem, arithmetic and geometric progressions, expoental functions, complex notation, and vector algebra.
Prerequisite: Technical Mathematics 6.262 or equivalent.

SCIENCE COURSES

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 are covered. Laboratory time is provided for demonstrations and experiments to help clarify the principles and procedures covered in class.

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, and sound and light. Laboratory time is provided for demonstrations and experiments to clarify principles and procedures.

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.

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 4.721 ..... 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.

Chemistry 6.276 ..... 3 ..... 2 4
A continuation of Introductory Chemistry covering the basic principles of General Chemistry.

Elementary Geology 4.305 ..... 3 ..... 2 4
A study of basic structure 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.

Elementary Science for Firefighters 5.102 ..... 3 ..... 2 4
Characteristics and behavior of fire; fundamentals of physical laws and chemical reactions occurring in fire and fire suppression analysis of factors contributing to fire-its cause, rate of burning, heat generation and travel, by-products of combustion, and to its confinement, control, and extinguishment.

Elementary Wood Chemistry 6.279 ..... 2 ..... 3 3
Acquaints the student with the basic chemical properties of wood, wood adhesives, wood preservatives, wood finishes and the basic chemistry of pulp and paper. Basic tests and testing methods are included.
Prerequisite: Chemistry 6.276.

Elementary wood Physics 6.281 ..... 2 ..... 3 3
Acquaints the student with the basic physical and mechanical properties of wood as an engineering material. Various tests and testing methods are covered.
Prerequisite: Practical Physics 4.300

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.

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.

Human Anatomy and Physiology 5.608 ..... 3 ..... 0 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 tissues, organs and systems; structure and function of body systems. Lecture and demonstration.

Human Anatomy and Physiology 5.722 ..... 3 ..... 3 4
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.

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.

Microbiology 5.723 ..... 3 ..... 3 4
Continuation of survey of bacteria and other microorganisms, emphasizing their impact upon human health and welfare.

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 equivalent.

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.

TECHNICAL COURSES

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 6.920 ..... 3 ..... 0 3
An introduction to accounting and preparation of financial statements, methods of recording business transactions, books commonly used, and techniques of closing the books periodically.

Accounting 6.921 ..... 3 ..... 0 3
Accounting problems in different types of business, such as the corporation, partnerships, and individual proprietorship. Includes an interpretation of financial statements.
Prerequisite: Accounting 6.920.

Accounting 6.922 ..... 3 ..... 0 3
Methods of accounting for the corporate organization including capital stock, earnings, bonds, and intangibles. An introduction to accounting for manufacturing operations.

Accounting 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, worksheets, statements, payroll, and four monthly cycles.

Accounting 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 Service Center as student capabilities permit.
Prerequisite: Accounting 6.923.

Accounting 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 Service Center by all data processing students.
Prerequisite: Accounting 6.924.

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.

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 on the written manual for the project.

Advanced Industrial Electronics 6.248 ..... 2 ..... 3 3
A continuation of industrial electronics with emphasis on A-C principles and applications in industry. Covers alternating current characteristics, generation of A-C, vector diagram analysis, properties of electric circuits, and graphical representation of resistance, reactance, and impedance. Single phase circuits are analyzed in terms of power factor, and three phase wye and delta combinations are studied. Also includes transformers and regulators, alternating-current generators, polyphase induction motors, synchronous motors and self-synchronous devices, single phase motors, circuit-protective and switching equipment, electrical instruments, and electrical measurement.
Prerequisite: Industrial Electronics 6.218.

Advanced Laboratory and Chairside 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.

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 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.

Analysis of Operation Problems 6.972 ..... 1 ..... 2 2
A wide range of typical computer operation problems and the methodology for solution are presented.
Prerequisite: Computer Center Operations 6.953.

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 Data Processing 2.681 ..... 2 ..... 3 3
An in-depth study, using RPG language, of reports relating to accounting courses that have been taken.
Prerequisite: Computer Programming (RPG) 2.679.

Applied Data Processing 2.682 ..... 3 ..... 3 4
A project-oriented course. The student designs a business system using RPG as the computer language.
Prerequisite: Applied Data Processing 2.681.

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 build up 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 Heat Power 6.616 ..... 2 ..... 3 3
A continuation of Applied Thermodynamics 6.615. A study of the various types of heat engines including their basic cycles. Fuels and the energy available from them are analyzed to determine engine output efficiency. Valve and ignition timing are studied in relationship to the fuels. Laboratory time is provided to analyze and test the various points brought out during the lectures.
Prerequisite: Applied Thermodynamics 6.615

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 Mechanics 6.111 ..... 2 ..... 3 3
A study of motion of rigid bodies and the forces that produce or change their motion. The principles of rectilinear motion, curvilinear motion, rotation, and plane motion are covered in the course. Laboratory time is provided for the conducting of experiments to clarify the principles and procedures covered in class.
Prerequisite: Fourth Term standing or approval of department head.

Applied 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.

Applied Roentgenology 5.413 ..... 0 ..... 3 1
A continuation of applied Roentgenology 5.408, designed to develop further skills in taking x-rays.

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.

Applied Thermodynamics 6.615 ..... 2 ..... 3 3
Introduces some of the principles of thermodynamics. More important, these principles are to be shown in action, that is, in relation to the many heat engines and other devices that transfer energy in the form of heat. Laboratory time is provided to achieve this, and also to enable students to consult with the instructor on areas of study which may be causing difficulty.

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
Emphasizes basic architectural drafting techniques and methods. Familiarizes the student with advance planning, detailing, design, presentation drawing, and rendering.
Prerequisite: Architectural Drafting 4.226.

Architectural Drawing 4.107 ..... 0 ..... 7 3
Designed to train the student in the area of architectural detailing. Typical units of study are footings and foundation walls, sill construction details, conventional house framing, window details, stairway details, fireplace details, floor plans, and elevations. The student prepares a complete set of detail plans for an average-sized home in meeting the requirements for this course.
Prerequisite: Drafting 4.101.

Automated Systems and Procedures 6.945 ..... 3 ..... 0 3
Fundamentals of automated data systems and procedures. Techniques and principles of systems analysis, forms design and control, systems economics, feasibility studies, and the installation of electronic data processing systems.

Basic Arc Welding 4.240 ..... 2 ..... 9 4
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 Oxy-Acetylene Welding 4.161 ..... 2 ..... 6 4
Fundamentals of oxy-acetylene welding introducing brazing and cutting processes.

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 ..... 2 ..... 3 3
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.

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.

Business and Public Administration 2.502 ..... 3 ..... 0 3
An introductory course concentrating on the involvement of students in the activities of the business organization and its operative and managerial functions. Emphasis is placed on decision-making. Introduction of statistics as a tool for management. The nature and functions of public administration are explored particularly as they relate to the State of Oregon.

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 Dictation 2.668 ..... 1 ..... 2 2
Development of the skill of dictating 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, 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
Presents instruction in the application of office machines to bookkeeping and other office procedures. The general function of adding machines and calculators, the understanding of their application in business, and the acquiring of reasonable skill in their use is the goal.

Business Machines 2.661 ..... 1 ..... 3 2
An introduction to the variety of up-to-date tools (dictating, transcribing, and duplicating machines) used today to handle business communications. The general function of the available machines, understanding of their care, and the acquiring of reasonable skills in their use is the major goal.

Business Management 2.202 ..... 3 ..... 0 3
A practical course in five basic areas important to business. These areas are the billing of customers, the art of letter writing, simplified accounting, inventory control, and business advertising.

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.
Prerequisite: Machine Drafting 4.223 and Technical Math. 6.261 or Math 4.204.

Chairside Assisting and Basic Lab Procedure 5.403 ..... 2 ..... 6 4
A continuation of basic chairside procedures including mixing filling materials, preparing impression materials for use, and processing the impression. Provides practical dental laboratory experience in pouring models and making base plates, and bite rims.

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 of all types of investment purposes. All factors of influence are analyzed. Determination of actual net income is stressed.
Prerequisite: Property Management 2.422, Fundamentals of Exchanging 2.417, Real Estate Appraisal 2.408 or instructor approval.

Community-Police Relations 5.215 ..... 3 ..... 0 3
A course which will study 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 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 enable them to relate more adequately to their communities.

Computer Center Control Operations 2.680 ..... 1 ..... 2 2
Computer center control operations is learned while providing computer services. Comprehensive instruction on both the lecture room and data center. Instruction and work experience are provided in two job titles, control clerk and librarian. Instruction covers technical duties, skills, and responsibilities for each job title as relates to the operation and maintenance of a data center.

Computer Center Operations 6.951 ..... 2 ..... 12 6
Computer center operations is learned while providing computer services. Comprehensive instruction is provided in both the lecture room and data center. Instruction and work experience are provided in six job titles. They are data center supervisor, console operator, librarian, peripheral equipment operator, scheduler-dispatcher, and control clerk. Instruction covers technical duties, skills and responsibilities for each job title as it relates to the operation and maintenance of data center using an IBM 360 computer.

Computer Center Operations 6.952 ..... 2 ..... 12 6
Continuation of Computer Center Operations 6.951.
Prerequisite: Computer Center Operations 6.951.

Computer Center Operations 6.953 ..... 3 ..... 12 6
Continuation of Computer Center Operations 6.952.
Prerequisite: Computer Center Operations 6.952.

Computer Center Operations 6.954 ..... 3 ..... 12 6
Continuation of Computer Center Operations 6.953
Prerequisite: Computer Center Operations 6.953.

Computer Center Operations 6.955 ..... 2 ..... 12 6
Continuation of Computer Center Operations 6.954.
Prerequisite: Computer Center Operations 6.954.

Computer Graphics 6.977 ..... 1 ..... 4 3
Graphic techniques for drawing charts, graphs and three-dimensional displays on printer, display units and plotters using problem-oriented computer languages.
Prerequisites: Computer Programming (COBOL) 6.963, Operations Research 6.967.

Computer Operating Systems 6.973 ..... 3 ..... 0 3
A study and generation of the Disk Operating System.
Prerequisites: Fundamentals of Computers and Programming 6.948, S/360 Concepts 6.958, Computing Systems and Job Control 6.949, a programming language.

Computer Operating Systems 6.974 ..... 3 ..... 0 3
An introduction to S/360 Operating System Data Management and JCL, as well as other operating systems researched and presented by students.
Prerequisites: Fundamentals of Computers and Programming 6.948, S/360 Concepts 6.958, a programming language.

Computer Programming (Assembler) 6.969 ..... 3 ..... 6 5
An introduction to assembler language. Simple programs are coded using the standard and decimal instruction set and linked to precoded I–O Routines.
Prerequisites: Computer Systems and Job Control 6.949, System 360 Concepts 6.958, Computer Programming (COBOL) 6.961, Computer Programming (Fortran) 6.962.

Computer Programming (Assembler) 6.970 ..... 3 ..... 6 5
A programming option for students interested in becoming systems programmers. Subprogram modules and macro's are written, linked, and tested.
Prerequisite: Computer Programming (Assembler) 6.969.

Computer Programming (Assembler) 6.971 ..... 3 ..... 6 5
An advanced systems programming course. Programs are written using the universal instruction set. Theory and construction of monitors, interpreters, simulators, assemblers, and compilers.
Prerequisite: Programming (Assembler) 6.970.

Computer Programming (COBOL) 6.961 ..... 3 ..... 6 4
An introduction to COBOL. Language structure and vocabulary are stressed. Theory and practice are applied by programming business data processing problems.

Computer Programming (COBOL) 6.963 ..... 3 ..... 6 4
An intermediate course in COBOL. Problem definition and analysis, iterative techniques, efficiency coding and documentation are instructed.
Prerequisite: Computer Programming (COBOL) 6.961.

Computer Programming (COBOL) 6.964 ..... 3 ..... 6 4
An advanced course which places emphasis on efficiency, file organization, data retrieval and linking COBOL coded program modules.
Prerequisite: Computer Programming (COBOL) 6.963.

Computer Programming Fortran 6.962 ..... 3 ..... 6 4
An introduction to Fortran which stresses language structure, coding techniques, input and output record descriptions while solving simple management science problems.
Prerequisites: Data Processing Math 6.942. Computer Programming (pl-I) 6.960.

Computer Programming (PL-1) 6.959 ..... 3 ..... 3 3
Provides a basic introduction to a high-level compiler language. Techniques of problem analysis, documentation, program coding, and program testing.

Computer Programming (PL-1) 6.960 ..... 2 ..... 2 3
A continuation of Programming PL-1. Advanced techniques of problem analysis, documentation, program coding and testing.
Prerequisite: Computer Programming 6.959.

Computer Programming (RPG) 2.679 ..... 2 ..... 3 3
An introduction to RPG. Techniques of problem analysis, documentation, program coding, and program testing.

Computing Systems 6.956 ..... 2 ..... 0 2
Introduction to the computer components and programming systems in problem solving for operators.
Prerequisites: Fundamentals of Computers and Programming 6.948, S/360 Concepts 6.958.

Computing Systems and Job Control 6.949 ..... 2 ..... 1 3
An introduction to the functional characteristics and general principles of the internal operation and supporting software of the IBM S/360. Lab problems include writing job control to achieve specified results.
Prerequisites: Fundamentals of Computers and Programming 6.948, S/360 Concepts.

Concrete Construction and Design 6.123 ..... 3 ..... 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 department chairman.

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.

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, process and standard costing, budgeting, non-manufacturing costs, direct costs, and data processing application techniques.
Prerequisite: Accounting 6.925.

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, psychological and social traits, characteristics and processes.

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 treatments. 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 ..... 3 4
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 5.207 ..... 3 ..... 0 3
A study of the technical methods and services available to the investigator through scientific and other means, in such fields as identification, chemical and physical examinations, and other sources available to the investigator. Some of the more common technical avenues to be studied are in the areas of finger prints, foot and tire impressions, tool marks, cleaner and laundry marks, guns, hairs, fibers, dust, glass fractures, paints and document examinations. The investigator is apprised of the evidential possibilities of many items and processes, to better guide him through investigations in the fast-expanding technical field of law enforcement. The ultimate goal of presenting evidence in court is uppermost in the investigator's mind as he progresses with the case.

Criminal Investigations III 5.208 ..... 3 ..... 3 4
An application of the investigative techniques studied in Criminal Investigation 5.206 and 5.207 to certain specific offenses. The peculiarities and similarities of various crimes are discussed and are either more serious in nature or of frequent occurrence. The elements of proof needed in each crime are correlated with the Oregon Revised Statutes, thus following the path of investigation under the Oregon law as well as under common law. The student as an investigator learns the necessity of painstaking thoroughness and the value to his case resulting from application of scientific methods.

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 governments, and foreign governments.

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.

Data Communication 6.976 ..... 2 ..... 0 2
Concepts of data communication and real time data collection. Systems are covered and related to programming and operations management.
Prerequisites: Data Processing Management 6.946, System 360 Concepts 6.958.

Data Processing Management 6.946 ..... 3 ..... 0 3
Instruction in the fundamentals of management and coordination of a data center.
Prerequisites: Computer Center Operations 6.951 and Computing Systems 6.956, or Computing Systems and Job Control 6.949.

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.

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, paranasal sinuses

Dental Office Correspondence 5.412 ..... 3 ..... 0 3
A study of dental office communications pertaining to letter writing, billing, requisitioning, etc.

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.

Dental Sciences 5.404 ..... 3 ..... 0 3

A study of the various fields of specialized dentistry recognized by the American Dental Association and the science connected with them. Includes oral hygiene, bacteriology, sterilization, drugs, diet, and nutrition.

Design Problems 4.605 ..... 2 ..... 6 4

Opportunities in advanced drafting room practices. Knowledge of mathematics, science, and drawing is applied to practical problems while designing complete machines or component parts machines. Includes analysis of the problem, gathering data, sketching ideas on paper, mathematical calculation, working drawings, and checking the work. Throughout the course students are encouraged to use judgment and initiative.

Dimensioning and Layout 4.224 ..... 2 ..... 0 2

Theory of modern dimension and layout techniques. Study includes principles and rules of dimensioning, datums, elements of gaging, layout practices, and projective and descriptive geometry as related to layout drawings.

Prerequisite: Machine Drafting 4.221.

DOS and OS Operations Management 6.957 ..... 3 ..... 0 3

Operation management concepts of disk operating systems and full operating systems. Subjects covered are vocabulary, job control language concepts, job scheduling and flow, documentation procedures, management of storage libraries.

Prerequisite: System 360 DOS-TOS Facilities 6.975.

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.

Drill Equipment, Tools and Terminology 4.290 ..... 3 ..... 2 3

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 sale 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

Acquaint the student with a variety of machine setups and operations under varied conditions. Lecture, demonstration and field trips.

Prerequisite: Sixth term standing in the program or approval of department chairman.

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 costs on highway, bridge, and heavy construction work.

Prerequisites: Fourth term standing or approval of department hairman.

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.

Electric 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.

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 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, the electrical measurement instruments.

Prerequisite: Electrical Theory DC 6.200; Technical Mathematics 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 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 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.

Elements of Design and Construction 2.418 ..... 0 ..... 4 2

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 Principles 2.410 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.

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.

Prerequisites: Power Systems 4.172 or approval of department chairman.

Environmental Quality Control 6.139 ..... 2 ..... 3 3

Cover 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.

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.

Prerequisite: Inert Gas Welding Techniques 4.164 or department chairman approval.

Fabrication Practices II 4.156 ..... 2 ..... 3 3

Study and application of fabricated metal technology. Recognition of pattern and jig material. Positioning of fabricated sections for rapid completion. Areas where automated equipment can be utilized. Elimination of distortion problems.

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 Practice 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.

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.

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; fire ground 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; 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, bur patterns leading to point of origin; identifying incendiary indicatior 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; types and features of various pumps; practical operation of fire pumps and accessoreis; 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; fire ground 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 ir case of accident or sudden illness; preventive measures. This is th standard Red Cross First Aid Course.

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.

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.

Forest Mensuration 6.300 ..... 3 ..... 4 4

A study of the measurement of the individual forest products and the standing tree in the forest. Various methods of timber cruising is studied and to work in field practice.

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 and other manufactured wood products. Emphasis is placed on the properties, uses and the manufacturing processes.

Forest Products 4.281 ..... 3 ..... 3 4

A study of various chemical processes that convert wood and wood residues into pulp, cellulose, turpentine, charcoal and other products through chemical means.

Fortran for Users 2.678 ..... 3 ..... 0 3

A course for non-programmers covering basic input-outp statements, problem definition and documentation, and the use c standard subroutines. Emphasis on using Fortran as a tool to solve problems rather than on programming techniques.

Fundamentals of Computers and Programming 6.948 ..... 3 ..... 0 3

A study of such techniques or tools and decision tables and flowcharts; the use of computer components and programming systems; solving problems and providing adequate documentation for solutions. An introduction to programming techniques such as loops, switching routines, branches, and indexing.

Fundamentals of Exchanging 2.417 ..... 3 ..... 0 3

Principes 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; 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.

Prerequisite: Accounting 6.922 and Applied Math in Real Estate 2.405 or instructor approval.

General Forestry 3.600 ..... 3 ..... 0 3

An orientation and over-all 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.

Geometric Construction 4.120 ..... 1 ..... 1 1

Basic geometric construction used in drafting. Laboratory time is provided for practice of construction and application of concepts.

Group Process 5.730 ..... 3 ..... 0 3

The dynamics of human behavior in group process; concepts applied to group and family action; and the basic concept and generalization of group dynamics.

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; 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.

Prerequisites: Practical Physics 4.300 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, 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.

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.

Prerequisites: Mathematics 4.202 and Mechanical Systems or approval of department chairman.

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.

Industrial Electronics 6.218 ..... 3 ..... 3 4

An introductory class and laboratory covering the principles and applications of electronics in industry. Involves a review of the principles of D-C motor controls with emphasis on electronic controls. Also covers relays and time-relay circuits; industrial photoelectric control and typical applications; electronic power-control with saturable core reactors and the amplidyne; and electronic control of welding.

Prerequisite: Amplifier Circuit and Design.

Industrial Instrumentation 6.253 ..... 2 ..... 3 3

A study dealing with pneumatic, hydraulic and electrical instruments and measurements for temperature, pressure flow and related phenomena. Employs many of the principles and laws of physics. The laboratory classes demonstrate and apply the ideas brought forth in theory sessions.

Industrial Instrumentation 6.254 ..... 2 ..... 3 3

A further study of pneumatic hydraulic and electrical instruments and measuring devices as they apply to process and control systems. The laboratory classes demonstrate and apply the ideas brought forth in theory session.

Industrial Materials and Processes 4.170 ..... 2 ..... 4 3

An introduction to the materials used by modern industry to manufacture industrial products. The ferrous and non-ferrous metals and alloys are covered as well as a number 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. From time to time industrial consultants are brought into the laboratory to orient the student to the application of industrial materials and processes in their firms.

Prerequisites: Machine Tool Processes 4.802. Welding 4.150 concurrently or approval of department chairman.

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 D-C 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.

Inert Gas Processes 4.247 ..... 2 ..... 6 4

Fundamentals and basic skills in "heliarc" welding, covering the equipment, materials, and principles involved. Includes demonstrations and supervised practice on mild steel, aluminum, and stainless steel using standard industrial equipment and materials. Develop a basic familiarity and basic skills in semi-automatic welding. A study of the principles involved in the equipment, materials, and procedures is combined with demonstrations and supervised practice using standard industrial equipment. Solid and flux cored electrode wires are used in typical industrial applications.

Prerequisites: Basic Arc Welding 4.240, or Welding 4.150 or Basic Oxy-Acetylene Welding 4.161 or approval of department chairman.

Inert Gas Welding Techniques 4.164 ..... 2 ..... 8 4

A continuation of Inert Gas Welding Processes with emphasis on exotic metals (titanium, zirconium, ect.)

Prerequisites: Inert Gas Welding Processes 4.247 or department chairman approval.

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 5

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.

Prerequisites: Welding 4.240 or 4.150 or approval of department chairman.

Intermediate Oxy-Acetylene Welding 4.243 ..... 0 ..... 8 2

A continuation of Basic Oxy-Acetylene Welding covering ferrous and non-ferrous alloys and welding procedures. Demonstrations and supervised practice in heating, hard and soft soldering, brazing, hard surfacing, ect., concurrently with technical and related information concerning materials and features of various fused and bonded joints. Designed to complete a thorough preparation and familiarization with the oxy-acetylene flame as used in industry.

Introduction to Data Processing 6.940 ..... 2 ..... 0 2

An introduction for persons having no prior knowledge of data processing. Includes a brief discussion of the history of data processing and the need for automatic means of processing information. A general survey of the data processing field and introducing the student to data processing terminology. Charts the student's two-year educational path.

Introduction to Fabrication Practices 4.100 ..... 2 ..... 7 4

An introductory course of observation and drafting. Students are assigned drawing projects and normally view the physical object of the drawing in order to develop visualization of the subject on the drafting board. Frequent field trips are made to observe modern methods of manufacturing, casting, forging, construction, and assembly of local industry. Emphasis is placed on materials, methods of fabrication, glossary, scaling for drawing, and visualization of fabricated objects or assemblies.

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 opportunites.

Introduction to Law Enforcement 5.200 ..... 3 ..... 4 4

An over-all 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 Mapping 4.132 ..... 1 ..... 7 3

Acquaint the student with the basic principles of map construction and uses. The material is presented to lead the student to an understanding of the basic principles of map drafting.

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 ..... 1 ..... 4 2

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 are also included. Emphasis is placed on the qualifications necessary for success in the dental assistant field.

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 trusties, work crews and work releases. Include field trips to jail facilities.

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: Sixth Term standing in Technical Drafting or consent of drafting department chairman.

Job Machining Practices 4.845 ..... 3 ..... 12 7

Covers typical job shop applications. Students repair and manufacture a variety of machines, equipment, parts and tools. Typical job shop sequence is 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.

Laboratory Science (I) 5.225 ..... 0 ..... 4 2

A practical introduction to law enforcement and its uses of scientific knowledge and application of scientific principles. Visits are make to various law enforcement agencies to familiarize the student with organizational and operational concepts with emphasis on technical laboratory facilities and their contribution to modern criminalistics.

Laboratory Science (II) 5.226 ..... 0 ..... 3 1

Instruction and extensive practice in taking fingerprints, searching for, photographing and lifting latent fingerprints, the use of plaster casts and montage impressions in preserving physcial evidence and use of various devices for collection and preservation of evidence. Includes arrests and searches in cases involving automobiles.

Laboratory Science (III) 5.227 ..... 0 ..... 3 1

A course involving police photographic techniques, operation of the police photographic laboratory, and physical surveillance techniques (both stationary and moving). Includes planning and conduct of criminal arrests and raids.

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 records keeping 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. This 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.

Lay out 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.

Legal Aspects of Real Estate 2.400 ..... 3 ..... 0 4
Fundamentals necessary for entry into the real estate industry. Includes economic, social, and legal bases of real estate transactions, factors of property rights, taxation, real estate instruments, finance, and property ownership.

Logging and Milling 4.282 ..... 2 ..... 6 3
Acquaints the student with the harvesting and transportation of logs and the manufacturing processes and machines in the lumber industry.

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 Drafting 4.221 ..... 1 ..... 6 3
An introduction in the general area of machine drafting. 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 ..... 0 ..... 5 2
A continuation of Machine Drafting. Lettering, line quality, and drafting techniques continue to be stressed. Areas of study include the application on precision dimensioning, secondary auxiliary, isometric drawing, and related pictorial drawings.
Prerequisite: Machine Drafting 4.221.

Machine Drafting 4.223 ..... 0 ..... 5 2
A continuation of Machine Drafting. 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.

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.
Prerequisites: 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 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 continutaion 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.

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, demonstrations, 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 heat treatment inspection and testing using both destructive and nondestructive methods.

Mapping and Platting 4.131 ..... 1 ..... 7 3
Principles of map platting using field survey data. Office procedure: Basic earthwork computation, legal description, and subdivision planning. Simulated problems are used for application principles.

Mechanical Drafting 4.109 ..... 0 ..... 4 2
An advanced study emphasizing mechanical design. Includes sketching, cam and gear layout, isometric drawings, welding drawings, tolerance and allowances, and tool jig drawings. Simplified drawing techniques are covered and general shop procedures are discussed. Emphasis is placed on the industrial requirements of drawings.
Prerequisite: Drafting 4.105 and Mathematic 4.202 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 4.300, Mathematics 4.204 concurrently, or approval of department chairman.

Mechanisms 6.612 ..... 3 ..... 3 4
Deals with the analysis of the motion characteristics of mechanism of existing design and the applications of this study in the design of a mechanism to provide desired motion characteristics. In the motion study, absolute and relative velocities, accelerations and the use of instant centers are discussed. Centrodes are studied as they apply to mechanism. The use of belts and linkages are illustrated by problems. Cam layout is taken up in detail and appropriate problems are solved.
Prerequisite: Tech. Math 6.266, Physics 6.370 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.
Prerequisites: Medical Assisting, Basic Procedures 5.602, Medical Terminology 5.600, or approval of department chairman.

Medical Assisting, Basic Procedures 5.602 ..... 3 ..... 3 4
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 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, filing, and processing medical and health insurance records and forms.

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, or approval of department chairman.

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.

Metal Fabrication and Finishing 4.174 ..... 2 ..... 4 3
Designed to develop the concept of the production 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.

Metallic Inert Gas Welding 4.248 ..... 1 ..... 3 2
Basic familiarity and skills in semi-automatic welding. A study of the principles involved in the equipment, materials, and procedures is combined with demonstrations and supervised practice using standard industrial equipment. Solid and flux cored electrode wires will be used in typical industrial applications.
Prerequisites: Basic Arc Welding 4.240 or Welding 4.150 or approval of department chairman.

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.

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.
Prerequisites: Psychology of Human Relations 1.608.

Microwaves 6.242 ..... 2 ..... 3 3
Theory and laboratory couse 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 court room 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.

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 heliocopters, 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 Field theory is utilized. The concept of admittance is used in mathematical and graphical solutions.

Nursing: Acute Illness 5.705 ..... 4 ..... 15 9
A study of basic needs of children and adults with acute or short term illnesses. Includes nursing care of individuals with common communicable diseases and fluid-electrolyte imbalance due to common acute gastronitestinal, renal, respiratory, cardiovascular, and meoplastic disorders.

Nursing: Advanced 5.706 ..... 4 ..... 16 9
A study of basic needs of children and adults in more complex nursing situations including nursing care of a group of children or adults care of a child or adult with multiple problems, and in crisis and emergency situations.

Nursing: Chronic Illness 5.704 ..... 4 ..... 15 9
A study of basic needs of children and adults with chronic or long term illnesses. Includes a study of the rehabilitative process in the care of people with metabolic disorders, limited motion, audio-visual, and neurological handicap.

Nursing: Fundamentals 5.701 ..... 4 ..... 12 8
Develop understanding of technical nursing to provide a foundation for nursing practice. Introduces the student to nursing practice based on meeting basic health needs of people.

Nursing: Maternal and Child Health 5.703 ..... 4 ..... 12 8
The study and practice of maternal and child health based on family-centered nursing. Incorporates normal health processes occurring in mothers during the maternity cycle and in children from birth through adolescence. The abnormal health processes are emphasized only as they enable the student to understand the normal.

Nursing: Mental Health and Retardation 5.702 ..... 4 ..... 12 8
A study of basic needs of children and adults in mental health and retardation including nursing care of individuals with patterns of withdrawal, depression, anxiety reactions, retardation and antisocial patterns expressed through the use of alcohol and drugs.

Nursing: Trends and Practice 5.720 ..... 3 ..... 0 3
A study of trends and practice in the nursing profession which have implication for the present role of nursing in the promotion of individual, family and community health.

Office Management 2.643 ..... 3 ..... 0 3
A study of the broad scope of responsibilities of the administrative manager. Includes protrayal 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.

On-The-Job Training and Seminar 2.676 ..... 1 ..... 8 3
Practical experience in the business office with a seminar to enable students to share, discuss, and suggest solutions to problems developing on different jobs, including further training and instruction on job performance.

On-the-Job Training and Seminar 2.677 ..... 1 ..... 4 2
Practical experience in the business office with a seminar to enable students to share, discuss, and suggest solutions to problems developing on different jobs, including further training and instruction on job performance.

Operations Management Case Study 6.978 ..... 5 ..... 3 6
An in depth course involving all aspects of data center planning, instruction, and operation.
Prerequisite: Sixth Term standing or consent of department chairman.

Operations Research 6.966 3 4 5
An introduction to operations research; its place in the corporate structure; concepts of simulation, model types and construction, simulation methods and techniques. Fortran is used.
Prerequisite: Data Processing Mathematics 6.942.

Operations Research: 6.967 ..... 3 ..... 3 4
An elective which presents queuing theory, decision theory, assignment techniques, statistical and algorithmic methods of simulation, with case studies. Advanced Fortran methods.
Prerequisite: Operations Research 6.966.

Oxy-Acetylene Welding 4.163 ..... 0 ..... 4 2
A continuation of Basic Oxy-Acetylene Welding with emphasis on special applications such as castings repair, hard surfacing, hard facing, etc. related to maintenance and repair work.

Personal Development 2.518 ..... 1 ..... 1 1
Assists the student in recognizing his or her best potentials as an individual in a chosen vocation. Areas included are wardrobe selection and accessories, consumer education, care of skin and hair, exercise and diet, creation of 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.

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 intorduction to stadia surveying and leveling.
Prerequisites: Plane Surveying 6.101 and Tech. Math 6.261 or equivalent.

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 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 of forms of writing reports. Subjects covered are basic English, why reports are written, types of reports, format, effectiveness of writing styles, gathering and marshalling of facts, methods of writing the report, typing the report, and visual aids.

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 concurrently or approval of

Practical Nursing 5.520 ..... 3 ..... 15 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
Centers around the needs of patients in conditions of illness; the implication of symptoms and treatment of common, representative conditions as related to basic nursing care and skills. Special diets, medications, and oxygen are included as therapeutic needs. Students share patient observations and experiences in group conference to integrate the age factor as it relates to needs of patients and make applications of learning about growth and development.
Prerequisite: Practical Nursing 5.520, grade 2.0, or by approval of department head.

Practical Nursing 5.522 ..... 6 ..... 24 14
Provides opportunities for students to assist in more complex nursing situations in meeting basic needs of patients--care of mothers and newborn, mentally ill, critically ill, and chronically ill.
Prerequisite: Practical Nursing 5.521, grade 2.0, or by approval of department chairman.

Problems of Physical Evidence 5.220 ..... 3 ..... 3 4
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: Inert Gas Welding Techniques 4.164 or department chairman approval.

Project Drafting 4.119 ..... 1 ..... 9 4
Emphasizes working conditions of the industrial drafting room. Students are assigned projects that include one or more drawings requiring all of the skills previously acquired. Instruction includes the methods for detail layout, reading specifications, common materials of fabrication, checking and back checking drawings, and material takeoffs. Discussion covers the administration of drafting room, issuing drawings and revisions. Speed and accuracy are considered of paramount importance.
Prerequisite: Drafting 4.105 which may be taken concurrently.

Project Drafting 4.121 ..... 0 ..... 8 3
A continuation of the emphasis on industrial working conditions. Students are assigned projects (requiring use of all previously learned skills and principles) that familiarize them with many of the specialized fields of drafting.
Instruction includes the basic methods for layout and detailing assemblies and sub-assemblies, reading specifications, common materials of fabrication, checking and back checking drawings, and materials takeoffs. Drafting room standards of various industries are discussed. Speed and accuracy are considered of paramount importance.
Prerequisite: Project Drafting 4.119 or equivalent.

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.

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 2.400 and 2.410.

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.

Quality Control in Wood Products 6.285 ..... 1 ..... 6 3
A practical working knowledge of the quality control methods and the ability to perform various quality control tests as used in the industry. Areas covered include lumber, plywood, particle board, hardboard, pulp and paper, etc.

Quality Control in Wood Products 6.287 ..... 1 ..... 6 3
A continuation of Quality Control in Wood Products 6.285. The subject matter is continued in greater depth.
Prerequisite: Quality Control in Wood Products 6.285.

Radio Principles 4.262 ..... 2 ..... 0 2
A study of the circuits and components which make up a radio. The principles of how and why they operate with studies of individual circuit problems in both vacuum tube and transistor radios.

Radio Principles Laboratory 4.263 ..... 0 ..... 6 2
A laboratory course covering the principles in the Radio Principles classes. The student builds up bread board models of the circuits for analysis and components are changed to show the effects of these changes.

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 bread boarded 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.

Real Estate Appraisal 2.408 ..... 3 ..... 0 3
Theories, functions, and purposes of appraisal. Residential, income property, and land appraisal; principles of valuation, including cost, market and income approach; techniques for determining condemnation, insurance, loan, purchase, and sales values.
Prerequisite: Fundamentals of Real Estate Taxation 2.416.

Real Estate Appraisal 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 2.408.

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 Principoles 2.410 or instructor approval.

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 relationshps. Includes a review of significant Oregon cases.
Prerequisite: Real Estate Principles 2.410 or instructor approval.

Real Estate Practices 2.404 ..... 3 ..... 0 3
Covers the phases of day-to-day operations in real estate sales and brokerage such as procedures of listing, prospecting, advertising, and financing. The closing process, escrow, and sales methods and techniques are treated, with emphasis on the ethics, legal responsibility and function of the broker and salesman.
Prerequisite: Real Estate Principles 2.410 or instructor approval.

Real Estate Principles 2.410 ..... 3 ..... 0 3
A continuation of Real Estate Principles 2.400 to further prepare for entry into the real estate industry. Includes a basic approach to brokerage and licensing as applied to the State of Oregon covering operating an office, selling, and advertising. Introduces student to accept standards of ethical conduct, property management, titles, valuation, planning zoning, urban renewal, public housing, and developments.
Prerequisite: Real Estate Principles 2.400.

Real Estate Salesmanship 2.415 ..... 2 ..... 0 2
A course which covers the characteristics and qualifications of successful real estate salesmen. Includes prospecting for sales, sales aids and tools, sales letters, records and reports, handling objections, and public relations for salesmen.

Real Estate Sales Promotion 2.420 ..... 2 ..... 3 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.
Prerequisite: Fifth Term standing or department chairman approval.

Real Estate Trends and Developments 2.412 ..... 3 ..... 0 3
A study of the economic aspects of real estate land use and patterns of growth in Oregon. Provides a grasp of the dynamic factors that create values and an analysis of residential and urban planning, zoning, and governmental control factors that influence development and market. Especially valuable as a background course and preparation for more specialized courses.
Prerequisite: Real Estate Principles 2.400 and 2.410.

Real Estate Work Experience 2.431 ..... 1 ..... 8 3
Practical real estate office work experience used in combination with course 2.432. The student is required to obtain 12 hours office experience and 2 hours of classroom work during the last three terms of the program.
Prerequisite: Must be taken during year of graduation or with instructor approval.

Real Estate Work Experience 2.432 ..... 1 ..... 4 2
Practical real estate office work experience used in combination with course 2.431.
Prerequisite: Must be taken during year of graduation or with instructor approval.

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.

Rescue and Emergency Care 5.120 ..... 3 ..... 2 4
A combination of first aid and rescue practices. Standard procedures in the aid and care of victims of the most common emergenices. First aid emphasis is on the handling of respiratory, burn, cardiac, fracture, and shock victims. Practical methods of carrying out rescues in a number of types of emergencies is covered.

Route Surveying 6.507 ..... 1 ..... 6 3
Modes of transportation and the individual problems involved. The material is presented in such a manner so the student becomes familiar with the methods and requirements of the various types of transportation.

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 Accounting 2.651 ..... 3 ..... 0 3
Fundamentals of bookkeeping such as recording of transactions in journals, posting to ledgers, preparation of the trial balance, and the use of controlling accounts and related schedules with practice in opening, adjusting, and closing various professional sets of books.

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 is discussed as are characteristics and the ways in which they operate. The use of transistors 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: Approval of department chairman.

Sheet Metal Drafting 4.230 ..... 0 ..... 8 3
Sheet metal drafting procedures, developments, and layouts, using a variety of development methods.

Shop Projects 4.250 ..... 0 ..... 2 1
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.
Prerequisites: Concurrent registration as full-time student in the welding program or approval of department chairman.

Shop Projects 4.251 ..... 0 ..... 2 1
A continuation of Shop Projects 4.250.
Prerequisite: Second-Term standing in the welding program or approval of department chairman.

Shop Projects 4.252 ..... 0 ..... 2 1
The final course in the shop projects sequence.
Prerequisite: Third Term standing in the welding program or approval 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 repa projects also are used to develop resourcefulness and confidence i the application of skills and knowledge developed in concurrent courses.
Prerequisites: 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 and Transcription 2.620 ..... 2 ..... 3 3
Beginning Gregg Diamond Jubilee Shorthand. A study of simplified principles which should enable the student to take simple dictation and transcribe it in the early part of the course.

Shorthand and Transcription 2.621 ..... 2 ..... 3 3
Advanced vocabulary, phrase building, and word building principles. All of these are based on the basic shorthand principles learned in Shorthand 2.620 and 2.622.

Shorthand and Transcription 2.622 ..... 2 ..... 3 3
A continuation of Shorthand Theory and Transcription 2.620. Deals with special forms, abbreviated forms, punctuation, and compound words in connection with writing and transcribing exercises.

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 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 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 equalibrium. Laboratory experiments and projects cover each phase of study.
Prerequisite: Second year standing or approval of department chairman.

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.

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.

State Drilling Standards and Record Keeping 4.293 ..... 3 ..... 0 3
A survey 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 Tech. 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.
Prerequisites: 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 constructural members, and sutiable connections; loading conditions causing compression, tension, shear, torsion, and bending; practical design procedures relating to various structural members, beams, girders, columns and footings.
Prerequisites: Applied Mechanics 6.109; Strength of Materials 6.105.

Structural Drafting 4.111 ..... 0 ..... 4 2
Advanced civil and structural drafting procedures. Includes the function and design of the general plan, stress diagrams, shop drawings, foundation or masonry plans, erection diagrams, falsework plans, and sheet metal layout. Also, bill of materials, rivet lists, drawing indexes, design considerations, and strength of joints. The student is acquainted with structural shapes – bridge, dam, and earthwork construction.
Prerequisite: Sixth Term standing or approval of department chairman.

Subdividing and Community Planning 2.438 ..... 2 ..... 0 2
A study of the methods by which land is divided for more intensive utilization and the placing of restrictions of this land use. Covers provisions for water and sewage.
Prerequisite: Real Estate Principles 2.400 and 2.410 and approval of department chairman.

Survey Computations 6.500 ..... 1 ..... 6 3
A study of trigonometric and geometric formulas, logarithms, mechanical computers and integrating instruments, area computations, traverse calculations, leveling, and plotting surveys. Field trips and problems are used as needed.

System 360 Concepts 6.958 ..... 3 ..... 0 3
Functional characteristics and principles of operation of the System 360 Computer. Major topics include central processing unit, program execution, input-output channels, control units and devices, programming systems.
Prerequisites: Fundamentals of Computers and Programming 6.948.

System 360 DOS-TOS Facilities 6.975 ..... 3 ..... 0 3
All aspects of disk and tape operating systems are instructed.
Prerequisite: Computer Center Operations 6.952.

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 ..... 5 2
A continuation of Technical Illustration. The illustration of more complex equipment, along with color rendering, is covered. The use of colored pencil, pastel, and air brush is applied to a variety of illustrations.
Prerequisite: Technical Illustration 4.228.

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 Lab. 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. The theory of color TV and its allied circuits and the adjustments of the color receiver 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 bread boards. Some of the bread board 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. Color TV receivers are worked on and the color controls set up.

The Business of Being a Homemaker 7.100 ..... 2 ..... 2 3
Assists the student in gaining more skill while carrying the responsibility of two full-time jobs – that of working outside of the home and the homemaker. The satisfaction of working smarter not harder will be considered in the areas of food planning and preparation; better buying habits; wise use of time, money and energy; selection and care of clothing and equipment in the home.

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 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.

Prerequisites: 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 relating to the proper use of hand tools and power tools; sharpening edged tools; first aid and safety in the woods. Hand tools studied include hammers, saws, files, planes, brace and bit, square, wrenches, axes, pulaskis, hazel hoes, shovels, and pack pumps. Power tools include drills, chain saws, portable fire pumps, and brush cutting "disctype" 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.

Prerequisite: Concurrent enrollment in Hydrology for Drillers 4.294 or approval of department chairman.

Traffic and Patrol 5.210 ..... 3 ..... 3 4

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 ..... 2 2

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.

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

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 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.

Typing 2.606 ..... 1 ..... 4 3

Beginning typing for those with no previous typing instruction or a minimum of typing instruction. Covers the parts and construction of the more common makes of typewriters, learning of the keyboard, and the basic techniques of the touch system. The student should develop rhythm in his movements and attain a typing speed of at least 30 words per minute for an average gr[illegible] of C.

Typing 2.607 ..... 1 ..... 4 3

A continuation of typing with emphasis on increasing the typing speed to at least 40 words per minute while mastering various forms of business communications.

Prerequisite: Successful completion of Typing 2.606 or by placement test. (30 wpm. net requirement must be met).

Typing 2.608 ..... 1 ..... 4 3

Corrective and acceleration drills to develop a minimum typing speed of 40 words per minute. Training in the various papers encountered in a business office.

Typing 2.633 ..... 1 ..... 4 3

Beginning typing for those with no previous typing instruction. It covers the parts and construction of the more common makes of typewriters, learning of the keyboard, and the basic techniques of the touch system. The student should develop rhythm in his movements and attain a typing speed of 20 to 30 words per minute. Students with previous typing training may have this certified by a typing instructor or a test will be given at the college and 2.633 will be waived.

Typing 2.634 ..... 1 ..... 4 3

A continuation of Typing 2.633 with emphasis on increasing speed and accuracy. The student also receives training in the various papers encountered in a business office.

Use of Instruments I 4.260 ..... 2 ..... 0 2

The 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.

Utility and Sort Programs 6.965 ..... 2 ..... 2 3

Disk operating system utility programs, sort-merge, and programming support utilities.

Prerequisite: Computing Systems and Job Control 6.949.

Vacuum Tubes and Circuits Laboratory 4.258 ..... 0 ..... 6 2

Principles of construction of the vacuum tube, identification of tube elements, working with the theories taught in the theory classes, also basic trouble shooting procedures. The bread board building of the amplifiers, power supplies, and oscillator circuits studied in the theory classes.

Vacuum Tubes and Circuits Theory 4.257 ..... 6 ..... 0 6

Theory of vacuum tubes and their applications to circuits. A study of the principles of operation of the various types of vacuum tubes, their symbols, and usage. The use of tube characteristics in practical work and the construction and use of load line. The study of basic amplifiers, power supplies, and oscillator circuits. The math necessary for this course is taught as part of the course.

Water Distribution Systems 5.107 ..... 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. Also covers blocking oscillators of several types, their principle of operation, and application.

Prerequisite: Fourth Term standing or approval of department chairman.

Weld Shop Problems 4.249 ..... 3 ..... 9 5

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.

Prerequisites: Satisfactory completion of the first and second terms with concurrent registration in Tungsten Inert Gas Welding 4.247 and Metallic Inert Gas Welding 4.248 or approval of department chairman.

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 oxy-acetylene and arc welding equipment; demonstrations and practice in welding, brazing, and soldering ferrous and non-ferrous metals and their alloys.

Welding for Certification 4.166 ..... 2 ..... 6 4

A 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 gauge 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.

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 gauge 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.

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 Finishing 6.282 ..... 2 ..... 3 3

Problems and control of wood-destroying agencies; the kind of preservatives and their application; the methods of prefinishing forest products.

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 hardwoods 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 fighter duties.

COLLEGE STAFF

Ruth H. Adams, *Instructor* — Science
Kristine Anderson, *Instructor* — Science
Arthur G. Barrett, *Instructor* — Electronic Engineering and Repair
Cecile Beckerman, *Instructor* — Office Occupations
Janell B. Beebe, *Instructor* — Office Occupations
Betty M. Berg, *Instructor* — Office Occupations
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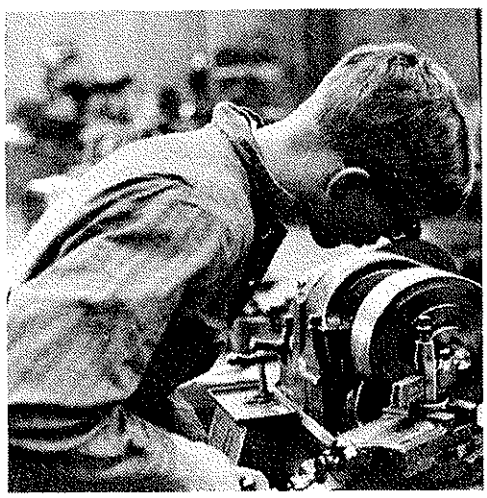

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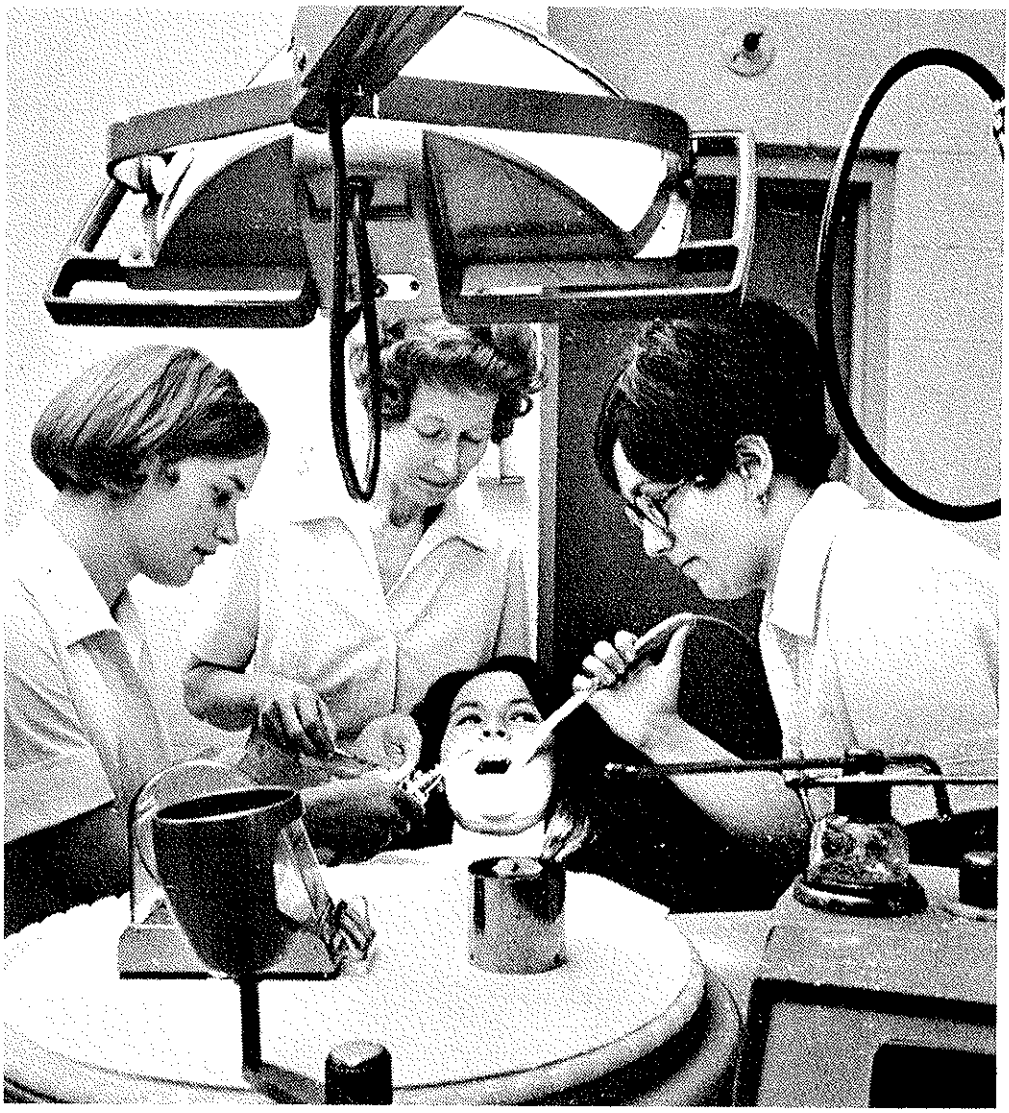

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