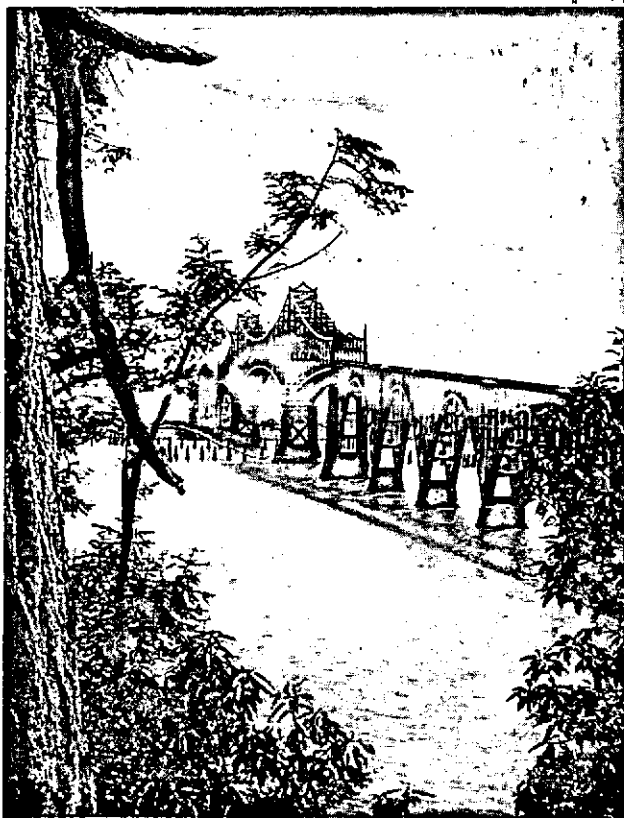

SOUTH WESTERN OREGON COLLEGE



CATALOG

1962

1963

South Western Oregon College

GENERAL CATALOG

1962 - 1963

(December 1962)

A
PUBLIC
TWO-YEAR
COEDUCATIONAL
COMMUNITY
COLLEGE

BOX 509
NORTH BEND, OREGON

ADMINISTRATION**Board of Education**

Wilfred A. Jordan, Chairman
 G. E. Albertson
 Henry F. Hansen
 Orville R. Adams

Karl Gehlert
 Ben R. Chandler, Jr.
 Richard Hanen

OFFICERS OF ADMINISTRATION

Wendell L. Van Loan, Ed.D. President and Clerk
 Maurice M. Romig, Ed.M. Registrar, Director of Admissions,
 Director of Technical-Vocational and General Education Division
 Samuel A. Yorks Dean of Collegiate Division
 Larry J. Whitney, B.S. Assistant Director of Technical-Vocational
 and General Education Division
 Donald R. Moffitt, B.S. Controller and Deputy Clerk,
 Chairman of Business Department

SOUTH WESTERN OREGON COLLEGE FACULTY

Andrews, Wayne; Assistant Professor, Automotive Technology. Certified Vocational Instructor.

Arbus, William, M.Ed.; Instructor, Biology, B.A. (1952) College of Wooster; M.Ed. (1957) Ohio State University.

Arrambide, Anthony, M.A.; Instructor in Modern Languages. M.A. (1961) College of Idaho.

Baker, Craig, M.A.; Instructor, Science. M.A. (1962) Stanford University.

Baxter, Bryce, M.S.; Instructor, Mathematics. B.E. Eastern Oregon College; M.S. (1962) Oregon State College.

Bayes, Maurine; Instructor, Business Education. Certified Vocational Instructor.

Becker, James A.; Instructor, Electrician Apprentice Training. Certified Vocational Instructor.

Cole, William; Instructor, Blue Print and Sketching. Certified Vocational Instructor.

Croft, Robert C., M.S.; Assistant Professor, Acting Director of Collegiate Division. B.S. (1950), M.S. (1951), University of Oregon and University of Washington.

Cummins, Williams, B.S.; Instructor, Electrical Engineer. B.S. (1959) Oregon State University. Certified Vocational Instructor in Electronics.

Curtis, William, B.S.; Instructor, Business Education. B.S. (1961) University of Oregon. Certified Vocational Instructor.

Doty, Irwin; Instructor, Related Technical Certified Vocational Instructor.

El Wattar, Zaki; M.A. San Francisco State College (1954); B.C. University of Cairo (1951); Instructor, Sales & Distribution.

Eickworth, Clara M., M.S.; Instructor, Home Economics. B.S. (1930), M.S., (1937) Oregon State University. Certified Vocational Instructor.

Harris, Edwin D.; Coordinator-Instructor, Fireman Training. Certified Vocational Instructor.

- Feasel, Gary, B.S.; Instructor, Physical Education. B.S. (1958) Kansas State Teachers College.
- Ferguson, Helen W.; Instructor, Business Education. Certified Vocational Instructor.
- Gamble, William; Instructor, Carpentry. Certified Vocational Instructor.
- Gearhart, John B., B.S.; Certified Vocational Instructor; B.S. (1946) Oregon State University.
- Godard, Harold, Instructor, Industrial Electrician Apprentice. Certified Vocational Instructor.
- Gross, Charles; Instructor, Plumber Apprentice Instructor. Certified Vocational Instructor.
- Hale, Anita; Instructor, Business Education, Certified Vocational Instructor.
- Heckard, Calvin; Instructor, Engineering Mechanics. Certified Vocational Instructor.
- Holmes, William J., M.S.; Instructor, Physical Education. B.S. (1958) Kansas State College. M.S. (1959) University of Colorado.
- Humphrey, Tom, M.S.; Instructor, English and Literature. B.S. (1959), M.S. (1961) University of Oregon.
- Karl, Maggie, B.S.; Instructor, Art. B.A. (1943) Kansas State College.
- Kilby, James; Instructor, Lumber Manufacturing. Certified Vocational Instructor.
- Kozuma, Harold K., M.S.; Assistant Professor, Psychology and Counseling. B.S. (1951) University of Hawaii; M.S. (1958) University of Oregon.
- Kruse, Lester; Instructor, Public Service Training. Certified Vocational Instructor.
- Kruse, Una Lee, M.A.; Instructor, English (part-time). B.A. (1938) Augustburg College; M.A. (1939) Northwestern University.
- LaFond, Isabelle, R.N.; Instructor, Practical Nurse Training. St. Baranbas Hospital School of Nursing (1931); University of Oregon Medical School, Nursing Education (1962).
- LeFebre, Charlene, M.A.; Instructor, Anthropology. B.S. (1945), M.A. (1948) Radcliffe College.
- LeFebre, Charles, B.S.; Instructor, and College Librarian.
- Leegard, Ellsworth J.; Instructor, Welding. Certified Vocational Instructor.
- Lilienthal, Ronald, B.S.; Instructor, Science. B.S. (1958) University of Oregon.
- McCormick, Christine B., M.S.; Instructor, Business Education. B.B.A. (1949), M.S. (1946) U. of O.; Graduate study at University College of Southampton, England and American University, Washington, D.C.
- Meacham, Malcolm R., M.A.; Assistant Professor, Speech and Literature. B.A. (1937), M.A. (1962) University of Utah.
- Morse, Don; Instructor, Automotive. Certified Vocational Instructor.
- Moffitt, Donald R., B.S.; Assistant Professor. Chairman of Business Education Department, Controller and Deputy Clerk. B.S. in Commerce (1960) Ferris Institute, Certified Vocational Instructor.
- Noble, Willis H.; Instructor, Public Service Training. Certified Vocational Instructor.

- Olyear, Chester; Instructor, Sheet Metal. Certified Vocational Instructor.
- Popp, Janice, B.S.; Instructor, Physical Education. B.S. (1948) University of Oregon.
- Romig, Maurice M., Ed. M.; Assistant Professor. Director of Technical-Vocational Division. Registrar. B.S. (1929) Ed.M. (1960) Oregon State University.
- Salisbury, Robert, M.Ed.; Instructor, Family Counseling. Certified Special Education Instructor. B.A. (1954) Pacific University. M.Ed. (1959) University of Oregon.
- Shibley, Lyle, M.S.; Instructor, Driver Training. B.S. (1950), M.S. (1952) University of Oregon.
- Sorensen, Vernon C., B.A.; Instructor, Modern Languages. B.A. (1947) University of Utah, Graduate study at University of Zurich.
- Spaugh, Roger; Assistant Professor; Electronics Technology. Certified Vocational Instructor.
- Stender, Veneita, B.S.; Instructor, Home Economics. B.S. (1955) University of Idaho. Certified Vocational Instructor.
- Stoll, Richard; Instructor, Automotive Technology. Certified Vocational Instructor.
- Strassburg, Margaret, B.S.; Instructor, Home Economics. B.S. (1954) Iowa State College.
- Thompson, Sydney D.; Sales and Distribution, Certified Vocational Instructor. B.S. (1949) Babson Institute.
- Trussell, Margaret E., M.A.; Assistant Professor, Geography and History. A.B. (1949) University of California. M.A. (1959) Long Beach College. M.A. (1960) University of California.
- Ulett, Gerald, B.S.; Instructor, Related Technical Subjects, Physics. B.S. (1961) Oregon State University.
- Whitney, Larry, B.S.; Assistant Professor, Assistant Director, Technical-Vocational Division. B.S. (1958) Oregon State University.
- Worth, Wayne T., Instructor, Public Service Training. Certified Vocational Instructor.
- Van Loan, Lillian Schroeder, Ed.D.; Associate Professor. B.A. (1950) Oregon College of Education. Ed.M. (1951), Ed.D. (1959) Oregon State University.
- Van Loan, Wendell L., Ed.D.; President of South Western Oregon College. B.S. (1928), M.S. (1933) University of Oregon. Ed.D. (1942) Stanford University.
- Yorks, Samuel A., Ph.D.; Dean of Liberal Arts and Sciences. B.A. (1949) Ph.D. (1956) University of Washington.

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GENERAL INFORMATION

Mailing Address:

SOUTH WESTERN OREGON COLLEGE, Box 509, North Bend, Oregon

Administrative Offices:

Liberal Arts and Sciences Division, 2750 Colorado St., North Bend

ORGANIZATION

South Western Oregon College was established in 1961 under Oregon Law which provides for the establishment of Area Education Districts. The college is operated by the Board of Directors of the Southwestern Oregon Area Education District. The College is a public, two year, co-educational Community College with two major divisions:

The Liberal Arts and Sciences Division which operates courses applicable to a Baccalaureate (4-year college) degree. These courses are approved by the Oregon State System of Higher Education.

The Division of Technical-Vocational and General Education offers courses designed to prepare persons for employment, to help them improve their occupational competency, and to help the individual develop as a person and a citizen. Credits can not be transferred to an institution of higher education for degree purposes.

The Curricula and standards of S.W.O.C. are under the general direction and supervision of the State Department of Education. Specific information concerning all courses will be found elsewhere in this catalog.

Financial support for the college is derived from special state funds, district taxes, and student fees.

The instructional program of the college is designed to provide all citizens within the area with the best possible opportunity to develop their capabilities and interests.

The Area Education District comprises most of Coos County and western Douglas County.

MAJOR FUNCTIONS AND TYPES OF EDUCATION

1. To provide training and vocational skills to qualify the younger student for entering or advancing in his chosen occupation. In some programs this leads to the Associate in Science Degree. These are one and two year full-time curricula.

2. To provide the first two years of a four year major university or college program leading to an associate degree.

3. To provide a two-year terminal program of liberal education suited to the particular needs of the student and not necessarily applicable to a four-year college degree. (See requirements for the Associate in Arts Degree under the Liberal Arts and Sciences Division.)

4. To make available, to all members of the community, education designed to enrich the individual and help him to function as a person, as a member of his family, as an employee and as a citizen. Both divisions of the College will organize courses and programs designed to satisfy the needs of particular groups. These courses will not carry credits which are transferable to another institution and students will not usually receive grades in the course.

5. To provide services which help the student choose realistic goals and to work effectively toward their achievement. Occupational and educational guidance for citizens of the community are believed by South Western Oregon College to be one of its major functions.

The College regularly offers courses leading to an Associate in Arts Degree, an Associate in Science Degree, a Certificate in Practical Nursing, Certificate of Proficiency in commercial and business subjects, and many specialized courses.

Full or part-time schedules may be arranged in any of the divisions of the College, as desired. Schedules may be arranged in two or more simultaneously, if desired.

LIBERAL ARTS AND SCIENCE

The College encourages all of its general collegiate students to choose those courses and to participate in those campus activities which will help most to develop understandings and skills essential to the students' most effective performance as whole persons. Two courses are considered so fundamental that they are required of all Liberal Arts graduates: English Composition and Physical Education. On the other hand, a relatively wide offering of elective courses help to give breadth and scope to the instructional program. Participation in the extracurricular activities program is also recommended to each student, as being a necessary part of a liberal education.

Students at the College study in classrooms and laboratories designed and equipped to provide the most effective environment for learning. The latest in audio and visual aids are used widely. Classes are kept small and maximum attention is given to the individual student

TECHNICAL-VOCATIONAL

To the students who wish training in vocational skills to qualify for entering or advancing in a chosen profession the College offers a variety of occupational programs. The courses in these programs are selected because they will adequately qualify the student in a period of one or two years. In certain cases the Associate in Science degree may be earned during the period of study. The College develops its occupational curricula in close cooperation with representatives of the business and industrial interests of the area, with whose guidance and counsel new programs are added as the need for them becomes apparent. Occupational curricula now offered include the following:

- | | |
|----------------------------|----------------------------|
| (1) Electronics | (5) Stenography |
| (2) Engineering Technology | (6) General Office Science |
| (3) General Drafting | (7) Mechanical Technology |
| (4) Practical Nursing | (8) Retail Business |

GENERAL EDUCATION

Much of the effort of the College is directed to providing a wide variety of informal, or semi-formal, educational opportunities to the adult community of southwestern Oregon. The College cooperates with other community and educational agencies and offers its full facilities, leadership, and staff to the community. Opportunities are provided for experience and other education leading toward increased personal, vocational and civic adequacy. The program may include classes, forums, lectures, workshops, and on-the-job training, in all liberal and vocational fields. Any group of interested persons may request the assistance of the College in establishing such a course or program. If there is an organized body of knowledge, and if an instructor can be found, the College will cooperate enthusiastically in the activity.

GENERAL ENTRANCE REQUIREMENTS

The following information and regulations apply to all entrants to the College, but most specifically to students registered in one of the curricular programs, either Liberal Arts and Sciences or Technical-Vocational.

The College accepts students of good moral character who provide evidence of suitable preparation for work at college level. In practice,

this means that a student may enroll at the College if he (or she) is (1) a high school graduate, or (2) a mature person, at least 18 years of age, who is prepared to undertake college work, as evidenced by satisfactory completion of educational equivalency tests or through evaluation of work experience.

To be admitted for any regular term, a new applicant must present to the Registrar (1) a formal application and (2) an official record of all high school credits and other academic work whether the student has graduated or not. All of these records become the property of the College.

Part-time students in special apprenticeship or occupational extension and general education courses are not required to submit a formal application or an official record of high school credits or other academic credits earned (see special admissions below).

If an application and formal admission is required this should be completed not less than one week prior to expected date of registration. The Registrar will examine the records submitted, and will then notify the applicant of his acceptance or other status.

SPECIAL ADMISSIONS

Persons qualified by maturity and ability to do satisfactory college work but who fail in some respect to meet the requirements for regular standing may apply for admission as special students until such entrance deficiencies are removed.

Persons enrolled on a non-credit or non-program basis or those enrolled for six term hours (six units) or less shall be classified as special students.

Special students may not become candidates for degrees without first qualifying as regular students.

APPRENTICESHIP TRAINING

Admission to these special classes is normally limited to persons registered under the Oregon State Apprenticeship Program.

DEGREES AND CERTIFICATES

Specific requirements for the degrees and certificates awarded by the College are listed in this catalog under the appropriate division. Candidates must apply for degrees and certificates through the Registrar's office at least one month prior to their expected date of issue.

REGISTRATION

All students should register in person and should complete registration on the days assigned and before the opening day of each term. Registration dates for the three regular academic terms are listed in the college calendar and should be observed. A fee for late registration is charged.

Each new student is assigned a faculty adviser who assists him in planning a program. Detailed registration instructions are contained in the schedule of classes; students should not proceed with registration without a copy of the schedule.

Returning students are expected to informally pre-register in advance of the beginning of each term by consulting with their faculty advisers.

Students are completely registered and entitled to attend classes for credit only when they have completed prescribed procedures including the payment of term fees.

A student may enter the College at the beginning of any term, but is advised to enter fall term when at all possible because of course sequence requirements.

CREDIT HOUR LOAD

A full two-year program should result in 96 term hours (credits) in the Liberal Arts and Sciences, or 16 term hours per term for 6 terms. A full two-year program should result in 90 units (credits) for Technical-Vocational students, or 15 units per term. However, these credits are not always comparable, and must be examined in each case.

In order to obtain 96 term hours (90 units) within the normal 6 terms, a full-time student should enroll for an average of 16 hours (15 units) per term.

Employed students should, however, be aware of the fact that these class hours involve about 50 clock hours of scholastic productivity each week during the term. Students who must work, therefore, are advised to fit their job schedules into the term-hour equation and to plan on a period in excess of 6 terms in which to complete two years work if necessary.

AUDITORS

Students who do not wish college credit may register as auditors in any of the courses offered. Auditors are not required to meet any specific academic requirements but should expect to participate fully in the activities of the class. If audit is desired, it should be so indicated at the time of registration. Auditors pay regular fees.

COURSE CHANGES

After initial registration, any student desiring to make course changes—such as changing from credit to audit, audit to credit, drop courses, or add courses—must do so by means of a formal request on a form secured from the College office. Students are encouraged to check the academic calendar for regulations governing course changes. See schedule of fees.

WITHDRAWALS

Students may withdraw from courses within certain periods without prejudice, but only by filing official withdrawal forms with the Registrar. A student who registers for a course is considered to be in attendance; if he discontinues without filing official withdrawal forms, he may receive a grade of F in the course. Students are encouraged to check the academic calendar for regulations.

Students who wish to withdraw completely from the College during the term should effect this through the Registrar. Students are expected to process their withdrawals in person, but under exceptional circumstances may do so in writing.

Proper withdrawal is reflected on the student's transcript and protects his academic record.

GRADING SYSTEM

The grading system consists of four passing grades: A, B, C, D; failure, F; incomplete, Inc. Students ordinarily receive one of the four passing grades or failure. Exceptional accomplishment is denoted by the grade of A, superior by B, average by C, inferior by D, unsatisfactory by F. When the quality of the work is satisfactory but the course has not been completed for reasons acceptable to the instructor, a record of incomplete, (Inc.) is made and additional time is granted. Incompletes must be made up within one term. Students are officially withdrawn (W) from a course on filing the proper completed forms with the College office.

NO-GRADE COURSES

Certain courses are designated no-grade courses. Students in these courses are rated "S" (satisfactory) or "U" (unsatisfactory) in the term grade reports.

GRADE POINTS

Grade points are computed on the basis of 4 points for each term hour of A grade, 3 for each term hour of B, 2 for each term hour of C, 1 for each term hour of D, and 0 for each term hour of F. Marks of Inc. and W are disregarded in the computation of points. The grade-point average (GPA) is the quotient of total points divided by total term hours in which grades A, B, C, D, and F are received.

ACADEMIC STANDING

A student's work is considered satisfactory or he is considered in good standing when he maintains an average of "C" (GPA of 2.00) on both his term and cumulative grade record.

HONOR ROLL

Recognition will be given each term to those students who are taking a minimum of twelve term hours of Liberal Arts work or 20 clock hours of Technical-Vocational Curricular work whose grade point average (GPA) is 3.5 or better.

Honorable mention may be made of those students registered for a part-time program whose GPA is 3.5 or better.

TUITION AND FEES

Fees are payable in full at the time of registration.

Payment of the stipulated fees entitles all students registered for academic credit, full-time and part-time, to all services maintained by the College for the benefit of students. These services include use of the library, use of laboratory and course equipment and materials in connection with courses for which the student is registered, subscription to the student newspaper, and admission to special events sponsored by the College. No reduction in fees is made to students who do not intend to avail themselves of these services.

REGULAR FEES

	per term
Full time Curriculum students. This applies to a program of eight or more term hours (19 or more clock hours of Technical-Vocational work)	\$78.00
Matriculation Fee: To be paid by regular full-time students at time of original application for admission; non-refundable but will be applied on regular fee if registration is completed	5.00
Out of District, Oregon resident. In addition to regular fee	24.00

SPECIAL FEES**Part-time Students:**

Students registered for less than eight term hours in Liberal Arts subjects or less than 19 clock hours in Technical-Vocational or general education will pay individual course fees as listed in the college schedule of classes each term.

Liberal Arts and Sciences Courses. Per term hour.	11.00
Technical-Vocational and General Education Division Courses—fees may be estimated by multiplying the number of hours per week by \$3.50. However, the published fee list each term will be the official charge.	Vary

FEE CHANGES

The Board of Education reserves the right to change any and all fees at any time except that fees announced for any given term may not be increased after the date announced for registration in such term.

OTHER SPECIAL FEES

Laboratory Fees	per term vary
Laboratory fees for some courses are assessed by the office in varying amounts and are payable at time of registration. Check Schedule of Classes each term for course laboratory fees.	
Special Course Fees	per term vary
Some courses are not charged for on the regular fee schedule but carry special fees, at rates roughly proportionate to those for regular fees. Check Schedule of Class each term for special course fees.	
Staff Fee: Liberal Arts Division—per credit hour	\$3.00
Technical-Vocational and General Education	25% of Reg. Fee
By approval of the President all full-time employees may be admitted to one course each term. Part-time employees, if employed haltime or more may register at the "Staff Fee" rate.	

- Late Registration Fee (\$5.00 maximum) per day \$1.00
 See College Calendar for date a charge for late registration begins. For part-time students the charge will begin on the school day following the first session of the class.
- Check Irregularity Fee per day \$1.00
 If institutional charges are met by a check which is returned because of any irregularity—NSF, illegible signature, etc. — a fine of \$1.00 per day will be charged, maximum \$5.00.
- Change of Program Fee per change \$1.00
 Assessed after scheduled last day for changing courses.
- Reinstatement Fee \$2.00
 If for any reason a student has his registration canceled during a term but is later allowed to re-enter, he must pay the reinstatement fee.
- Transcript Fee \$1.50 and \$1.00
 Each student is entitled to his first transcript free. Subsequent copies will be furnished at the rate of \$1.00, first copy and \$.50 additional copies furnished simultaneously.
- Graduation Fee—paid 30 days prior to graduation \$5.00
- Audit Fee—same as regular fee.
- Special Examination Fee \$2.00 per credit hour
 Students making application to take an examination for the purpose of obtaining credit will be assessed this fee.

FEE REFUNDS

Students who withdraw from the college or drop courses may be entitled to refunds if they comply with regulations governing withdrawals:

1. Any claim for a refund must be made in writing to the Controller before the end of the term in which the claim originates.
2. The amount of any refund is calculated from the date the written application is received and not from the date the student ceased attending classes. An exception to this rule may be allowed if it can be shown that filing of the withdrawal application was delayed for reasons beyond the student's control.
3. Fee and tuition refunds will be calculated from a schedule on file in the controller's office and approved by the Board of Education. No refund will be allowed after the end of the fourth week of the term.

STUDENT SERVICES

COUNSELING AND GUIDANCE

The College, through the Director of Admissions, Division Director, Chief of Counseling Services, offers counseling and guidance services to every student to assist him in planning an academic and occupational future commensurate with his abilities and interests. These services are also made available to the community at large upon arrangement.

The College devotes a significant part of its effort to providing these individual counseling and group guidance services. A professionally trained staff of counselors assists students in the selection of appropriate vocational and educational objectives, and courses of study to help reach those objectives. The latest available personnel methods are used to help counselors analyze abilities, interests, and personality traits.

All students are encouraged to take placement examinations. Students expecting to transfer to a four year institution of higher education are seriously advised to have on file at South Western Oregon College the results of the scholastic aptitude tests given by the College Board. Information about these tests may be obtained from the registrar, the counselor at S.W.O.C., or from any high school.

After completing formal application for admission, each student is assigned a permanent program adviser. Although the student is ultimately responsible for his program of courses, the adviser will assist the student in selecting a program which will lead to the student's professional or occupational objectives. Unless there is a major change in program, the adviser first assigned will remain the same throughout the time the student attends the College. The adviser is always glad to discuss educational plans and help analyze interests, abilities, failures, and successes. If he cannot answer a question directly, he will know how and where to help find the answer.

Students who have special difficulty in choosing a major and/or who have serious educational or personal problems may seek assistance from the College counselor. This assistance consists of individual testing beyond that provided for all students, counseling, and referral to community agencies. The College also makes available to students a library of occupational, educational, and vocational information, as well as catalogs from many senior educational institutions.

HOUSING ASSISTANCE

The College assists those students who must live away from home in finding suitable living accommodations at reasonable rates.

The College administration does not, however, set up an approved list of homes and does not operate a dormitory. Parents of out-of-town students must assume full final responsibility for approval of any housing arrangements.

TRANSPORTATION ALLOWANCE

Students whose legally established residence is more than 30 miles from the College campus may be reimbursed at the rate of five cents a mile for all mileage beyond the 30 mile radius. Mileage is calculated from the nearest direct main travel route. Students must make application at the office of the Registrar early in the term for transportation allowance. Such applications will not be accepted after the last day of any given term.

Students must be registered for a full-time program, complete the term satisfactorily (with regular attendance) to be eligible for the transportation reimbursement.

SCHOLARSHIPS AND LOANS

The Scholarship and Loan program of South Western Oregon College is coordinated by the Faculty Scholarship and Loan Committee. Most scholarships require evidence of financial need, scholastic ability and general good citizenship.

Application blanks are available from the office of the Registrar or from any high school principal in the college district. Applications, including a transcript of all academic work to the date of the application, should be forwarded to the Registrar's office by May 1st.

DISTRICT SCHOLARSHIPS

The Board of Education of the South Western Oregon Area Education District has authorized two scholarships for full time students residing in each high school district in the Area District. These scholarships are awarded on the basis of financial need, scholastic ability and citizenship. Applications must be filed on the application blanks available at the office of high school principals or the Registrar's office at South Western Oregon College.

WEST COAST TELEPHONE COMPANY SCHOLARSHIP

An annual \$100 scholarship is provided by the West Coast Telephone Company for a worthy student of South Western Oregon College. This scholarship is administered by the Faculty Scholarship and Loan Committee of the College. The criteria includes financial need, scholastic ability and citizenship. Application blanks are available through the Registrar's office.

OTHER SCHOLARSHIPS

Several organizations are in the process of setting up scholarships for students attending South Western Oregon College. Information concerning these may be obtained through the College Counselor's office.

DISTRICT LOAN FUNDS

A loan fund has been established at South Western Oregon College to aid students in financing part of their college work. Students are eligible to borrow on a short term loan basis after they have attended this college for one term. This fund is administered by the Faculty Scholarship and Loan Committee. Interested individuals and organizations who have contributed to this fund include:

- Coast Guard Auxiliary
- Coos Bay Kiwanis Club
- North Bend Business and Professional Women's Club
- Myrtle Point Women's Club
- Pioneer School PTA, Reedsport
- Mrs. Johnson F. Kutch
- Dr. and Mrs. W. L. Van Loan
- Zenith Club of North Bend
- Ladies of Elks

P.E.O. EDUCATIONAL FUND

Women students in good standing may be eligible for PEO loans at an interest rate of 3%. The College Counselor's office has information on this loan fund.

COLLEGE ASSURED LOAN PLAN

The United States National Bank has the College Loan Plan which is available to any college student whose family resides in Oregon. Under this plan the bank carries life insurance on the student and parent and

allows the student to borrow necessary funds to attend college. The loan provides for repayment within one to six years after college completion. An applicant could gain further information at any branch of the United States National Bank in this college district.

HIGH SCHOOL LOAN FUNDS

Loan funds are also available through the principal's office of several high schools in the district. Further information may be obtained through the College Counselor's office.

GRANTS-IN-AID

Individuals and organizations have made financial aid possible to several worthy students. Monies have been provided by:

Empire-Charleston Business and Professional Women's Club
 Kiwanis Club of Coquille
 Scott Paper Company
 North Bend High School Girls' League

NATIONAL DEFENSE EDUCATIONAL LOAN

South Western Oregon College has applied for a National Defense Educational Loan fund. It is expected that this fund will be available by fall of 1962. Information regarding these loans may be secured by contacting the Faculty Scholarship and Loan Committee or the Registrar's office.

JOB OPPORTUNITIES

The College employs students in campus positions whenever possible and works closely with the Oregon State Department of Employment in assisting students to obtain part-time employment while attending school. The College does not encourage students to attempt more than 15 clock hours of Technical-Vocational or 9 term hours of Liberal Arts while employed full time.

The College will assist graduating students to obtain information about permanent employment opportunities in the local area, in the state, or in the nation.

LIBRARY

Convinced that a school can be no better than the limitations of its library, the College has an expanding, well-selected collection of materials to inform, excite and challenge the mind. The new library is designed to house a balanced collection of the latest books in the business, liberal arts and technical fields as well as a complete set of basic reference matter. It contains, in addition, an extensive selection of current popular and professional periodicals. It subscribes to a representative selection of metropolitan newspapers. Reserve shelves are regularly established by the librarian at instructor request to facilitate student reading and research, in the reserve room for easy access. A small branch—principally technical—is located at the Coos Bay campus.

BOOK STORE

The bookstore is located on the North Bend campus, providing textbooks, workbooks, and other necessary class supplies as a service to the students. Textbooks are also made available at the Coos Bay campus at the beginning of each school term.

STUDENT ORGANIZATION

The students of the College are organized for self-government into the Associated Students of South Western Oregon College. Practical experi-

ences in leadership and cooperative effort are highlighted by the student government, with faculty counseling, which follows democratic procedures. The governing body, Executive Council, of the Associated Students of South Western Oregon College, elected by the student body, consists of: president, vice-president, secretary, treasurer, and one student representative from each of the two college divisions.

Any member of the Associated Students is welcome at Council meetings and is entitled to bring matters of importance to the attention of the Executive Council.

The Associated Students sponsor and coordinate all activities such as assemblies, dances, social activities, and organizations which are directly related to the student body as a whole. Participation in these activities is recognized as a vital part of a college education. The individual and group development brought about by this participation enhances personal responsibilities, cultural appreciation, social confidence, and a cooperative atmosphere between students and faculty.

All students attending S.W.O.C. are automatically members of the Associated Students. Activities are financed by a stipulated part of the regular college fees as authorized by the College Board of Directors.

TECHNICAL-VOCATIONAL AND GENERAL EDUCATION

Technical-Vocational Curricula
Occupational Extension
Apprentice Training

Practical Nurse Training
Business Education
General Cultural (Adult)

TECHNICAL EDUCATION

Technical-Vocational education includes selected and organized experiences which will prepare an individual for satisfying and effective employment and for membership in a community, according to his capacity. This preparation involves related technical education together with the specific training necessary for entry into an occupational field. It also includes additional training for qualified persons already employed who wish to improve their competency.

Since the majority of American youth do not continue formal education beyond the secondary school, technical-vocational education attempts to meet the demands of this group by centering education around the immediate needs of the individual.

This plan of technical education assures the young person the means of supporting himself and prepares him for making a contribution to the world's work. It enables him to obtain through his own efforts the higher standard of living possible in a democratic society.

Technical-Vocational Education curricula are all post high school and are terminal. Associate in Science Degrees and Certificates of Completion will be issued for satisfactory completion of these programs or parts thereof.

The College is one of several school systems giving technical training in Oregon. This will enable students to transfer to other localities and continue their education with a minimum of transfer problems.

ENTRANCE REQUIREMENTS

There are no entrance requirements beyond the general entrance requirements of the College for students intending to choose a course of study within the Technical Vocational Division. Eligibility may be established through an evaluation of previous education, work experience, and appropriate testing.

DEGREE AND CERTIFICATE REQUIREMENTS

The Associate in Science degree is offered by many technical schools in all parts of the United States. It is attaining status in higher education and recognition in business and industry.

General requirements for the Associate in Science degree:

1. Minimum of 90 units of specified courses (see particular curriculum)
2. Grade point average minimum of 2.00 (C average).
3. Required courses: See major curriculum.
4. Must attend S.W.O.C. at least two terms (including the last term) before degree is awarded, and must have completed 24 units at S.W.O.C. Technical units are not necessarily equivalent to collegiate term hours.

A Certificate of Completion is awarded to those who successfully complete a non-degree technical curriculum according to the standards of the College.

Certificates of attainment may be issued on request for individual courses completed, and these may be credited toward obtaining a curriculum diploma.

Previous training or work experience will be evaluated for credit toward receiving a diploma by tests covering the training involved, upon request by the individual.

JOB OPPORTUNITIES (A few examples)**Automotive Mechanics**

Automotive Mechanic	Brake Specialist
Tractor Mechanic	Auto Starter Specialist
Motorboat Mechanic	Vehicle Inspector
Heavy Equipment Mechanic	Wheel Alignment Specialist
Farm Equipment Mechanic	Automotive Electrician

Civil and Structural Engineering Technology

Construction Estimator	Job Clerk
Superintendent of Construction	Draftsman, Map
Highway Foreman	Inspector
Engineer Aide	Assistant City Engineer
Instrument Man (Surveying)	Chainman

Electronics Engineering Technology

Electronics Technician	Instrumentation Technician
Microwave Technician	Technical Writer
Computer Technician	Production Technician
Assistant Engineer	Communications Technician
Guided Missile Technician	Radar Technician
Radio and Television Lab Tech.	Electronics Draftsman

General Drafting

Electrical Draftsman	Architectural Draftsman
Structural Draftsman	Mapping Draftsman
Machine Draftsman	Engineering Graphics Draftsman
Welding Draftsman	Sheet Metal Layout Draftsman
Aeronautical Draftsman	Technical Illustrator

Licensed Practical Nursing

Hospitals	Medical Centers
Private Practice	Industrial and
Medical Clinics	Public Health Offices

Business and Commerce

Stenographer	Bookkeeper
Secretary	Clerical Assistant
Filing Clerk	Receptionist
Office Manager	Retail Sales Clerk
Merchandise Manager	Retail and Wholesale Salesman
Business Statistician	Advertising and Display Manager

COURSE NUMBERING

Courses offered by South Western Oregon College which are part of curricular programs leading to certificates, diplomas or degrees and recognized and approved by the Oregon State Department of Education, Community College and Industrial Education Division, will have numbers assigned to them in accordance with a system adopted by the department.

In some cases, courses are offered by the College which have not been assigned numbers by the State Department of Education. Such courses will be assigned numbers by S.W.O.C. in accordance with the following system:

- A. A two letter prefix will be used to identify the department classification.
- B. A single digit number will be used to identify the program classification which is used on the Registrar's permanent student record.
- C. A dash followed by a two-digit number will identify each specific course within a given classification.
(Example: PS 6-10 Public Service, Fire Training)

Code	Classification	Range
AR 5	Apprentice Related Technical Information courses	01-99
BE 6	Business Education Extension courses (evening)	01-99
DE 6	Distributive Education Extension	01-99
HE 6	Home Economics	01-99
PS 6	Public Service Training:	
	Fire Training	01-20
	Personal Service Occupations	21-35
	Police and Other Government	36-50
	Other	51-99
TE 6	Trade and Industrial (T&I) Extension Training	01-99
GE 9	General Education (miscellaneous adult courses)	01-99
NR 0	(10) Recreational or hobby, not reimbursable	01-99

CURRICULA

ELECTRONIC ENGINEERING TECHNICIAN

Minimum requirements for the Associate in Science Degree.

First Term	Hrs/Wk	Units	Fourth Term	Hrs/Wk	Units
Applied Physics I 6.370	5	4	Industrial Economics 1.506	2	2
Communication Skills I 1.100	3	3	Electrical Math I 6.115	3	3
Drafting I 4.101	4	2	Osc. Circuits & Design 6.212R	2	2
Engineering Problems I 6.135	2	1	Oscillator Circuits and Design Lab 6.213R	6	2
Technical Math I 6.261	3	3	Servo Systems 6.236R	4	2
Electrical Theory (DC) 6.200R	5	4	Wave Gen. & Shaping 6.234R	5	3
TOTAL	22	17	TOTAL	22	14

Second Term	Hrs/Wk	Units	Fifth Term	Hrs/Wk	Units
Applied Physics II 6.371	5	4	Amp. Circuits & Design 6.214R	3	3
Communication Skills II 1.102	3	3	Amp. Circ. & Design Lab 6.215R	6	2
Electrical Drafting 4.103	4	2	Industrial Electronics I 6.218R	5	3
Engineering Prob. II 6.136	2	1	Industrial Television I 6.228	5	3
Technical Math II 1.262	3	3	Electronic Data Process. 6.240	3	3
Electrical Theory (AC) 6.202R	5	4	TOTAL	22	14
TOTAL	22	17			

Third Term	Hrs/Wk	Units	Sixth Term	Hrs/Wk	Units
Prac. Descript. Geom. 6.127	4	2	Adv. Electronic Circuits 6.216R	5	3
Technical Math III 6.266	3	3	Automation Systems 6.244	3	3
Electrical Circuits 6.204R	3	3	Industrial Television II 6.235	3	1
Electrical Circuits Lab 6.205R	6	2	Industrial Electronics II 6.246	3	3
Vacuum Tube and Transistor Analysis 6.210R	3	3	Ind. Electronics Lab 6.247	3	1
Vacuum Tube and Trans. Analysis Lab 6.211R	3	1	Microwaves 6.242	5	3
TOTAL	22	14	TOTAL	22	14

RADIO AND TELEVISION SERVICING OPTION

Minimum requirements for graduation.

First Term	Hrs/Wk	Units	Second Term	Hrs/Wk	Units
Mathematics 1.202	3	3	Radio Servicing 4.161C	7	6
Electrical Theory 4.160C	10	8	Radio Service Lab 4.162C	12	4
Diagrams & Drawings 6.201	3	1	Audio Systems 4.912	2	2
Communication Skills I 1.100	3	3	Audio System Lab 4.913	3	1
Electronic Circuits 4.900	2	2	Mathematics 4.204	3	3
Elec. Circuits Lab 4.901	3	1	Bus. Communications 2.504	3	3
Typing 2.506C	3	1	TOTAL	30	19
TOTAL	27	19			

Third Term	Hrs/Wk	Units
Television Servicing 4.163C	4	4
Television Servicing Lab 4.164C	12	4
Credit Procedures 2.301	3	3
Advanced Radio and Television Servicing 4.165C	11	5
TOTAL	30	16

MECHANICAL TECHNOLOGY**AUTOMOTIVE AND DIESEL MECHANICS**

Minimum requirements for graduation.

First Term	Hrs/Wk	Units	Second Term	Hrs/Wk	Units
Auto Chassis I 3.300	2	2	Auto Chassis II 3.302	2	2
Auto Chassis Lab I 3.301	6	2	Auto Chassis Lab II 3.303	6	2
Internal Comb. Engines I 3.304	2	2	Internal Comb. Engines II 3.306	2	2
Internal Comb. Eng. Lab I 3.305	3	1	Int. Comb. Eng. Lab II 3.307	6	2
Welding I—A 4.150	4	2	Fuel Systems & Carb. I 3.310	2	2
Practical Physics I 4.300	5	4	Fuel Systems & Carburetion Lab I 3.311	3	1
Mathematics II 4.202	3	3	Practical Physics II 4.302	5	4
TOTAL	25	16	TOTAL	26	15

Third Term	Hrs/Wk	Units
Power Trains 3.316	2	2
Power Trains Lab 3.317	6	2
Auto Electricity I 3.308	3	3
Auto Electricity Lab I 3.309	3	1
Fuel Systems and Carburetion II 3.312	2	2
Fuel Systems and Carburetion Lab II 3.313	3	1
Practical Physics III 4.304	5	4
TOTAL	24	15

Automotive Mechanics Option

Fourth Term	Hrs/Wk	Units	Fifth Term	Hrs/Wk	Units
Auto Electricity II 3.322	3	3	Automatic Trans. 3.326	3	3
Auto Electricity Lab II 3.323	3	1	Automatic Trans. Lab 3.327	3	1
Front End Align. 3.318	2	2	Power Steering 3.314	4	2
Front End Align. Lab 3.319	3	1	Auto Repair II 3.331	9	3
Auto Repair I 3.329	9	3	Communication Skills II 1.102	3	3
Applied Fluid Mech. 3.320	2	2	Auto Materials 3.336	2	2
Communication Skills I 1.100	3	3	TOTAL	24	14
TOTAL	25	15			

Sixth Term	Hrs/Wk	Units
Tune-Up & Diagnosis 3.324	2	2
Tune-Up & Diagnosis Lab 3.325	6	2
Auto Repair III 3.333	9	3
Auto Fuels & Lub. 3.324	2	2
Auto Repairs Estimating 3.338	2	2
Employer-Employee Relations 4.500	2	2
Auto Service Management 3.302	2	2
TOTAL	25	15

Diesel Mechanics Option—(Not offered 1961-62)

Fourth Term	Hrs/Wk	Units	Fifth Term	Hrs/Wk	Units
Applied Fluid Mechanics 3.320	2	2	Power Steering 3.314	4	2
Front End Align. 3.312	2	2	Fuel Inj. Systems II 3.806	2	2
Front End Align. Lab 3.319	3	1	Fuel Inj. Systems Lab II 3.807	6	2
Fuel Inj. Systems I 3.804	2	2	Diesel Engines II 3.802	2	2
Fuel Inj. Systems Lab I 3.805	3	1	Diesel Engines Lab II 3.803	6	2
Diesel Engines I 3.800	2	2	Welding I-B 4.151	4	2
Diesel Engines Lab I 3.801	6	2	Communication Skills II 1.102	3	3
Communication Skills I 1.100	3	3	TOTAL	27	15
TOTAL	23	15			

Sixth Term	Hrs/Wk	Units
Diesel Tune-Up and Diagnosis 3.308	2	2
Diesel Tune-Up and Diagnosis Lab 3.309	6	2
Diesel Engine Repair I 3.811	9	3
Auxiliary Systems 3.812	2	2
Auxiliary Systems Lab 3.813	3	1
Auto Service Management 3.332	2	2
Employer-Employee Relations 4.500	2	2
TOTAL	26	14

Light Power Equipment Option

Minimum requirements for graduation.

First Term	Hrs/Wk	Units	Second Term	Hrs/Wk	Units
Auto Chassis 3.300	2	2	Fuel Systems and Carburetion 3.310	2	2
Auto Chassis Lab 3.301	3	1	Fuel Systems and Carburetion Lab 3.311	3	1
Internal Comb. Engines 3.304	2	2	Practical Physics 4.302	5	4
Internal Comb. Eng. Lab 3.305	3	1	Light Power Equip. 3.284C	2	2
Communication Skills I 1.100	3	3	Light Power Equip. Lab 3.285C	3	1
Welding 4.150	4	2	Small Engines 3.280C	2	2
Practical Physics 4.300	5	4	Small Engines Lab 3.281C	3	1
Mathematics 4.202	3	3	Communication Skills 1.102	3	3
TOTAL	25	18	TOTAL	23	16

Third Term	Hrs/Wk	Units
Small Engines 3.282C	2	2
Small Engines Lab 3.283C	3	1
Practical Physics 4.304	5	4
Employer-Employee Relations 1.500	2	2
Blueprint Reading and Sketching 3.339	3	3
Welding 4.151	4	2
Credit Procedures 2.301	3	3
Adv. Repair Service 3.286C	3	1
TOTAL	25	18

CIVIL AND STRUCTURAL ENGINEERING TECHNICIAN

Minimum requirements for the Associate in Science Degree.

First Term	Hrs/Wk	Units	Fourth Term	Hrs/Wk	Units
Applied Physics I 6.370	5	4	Industrial Economics 1.506	2	2
Communication Skills I 1.100	3	3	Mapping & Computing I 6.131	4	2
Drafting I 4.101	4	2	Strength of Mat. II 6.128	5	2
Engineering Problems I 6.135	2	1	Applied Mechanics II 6.111	5	3
Plane Surveying I 6.101	5	3	Structural Analysis and Design I 6.130	4	2
Technical Math I 6.261	3	3	Materials of Construction 6.108	2	2
TOTAL	22	16	TOTAL	22	14

Second Term	Hrs/Wk	Units	Fifth Term	Hrs/Wk	Units
Applied Physics II 6.371	5	4	Hydraulics I 6.112	3	3
Communication Skills II 1.102	3	3	Mapping & Computing II 6.113	6	2
Drafting II 4.105	4	2	Soil Mechanics I 6.124	5	3
Engineering Prob. II 6.136	2	1	Timber and Steel Construction 6.125	6	4
Plane Surveying II 6.103	5	3	Construction Codes 6.122	2	2
Technical Math II 6.262	3	3	TOTAL	22	14
TOTAL	22	16			

Third Term	Hrs/Wk	Units	Sixth Term	Hrs/Wk	Units
Applied Mechanics I 6.109	5	3	Concrete Construction and Design 6.123	7	3
Practical Descriptive Geometry 6.127	4	2	Foundations of Structures 6.120	3	3
Survey Comp. 6.500	5	3	Hydraulics II 6.114	3	3
Strength of Materials I 6.107T	2	2	Structural Drafting 4.111	4	2
Strength of Mat. Lab I 6.107	3	1	Contracts & Spec. 6.118	3	3
Technical Math III 6.266	3	3	Construction Estimating 6.110	2	2
TOTAL	22	14	TOTAL	22	16

GENERAL DRAFTING

Minimum requirements for graduation.

First Term	Hrs/Wk	Units	Second Term	Hrs/Wk	Units
Drafting I 4.101	4	2	Drafting II 4.105	4	2
Mathematics II 4.202	3	3	Mathematics III 4.204	3	3
Practical Physics I 1.300	5	4	Practical Physics II 4.302	5	4
Introduction to Fabrication Practices 4.100	7	3	Project Drafting I 4.119	9	3
Communication Skills I 1.100	3	3	Communication Skills II 1.102	3	3
Industrial Economics 1.506	2	2	TOTAL	24	15
TOTAL	24	17			

Third Term	Hrs/Wk	Units
Adv. Drafting Prob. 4.115	3	3
Practical Physics III 4.304	5	4
Project Drafting II 4.121	8	3
Technical Report Writing 6.126	3	3
Mechanical Drafting 4.109	4	2
Employer-Employee Relations 4.500	2	2
TOTAL	25	17

BUSINESS AND COMMERCE

General Office Curriculum

First Term	Units	Second Term	Units
Business English 2.580C	3	Business English 2.581C	3
Business Mathematics 2.508	3	Office Machines 2.519R	3
Office Procedures 2.583C	3	Office Procedures 2.584C	3
Typing 2.501 (5 Lab Hrs.)	3	Typing 2.503 (5 Lab Hrs.)	3
Bookkeeping 2.531R	4	Bookkeeping 2.533R	4
	16		16

Third Term	Units
Business English 2.582C	3
Office Machines 2.521R	3
Office Procedures 2.585C	3
Typing 2.505 (5 Lab Hrs.)	3
Payroll Accounting 2.505C	4
	16

Stenographic Curriculum

First Term	Units	Second Term	Units
Business English 2.580C	3	Business English 2.581C	3
Business Mathematics 2.508	3	Office Machines 2.519R	3
Office Procedures 2.583C	3	Office Procedures 2.584C	3
Typing 2.501 (5 Lab Hrs.)	3	Typing 2.503 (5 Lab Hrs.)	3
Shorthand 2.541	4	Shorthand 2.543	4
	16		16

Third Term	Units
Business English 2.582C	3
Office Machines 2.521R	3
Office Procedures 2.585C	3
Typing 2.505 (5 Lab Hrs.)	3
Shorthand 2.545	4
	16

SALES AND DISTRIBUTION

First Term	Hrs/Wk	Units	Second Term	Hrs/Wk	Units
Communication Skills 1.100	3	3	Communication Skills 1.102	3	3
Intro. to Psychology 1.606	3	3	Health Education 1.605	2	2
The Physical World 1.616	4	3	The Physical World 1.617	4	3
Funda. of Marketing 2.304	3	3	Principles of Retailing 2.305	3	3
Business Law 2.320	3	3	Business Law 2.321	3	3
Mathematics 4.200	3	3	Mathematics 4.202	3	3
TOTAL	19	18	TOTAL	18	17

Third Term	Hrs/Wk	Units
Business Economics 1.524	3	3
Credit Procedures 2.301	3	3
Business Law 2.322	3	3
Bus. Communications 2.504	3	3
TOTAL	12	12

Merchandising Option

Fourth Term			Fifth Term		
	Hrs/Wk	Units		Hrs/Wk	Units
Public Speaking 1.610	3	2	American Institutions 1.600	3	3
Fund. of Advertising 2.302	3	3	Forms and Fixtures 2.306	5	3
Retail Selling 2.307	4	3	Show Card Lettering 2.308	4	2
Office Procedures 2.512	6	3	Fashion Fund. 2.311	4	3
Color and Design 2.314	6	3	Buying 2.315	3	3
TOTALS	21	14	TOTALS	19	14

Sixth Term		
	Hrs/Wk	Units
Psych. of Human Rel. 1.608	3	3
Advertising Layout and Copywriting 2.300	4	3
Ec. of Consumption 2.302	3	3
Visual Merchandising 2.312	5	3
Textiles 2.313	5	3
TOTALS	19	15

Management Option

Fourth Term			Fifth Term		
	Hrs/Wk	Units		Hrs/Wk	Units
Public Speaking 1.610	3	2	American Institutions 1.600	3	3
Fund. of Advertising 2.302	3	3	Forms and Fixtures 2.306	5	3
Retail Selling 2.307	4	3	Show Card Lettering 2.308	4	2
Office Procedures 2.512	6	3	Problems in Retailing 2.309	3	3
Office Management 2.565	4	3	Business Statistics 2.327	3	3
TOTALS	20	14	TOTALS	19	14

Sixth Term		
	Hrs/Wk	Units
Psych. of Human Rel. 1.608	3	3
Advertising Layout and Copywriting 2.300	4	3
Ec. of Consumption 2.302	3	3
Small Bus. Operation 2.310	3	3
Analysis of Fin. Stata. 2.326	3	3
TOTALS	16	15

PRACTICAL NURSING

The purpose of this program is to prepare suitable applicants to give nursing care to patients who do not need the constant attention of the professional nurse.

The student is taught to assist in the care of medical and surgical patients, care of mothers and newborn babies, care of children, care of the chronically ill and convalescent patient. The instruction and hospital experience stress good standards of nursing service and are under the supervision of a professional registered nurse or licensed physician.

The program will be set up to meet the requirements of the State Department of Education and the State Board of Nursing. It covers a 12 month curriculum consisting of class and clinical experience. Classwork will be given in a specially prepared classroom and laboratory. Clinical experience will be in the cooperating hospital, Keizer Memorial Hospital, under the supervision of the instructor-coordinator of the practical nurse program in cooperation with the professional registered supervisory nurses of the hospital.

The Curriculum is divided into four broad courses as follows:

1. Personal and Vocational Relationships.
The practical nurse as an individual; her relationships with co-workers and patients; ethics; legal implications of vocation; obligations to society; personal and community health.
2. Normal Health, Growth, and Development.
Structure and function of the normal body; normal nutrition; family structure and relationships; normal child and maternal health and normal growth and development; mental health.

3. **Nursing Care in Conditions of Illness.**
Causes of disease; implications of symptoms and treatment of disease in relation to basic nursing care and rehabilitation of patients with emphasis on common conditions of illness in various age groups; diet in disease
4. **Nursing Skills.**
Nursing arts and skills, procedure and practice; care of patients' environment; hospital housekeeping; charting; administration of medication; first aid etc.

OCCUPATIONAL EXTENSION

These courses are designed to provide practical training for employed people to help them upgrade present skills, develop new skills, and acquire related technical knowledge for job competency and advancement.

The popular courses are offered each year. Many additional courses can and will be offered subject to sufficient numbers to form classes. Inquiry is invited.

Examples of courses the college has offered:

Conversational French GE 9-64	Briefhand (a personal shorthand) BE 6-70
Conversational Spanish GE 9-62	Beginning Drawing GE 9-41
Welding Lab (arc and acetylene) TE 6-80	Water Color GE 9-45
Driver Training for Adults NRO 11	Painting GE 9-45
Mathematics Review (similar to 4.202) TE 6-10	Family Financial Counseling HE 6-71 Planning Mill Operations TE 6-30

COURSE DESCRIPTIONS

COMMUNICATIONS

Communication Skills I (3 Class Hrs/Wk) 1.100 Term Units 3

This course is designed to improve the student's speaking and writing skills and help him grow in language power through the development of correct habits of careful, forceful expression. The course material covering the four basic skills,—reading, speaking, writing, and listening—has been correlated so that the methods used in these four areas are complimentary parts of the communication process. The practical phase of communication problems is kept in the foreground, and every effort is made to lead the student through industrial and business experiences that are thoroughly practical in nature. Problems in the field of oral communication include individual speech analysis, business and social conversation, group speaking in business and industry, information talks, demonstrations, explanations, etc. Cultivating the student's powers of analysis and evaluation of contemporary communication is an important objective in this course, therefore, contemporary speeches, books, magazines, and newspapers are the source materials for oral and written assignments. Problems in outlining, note-taking, summarizing, report making, and in conventional usages in mechanics and grammar are considered. Prerequisite: High school English or equivalent.

Communication Skills II (3 Class Hrs/Wk) 1.102 Term Units 3

This course presents the next steps in the process of improving the student's speaking, reading, writing, and listening skills. Problems in these areas are on a graduated basis and have been so selected as to help the student proceed in an orderly fashion to achieve greater competency of expression and a stronger sense of security in communicating his ideas and thoughts to others. Practice is provided for the student in developing reports; giving talks; taking part in conferences; reading, analyzing, and discussing both general and technical periodicals; and handling representative forms of business writing. The general objective is to provide a graduated scale of activities which will help the student grow in confidence so that he will be able to perform adequately in those social, business, and industrial situations which he must face in his later life. Prerequisite: Communication Skills I or equivalent.

Drafting I (4 Laboratory Hrs/Wk) 4.101 Term Units 2

This is a fundamental course in drafting designed to give the student a basic understanding of drawing techniques. Emphasis will be 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, threads, and standard dimensioning practices will be covered. Prerequisite: High school algebra or approval of department head. Mathematics II may be taken concurrently.

Drafting II (4 Laboratory Hrs/Wk) 4.105 Term Units 2

This is an intermediate course designed to prepare students to enter mechanical, structural, civil, and architectural drafting. It includes isometric projection, 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 I or equivalent.

Engineering Problems I (2 Laboratory Hrs/Wk) 6.135 Term Unit 1

This course of study in engineering problems is one in which the student is instructed in the development of accurate, effective, and efficient work and study habits. The course is intended to train the student to organize his analysis and record them in clear, concise form so that they can be interpreted. Prerequisites: One year of high school algebra or equivalent.

Engineering Problems II (2 Laboratory Hrs/Wk) 6.136 Term Unit 1

This course aims to develop the skill of gathering together and sorting research results and problems solving records into logical summation. Mathematical and graphical analysis of data will be emphasized in the presentation of information in the report. Prerequisites: Engineering Problems I.

Practical Descriptive Geometry (4 Lab Hrs/Wk) 6.127 Term Units 2

This course gives a brief view of advanced drafting problems and takes the student further into the field of descriptive geometry principles. In the production of detailed drawing from assembly drawing the principles of Descriptive Geometry are necessary to the skilled draftsman. Prerequisites: Third term standing or approval of department head.

Technical Report Writing (3 Class Hrs/Wk) 6.126 Term Units 3

This is a course which supplies knowledge of the principles of composition and basic forms of writing reports. The subjects covered are: why reports are written, types of reports, make-up of reports, effectiveness of writing styles, gathering of facts for a report, planning a report, method of writing a report, layout and typing of a report, and visual aids in a report. Prerequisite: Communication Skills I or equivalent.

MATHEMATICS**Electrical Mathematics**

See Electronics course descriptions.

Mathematics II (3 Class Hrs/Wk) 4.202 Term Units 3

This is a course in practical mathematics including the fundamentals of applied algebra and applied geometry, including symbols, equations, ratio and proportion, exponents, radicals, formulas, geometric lines and shapes, common geometric constructions, and introductory applied trigonometry. Prerequisite: Mathematics, general high school, or equivalent.

Mathematics III (3 Class Hrs/Wk) 4.204 Term Units 3

This course concentrates on problems encountered by workers in industrial occupations. It applies arithmetic, algebra, geometry, trigonometry, and their various phases to jobs encountered. Emphasis on actual problem solving aspects. Prerequisites: Mathematics II or equivalent.

Pre-Technical Mathematics 4.202 (PT) Non-Credit

This course consists primarily of beginning algebra, given to those who wish to pursue Electronics or Civil-Structural Engineering Technology, who have had an inadequate background in mathematics.

Technical Mathematics I (3 Class Hrs/Wk) 6.261 Term Units 3

This is an applied course in mathematics on the technician level, covering the slide rule, tables and interpolation, additional applications in geometry, a review of fundamental algebraic operations, system of linear equations, functions and graphs, advanced applications of exponents and radicals, and quadratic equations in one unknown. Prerequisites: High school algebra or equivalent.

Technical Mathematics II (3 Class Hrs/Wk) 6.262 Term Units 3

This is an applied course in mathematics on the technician level, including logarithms, right and oblique triangle problem solving, trigonometric applications and review, vectors, trigonometric formulas, identities and equations and graphs of trigonometric functions. Prerequisites: Technical Mathematics I or equivalent.

Technical Mathematics III (3 Class Hrs/Wk) 6.266 Term Units 3

This is an applied course in mathematics on the technician level, covering simultaneous quadratic equations, ratio and proportion, binomial theorem, arithmetic and geometric progressions, mathematics of investment, exponential functions, complex notation and vector algebra. Prerequisites: Technical Mathematics II or equivalent.

Technical Mathematics IV (3 Class Hrs/Wk) 1.270 Term Units 3

This is an introduction to differential and integral calculus. It is an applied course covering graphical methods, differentiation, and integration. Prerequisite: Technical Mathematics III.

RELATED SUBJECTS**Employer-Employee Relations (2 Class Hrs/Wk) 4.500 Term Units 2**

The objective of this course is to provide an understanding of the rights and responsibilities of employees. As a guide to making adequate decisions, a study of population, economic and employment trends, and hours and working conditions is included. The development of and the role played by labor organizations, how labor representatives and management bargain, government laws and regulations covering collective bargaining, other state and federal labor laws, and how labor disputes are negotiated and given consideration. Information on government programs for old age and unemployment assistance and additional information on the problems faced by individuals applying for work and the individual's associations with fellow workers and company representatives are covered.

Industrial Economics (3 Class Hrs/Wk) 1.506 Term Units 3

Industrial Economics deals with the principles involved in the operation of the American economic system. The role of business and industry in the total economy is studied. Basic economic principles are applied to the relationship of employer and employee. Topics considered are: historic trends, business organization, prices and competition, imperfect competition and monopoly, price levels, business cycles, taxation, labor unions, management associations, labor-management relations, labor legislation, and social and private security.

SCIENCE**Applied Physics I (3 Class, 2 Laboratory Hrs/Wk) 6.370 Term Units 4**

This course in applied physics is on the post high school level. Physical laws and theories and mechanical principles, including mechanics of measurement, properties and structure of matter, solids, liquids, and gases, simple machines, work, power, and energy are studied. Laboratory time is provided for demonstrations and experiments to clarify principles and procedures covered in class. Prerequisites: Technical Mathematics I or equivalent. May be taken concurrently.

Applied Physics II (3 Class, 2 Laboratory Hrs/Wk) 6.371 Term Units 4

Covers principles of heat, light, and sound, including the study of temperature and the effects of heat, heat and change of state, heat transfer, heat engines, refrigeration, air conditioning, sound, application of sound, and nature of light. Laboratory time is provided for demonstrations and experiments to clarify principles and procedures covered in class. Prerequisites: Applied Physics I or equivalent.

Practical Physics I (3 Class, 2 Laboratory Hrs/Wk) 1.300 Term Units 4

This is an introductory course in practical physics covering matter, measurements, mechanics, and machines. Laboratory time is provided for demonstrations and experiments to help clarify the principles and procedures covered in class. Prerequisites: General high school mathematics or equivalent.

Practical Physics II (3 Class, 2 Laboratory Hrs/Wk) 1.302 Term Units 4

This is an introductory course in practical physics covering heat, light, and sound. Laboratory time is provided for demonstrations and experiments to help clarify the principles and procedures covered in class. Prerequisites: Mathematics II or equivalent.

Practical Physics III (3 Class, 2 Laboratory Hrs/Wk) 1.304 Term Units 4

This is an introductory course in practical physics covering magnetism and electricity. Laboratory time is provided for demonstrations and experiments to help clarify the principles and procedures covered in class. Prerequisite: Mathematics II or equivalent.

AUTOMOTIVE MECHANICS**Applied Fluid Mechanics (2 Class Hrs/Wk) 3.320 Term Units 2**

A study of the practical uses of hydraulic power transmission and application. The fundamental principles are reviewed and the uses of hydraulic pressure and fluid flow in brakes, pumps, power steering units, fluid couplings, torque converters, and power accessories are covered thoroughly. Prerequisites: Practical Physics I and II.

Automotive Chassis I (2 Class Hrs/Wk) 3.300 Term Units 2

This course is designed to give students an understanding of the principles of operation of automotive chassis components. Fundamentals of front suspension and steering geometry, diagnosis of steering and suspension troubles, and overhaul techniques of steering and suspension systems are studied. Prerequisite: Practical Physics I should be taken concurrently.

Automotive Chassis Laboratory I (6 Lab Hrs/Wk) 3.301 Term Units 2

A course to develop the ability to use basic hand tools, measuring tools, and shop equipment in the process of overhauling and adjusting various types of suspension and steering systems. It is the practical application of the theory studied in Automotive Chassis I. Prerequisite: Automotive Chassis I should be taken concurrently.

Automotive Chassis II (2 Class Hrs/Wk) 3.302 Term Units 2

The purpose of this course is to familiarize students with the functions and principles of operation used on all major types of automotive brake systems. The student should acquire knowledge of brake trouble shooting, procedures for overhauling both conventional and power brakes, and service techniques. Prerequisite: Automotive Chassis I or equivalent. Practical Physics II should be taken concurrently.

Automotive Chassis Laboratory II (6 Lab Hrs/Wk) 3.303 Term Units 2

This is the practical application of the theory studied in Automotive Chassis II. Prerequisite: Automotive Chassis II should be taken concurrently.

Automotive Electricity I (3 Class Hrs/Wk) 3.308 Term Units 3

This course is designed to provide the student with an understanding of the fundamental principles of electricity as used by the auto mechanic. Construction and function of automotive electrical components, including storage batteries, switches, ignition, and cranking systems are studied in detail with the aid of demonstrations, cutaway, and mock-up equipment. Prerequisite: Practical Physics III, may be taken concurrently.

Automotive Electricity Laboratory I (3 Lab Hrs/Wk) 3.309 Term Unit 1

This is the practical application of the theory studied in Automotive Electricity I. Prerequisites: Practical Physics III and Automotive Electricity I must be taken concurrently.

Automotive Electricity II (3 Class Hrs/Wk) 3.322 Term Units 3

This course is a continuation of Automotive Electricity I covering automotive lighting, charging, and indicating systems. Students will acquire the ability to diagnose minor troubles in these systems as well as be able to interpret and trace automotive wiring diagrams. Common types of minor electrical accessories are studied. Prerequisite: Automotive Electricity I or equivalent.

Automotive Electricity Lab II (3 Lab Hrs/Wk) 3.323 Term Unit 1

This is a practical application of the theory studied in Automotive Electricity II. Prerequisite: Automotive Electricity II to be taken concurrently.

Automotive Fuels and Lubricants (2 Class Hrs/Wk) 3.324 Term Units 2

This is a theory course covering the nature and origin of petroleum products and of manufacturing processes involved in development and perfection of fuels and lubricants. The students study problems involved in the conditions under which these products are used and the tasks they are called upon to perform. Prerequisite: Second year standing or equivalent or approval of instructor.

Automotive Materials (2 Class Hrs/Wk) 3.336 Term Units 2

This course is designed to give the student an understanding of the use of iron, steel, aluminum and light alloys, copper and its alloys, as well as plastics, fibers, rubber, and synthetics. Information concerning various body finishes is also covered.

Automotive Repair I (9 Laboratory Hrs/Wk) 3.329 Term Units 3

This is a shop course in which the students can develop additional abilities and understanding through diagnosis and repair of operating automotive equipment. Conditions and practices similar to automotive repair shops in industry. It will include overhaul and maintenance procedures and practices on suspension systems, brakes, power trains, and engines. Students will develop skills in analyzing typical problems outlining job procedures, conservation of working time, and following up with actual overhaul of the defective units. Prerequisites: Second year standing or instructor's approval. Automotive Electricity II to be taken concurrently.

Automotive Repair II (9 Laboratory Hrs/Wk) 3.331 Term Units 3

This course is a continuation of Automotive Repair I in further developing the students' abilities and knowledges. Skills developed in previous courses will be improved, with emphasis on automotive electricity and automatic transmission units. Diagnosis, testing, and overhauling of units will be practiced under industrial conditions. Prerequisites: Automotive Repair I or equivalent. Automatic Transmissions to be taken concurrently.

Automotive Repair III (9 Laboratory Hrs/Wk) 3.333 Term Units 3

This course is a continuation of Automotive Repair II to further develop the students' abilities in diagnosis and repair of automotive units, with emphasis on power steering and tune-up procedures. Power accessories are serviced as time and availability permit. Prerequisite: Automotive Repair II or equivalent.

Automotive Repair Estimating (2 Class Hrs/Wk) 3.338 Term Units 2

This course is designed to give the student an understanding of proper diagnosing and estimating of labor and material costs involved in the repair and service of automotive equipment. Emphasis will be on the use of typical manuals and price lists used in the industry. The students will make practical application of the theories studied in this course on units to be repaired in the shop. Prerequisite: Second year standing or equivalent.

Automotive Service Management (2 Class Hrs/Wk) 3.302 Term Units 2

This course outlines the duties and responsibilities of the service manager. The students study methods of organizing service personnel, shop facilities, and an introduction to shop layout and building facilities. Appreciation of good relationship with customers, labor and management groups, and individuals is emphasized. Prerequisite: Second year standing or equivalent.

Automotive Transmissions (3 Class Hrs/Wk) 3.326 Term Units 3

This course covers automatic transmission work, including principles of operation, trouble shooting and overhaul procedures on hydraulically operated transmissions, torque converters, and fluid couplings used with automatic transmissions common to the automotive field. Prerequisites: Applied Fluid Mechanics and Power Train or equivalent.

Automatic Transmissions Lab (3 Lab Hrs/Wk) 3.327 Term Unit 1

This course is a practical application of the theory studied in Automatic Transmissions, using the various types of automatic transmissions found in automotive equipment. Prerequisite: Automatic Transmissions must be taken concurrently.

Front End Alignment (2 Class Hrs/Wk) 3.318 Term Units 2

This course provides a detailed study of wheel alignment. Wheel alignment factors, equipment, and procedures are covered in detail. Wheel balance methods and machines are studied, as well as alignment troubles. Prerequisite: Automotive Chassis I or equivalent.

Front End Alignment Lab (3 Lab Hrs/Wk) 3.319 Term Unit 1

This is a practical application of the theories studied in Front End Alignment. The student should become skilled in the manipulations of different styles of alignment equipment, as well as familiar with the front end systems of various makes of automobiles. Prerequisites: Automotive Chassis Laboratory I or equivalent. Front End Alignment must be taken concurrently.

Fuel Systems and Carburetion I (2 Class Hrs/Wk) 3.310 Term Units 2

A course designed to give the students an understanding of the fundamental principles of carburetion, an overview of principles of engine fuel systems and fuels, operation and function of all types of fuel systems, and an understanding of the simple automotive carburetor. The student should acquire a basic knowledge of carburetor circuits. Prerequisites: Internal Combustion Engines I. Practical Physics II should be taken concurrently.

Fuel Systems and Carburetion Lab I (3 Lab Hrs/Wk) 3.311 Term Unit 1

This course is designed to enable the student to develop skill and understanding in overhaul of all types of simple automotive fuel systems and carburetors, analyzing the function of each component and circuit. Diesel and LPG fuel systems are disassembled by the student for study of construction and function of components and reassembled. A companion course of Fuel Systems and Carburetion. Prerequisites: Internal Combustion Engines I: Fuel Systems and Carburetion I should be taken concurrently.

Fuel Systems and Carburetion II (2 Class Hrs/Wk) 3.312 Term Units 2

An advanced course in techniques and procedures for overhaul and service of carburetors and carburetion accessories, including all types of single and multiple throat models. Principles of operation and special carburetion equipment, such as supercharger and automotive fuel injection, are studied. Diagnosis and testing procedures involving carburetion systems are covered. Prerequisites: Fuel Systems and Carburetion I.

Fuel Systems & Carburetion Lab II (3 Lab Hrs/Wk) 3.313 Term Unit 1

Developing skills in service and overhaul of all types of single and multiple throat carburetion systems. Detailed servicing procedures on various types of carburetor circuits, using laboratory equipment. Basic trouble-shooting procedures are practiced on operating engine components. Prerequisites: Fuel Systems and Carburetion I. Fuel Systems and Carburetion II should be taken concurrently.

Internal Combustion Engines I (2 Class Hrs/Wk) 3.304 Term Units 2

This course is designed to give the student an understanding of the principles of operation of various types of internal combustion engines. Students should acquire a knowledge of the construction and operation of the automotive engine, all components, and accessories. Prerequisites: Practical Physics I and Mathematics II should be taken concurrently.

Internal Combustion Engines Lab I (3 Lab Hrs/Wk) 3.305 Term Unit 1

This is the practical application of Internal Combustion Engines I, consisting of basic service and overhaul techniques commonly used on automotive engines. Removal and replacement of all engine and accessory components, with a detailed study of the function of each part, is supervised by the instructor. Prerequisites: Practical Physics I, Mathematics II, and Internal Combustion Engines I should be taken concurrently.

Internal Combustion Engines II (2 Class Hrs/Wk) 3.306 Term Units 2

This course is intended to provide the student with knowledge of overhaul methods, trouble shooting, general engine performance and testing, and service techniques covering valve, cylinder, and bearing systems. Prerequisites: Internal Combustion Engines I. Practical Physics II should be taken concurrently.

Internal Combustion Eng. Lab II (6 Lab Hrs/Wk) 3.307 Term Units 2

A shop course designed to provide experience in practical engine reconditioning. Diagnosis of troubles directly related to the engine and its performance is practiced with the use of test instruments. A companion course for Internal Combustion Engines II. Prerequisites: Practical Physics I, Internal Combustion Engines II. Practical Physics II should be taken concurrently.

Advanced Repair Service (3 Lab Hrs/Wk) 3.286C Term Unit 1

This is a shop course in which students can develop additional abilities and understanding through diagnosis and repair of malfunctions in small gas engines and light gas powered equipment. Students will develop skills in analyzing typical programs, outlining on procedures, conservation of working time, and following up with actual overhauling of defective units.

Light Power Equipment (2 Class Hrs/Wk) 3.284C Term Units 2

A course designed to acquaint students with the different types of machinery powered by small engines. Applications will include types of drives, gear reductions, and efficiency.

Light Power Equipment Lab (3 Lab Hrs/Wk) 3.285C Term Unit 1

A shop course designed to provide experience in care and servicing of the different machinery units driven by small engines.

Power Steering (1 Class, 3 Lab Hrs/Wk) 3.314 Term Units 2

This is a course in practical power steering work covering trouble shooting, dismantling, inspection of parts, reassembly, and adjustments to cover principal repair procedure on those power steering units common to the automotive trade. Principles of operation will be studied in the classroom and applied directly to power steering units in the laboratory. Prerequisite: Second year standing or instructor's approval and Applied Fluid Mechanics.

Power Trains (2 Class Hrs/Wk) 3.316 Term Units 2

This is a course covering all components of the power train, including clutch, standard and overdrive type transmissions, drive line, and final drive. These components will be studied in detail in the classroom, using lecture and visual aids, to determine the function and operation of each unit to form a basis for subsequent overhaul procedures. Prerequisite: Automotive Chassis II or equivalent.

Power Trains Laboratory (6 Lab Hrs/Wk) 3.317 Term Units 2

This course is designed for building skill and utilizing practical work covering overhaul and trouble shooting all units of the automotive power train. All work is performed on laboratory units in conjunction with concurrent attendance in the Power Trains course. Prerequisite: Power Trains should be taken concurrently.

Small Engines (2 Class Hrs/Wk) 3.280C Term Units 2

This course is designed to give students an understanding of the construction, operation, and maintenance of small air-cooled engines. Both 2 and 4 cycle types are covered.

Small Engines Lab (3 Lab Hrs/Wk) 3.281C Term Unit 1

A shop course wherein students will gain practical experience in disassembly and assembly of small engines, including overhaul procedures and testing.

Small Engines (2 Class Hrs/Wk) 3.282C Term Units 2

A course dealing with small multi-cylinder water cooled engines, with emphasis on outboard motors. The course takes up the special applications of high speed two cycle operation, metallurgy, and special gearing.
Prerequisite: Small Engines 3.280C.

Small Engines Lab (3 Lab Hrs/Wk) 3.283C Term Unit 1

A shop course to provide actual experience in servicing outboard motors and other multi-cylinder engines, also overhaul procedures and tune-up.
Prerequisite: Small Engines 3.280C, Small Engines Lab 3.281C, Light Power Equipment 3.284C, and Light Power Equipment Lab 3.285C.

Tune-Up and Diagnosis (2 Class Hrs/Wk) 3.324 Term Units 2

This course is designed to give students the ability to recognize and diagnosis malfunctions in the automotive engine and its accessory systems. Advanced methods of testing electrical and carburetion systems are studied. The students should develop the ability to analyze the operation of all engine accessories directly to engine performance. Prerequisites: Second year standing and Automotive Electricity II or equivalent.

Tune-Up and Diagnosis Lab (6 Lab Hrs/Wk) 3.325 Term Units 2

This course is a practical application of the theory studied in the Tune-Up and Diagnosis course. Live automotive or laboratory equipment will be used by students in diagnosing and correcting troubles. Various types of tune-up equipment are used, enabling the students to develop skill in their use. Prerequisites: Second year standing. Tune-Up and Diagnosis should be taken concurrently.

Welding 1-A (1 Class, 3 Lab Hrs/Wk) 4.150 Term Units 2**Welding 1-B (1 Class, 3 Lab Hrs/Wk) 4.151 Term Units 2**

Setup and operation of oxy-acetylene and electric arc welding equipment. Demonstrations and practice in welding, brazing, and soldering ferrous and non-ferrous metals and their alloys. Various types of welds are made and tested. Technical information is correlated with actual practice to provide the student with an understanding of the composition of the various metals and methods of fabrication used in construction, maintenance, and repair industries. This is one course; two consecutive terms.

CIVIL AND STRUCTURAL ENGINEERING TECHNOLOGY**Applied Mechanics I (2 Class Hrs/Wk) 6.109 Term Units 2**

The course consists of a study of energy at rest (equilibrium). This includes resolution of forces, equilibrants of forces in one plane, simple machines, and equilibrants of nonconcurrent forces. Time is provided for demonstrations and experiments to help clarify the principles and procedures covered. Prerequisite: Technical Mathematics II and Applied Physics II or equivalent.

Applied Mechanics II (2 Class Hrs/Wk) 6.111 Term Units 2

A study of energy in motion. The course covers the principles of friction, centroids, inertial characteristics, motion and velocity, force and acceleration, curvilinear motion and rotation, and advanced concepts of work, power and energy. Time is provided for demonstrations and experiments to help clarify the principles and procedures covered. Prerequisite: Applied Mechanics I or equivalent.

Concrete Construction & Design (5 Class Hrs/Wk) 6.123 Term Units 4

Theory of designing; retaining walls, combined irregular and pile footings; combined direct stress and bending; short span concrete bridges; ultimate strength design; structural elements of combined steels and concrete. Prerequisite: Applied Mechanics I and Technical Mathematics III or equivalent.

Construction Codes (2 Class Hrs/Wk) 6.122 Term Units 2

A study of the required practices as stated in local, state and federal construction codes.

Construction Estimating (2 Class Hrs/Wk) 6.110 Term Units 2

The student is helped to develop skills in estimating the amount and cost of materials required, and labor cost involved in various types of construction. An opportunity is provided for the application of these skills by requiring the student to make estimates of material and labor quantities and costs for representative type of construction. Prerequisite: Fifth term standing or permission of instructor.

Contracts and Specifications (3 Class Hrs/Wk) 6.118 Term Units 3

This is a course designed to acquaint the student with common usage and practice in the preparation of contracts and attendant specifications. Examination of existing contracts covering current jobs will be used whenever possible with practical problems designed to teach the application of theory learned. Prerequisite: Second year standing or approval of instructor. Technical Report Writing or equivalent is recommended.

Foundations of Structures (2 Class Hrs/Wk) 6.120 Term Units 2

A study of various materials, devices, and designs used in structural foundations such as footings, cofferdams, caissons, abutments, piers, and underpinings. Prerequisite: Applied Mechanics III and Technical Mathematics III or equivalent.

Hydraulics I (3 Class Hrs/Wk) 6.112 Term Units 3

The first course in the study of hydraulics covers the fundamental properties of fluids, principles of hydrostatic pressure—including Pascal's Law, the hydro-static 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 help clarify the principles and procedures covered. Prerequisite: Applied Physics II and Technical Mathematics III or equivalent.

Hydraulics II (3 Class Hrs/Wk) 6.114 Term Units 3

The second course in hydraulics consists of the 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 demonstration and experiments to help clarify the principles and procedures covered. Prerequisite: Hydraulics I or equivalent.

Mapping and Computing I (4 Lab Hrs/Wk) 6.131 Term Units 2

Advanced map plotting, earthwork computation, field surveying from maps; legal description; subdivision planning and simulated problems of construction are used. Prerequisite: Plane Surveying III and Technical Mathematics III or equivalent.

Mapping and Computing II (6 Lab Hrs/Wk) 6.113 Term Units 2

Advanced earthwork computation; office procedure; government surveys; surveying laws; professional practices. Simulated problems are used. Prerequisite: Mapping and Computing I or equivalent.

Materials of Construction (2 Class Hrs/Wk) 6.108 Term Units 2

Comparisons of various materials, their source, method of manufacture, physical and chemical properties; grading under a variety of conditions; soil and terrain as encountered in construction work.

Plane Surveying I (1 Class, 4 Lab Hrs/Wk) 6.101 Term Units 3

A beginning course in surveying techniques designed to give the student an understanding of the 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. Prerequisite: Mathematics II or equivalent.

Plane Surveying II (1 Class, 4 Lab Hrs/Wk) 6.103 Term Units 3

A continuation of Plane Surveying I designed to familiarize students completely with the engineer's transit. Uses of the transit are considered and practical problems put the theory into practice. Prerequisite: Technical Mathematics II and Plane Surveying I or equivalent. Technical Mathematics II may be taken concurrently.

Soil Mechanics I (2 Class, 3 Lab Hrs/Wk) 6.124 Term Units 3

Physical and mechanical properties of soil; specific gravity, grain size distribution, plasticity, shrinkage, permeability, compressibility, consolidation, and shear characteristics. Analysis with respect to stability of slopes, earth pressures, stress distribution, and settlement carrying capacity. Prerequisite: Second year standing or approval of instructor.

Strength of Materials I (2 Class Hrs/Wk) 6.107 T Term Units 2

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 II and Technical Mathematics III or equivalent.

Strength of Materials Laboratory I (3 Lab Hrs/Wk) 6.107 Term Unit 1

The course covers: Testing of principal construction materials; the major testing machines and their calibration. Prerequisite: Must be taken concurrently with strength of Materials I.

Strength of Materials II (2 Class, 3 Lab Hrs/Wk) 6.128 Term Units 3

This is a continuation of Strength of Materials I. In addition to advanced theory in the area of materials characteristics, field trips will be taken to enable the student to observe use of different materials in actual installations. A continuation of material testing is included in the laboratory. Prerequisite: Strength of Materials I or equivalent.

Struct. Analysis & Design I (1 Class, 3 Lab Hrs/Wk) 6.130 Term Units 2

The course deals with the determination of stresses induced by loads on structures of wood, steel, concrete, selections of appropriate structural members and suitable connections; loading conditions causing compression, tension, shear, torsion, and bending; practical design procedures, relating to various structural members, beams, girders, columns and footings. Prerequisite: Applied Mechanics II and Technical Mathematics III or equivalent.

Structural Drafting (6 Lab Hrs/Wk) 4.111 Term Units 2

An advanced course emphasizing civil and structural drafting procedures. It 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 will be covered. The student will become acquainted with structural shapes, and principles of bridge building, dam and earthwork constructions. Prerequisites: Drafting II and Applied Physics I or equivalent.

Surveying Computations (1 Class, 4 Lab Hrs/Wk) 6.500 Term Units 3

A review of trigonometry and logarithms with application to surveying. The course includes: Computing machines, planometers in application to irregular areas, calculations relating to traverses, subdivision of land and stadia. Survey plotting is also covered. Prerequisites: Plane Surveying I and II and Technical Mathematics II.

Timber and Steel Constr. (3 Class, 3 Lab Hrs/Wk) 6.125 Term Units 4

Elementary design principles of steel and wooden structures. The course includes fasteners and connectors, and physical and chemical characteristics of materials. Prerequisites: Structural Analysis and Design I or equivalent.

ELECTRONICS TECHNOLOGY**Adv. Electronic Circuits (2 Class, 3 Lab Hrs/Wk) 6.216R Term Units 3**

A course designed to simulate problems in industry. Covers six electronic areas including computers, communications, industrial controls, electronics, microwaves, and radar. Class meetings involve overview of each area and study of current problems and opportunities. Lab involves construction, testing, and reporting performances of assigned circuits. Prerequisites: Sixth term standing or approval of department head.

Adv. Radio & TV Servicing (2 Class, 9 Lab Hrs/Wk) 4.165C Term Units 5

This course consists of advanced servicing procedures and techniques. Includes class and laboratory work on more complex equipment and "troubles" with special emphasis on time saving methods.

Audio Systems (2 Class Hrs/Wk) 4.912 Term Units 2

This is a course covering various audio systems servicing data, hi-fi amplifiers and tuners, loudspeakers, phono pickups, record players and changers and the basics of tape recording. The second section of the course is devoted to intercommunication systems, which includes master station, remote stations and the cable networks used. The student computes cost factors in a bid on a typical project and works out the installation. Servicing techniques are taken up and stressed on all equipment.

Prerequisites: Electronic Circuits, Electronic Circuits Lab., Radio Servicing, and Radio Servicing Lab. and Audio Systems Lab. should be taken concurrently.

Audio Systems Lab (3 Lab Hrs/Wk) 4.913 Term Unit 1

This is the practical application of the theory studied in Audio Systems.

Prerequisites: Electronic Circuits, Electronic Circuits Lab., Radio Servicing, Radio Servicing Lab. and Audio Systems should be taken concurrently.

Amplifier Circuits and Design (3 Class Hrs/Wk) 6.214R Term Units 3

A continuation of oscillator circuits and design. Covers the application of vacuum tubes and transistors in amplifier circuits. Analyzes the vacuum tube amplifier into its basic and equivalent circuit. Includes load-lines, distortion, and pentode and beam-power tube consideration. Analyzes transistor amplifiers in various circuit configurations and covers biasing methods. Also includes transformer analysis, transformer-coupled amplifiers, and R-C coupled amplifiers. Special amplifiers using vacuum tubes and transistors are studied. Includes push-pull circuit analysis and phase inversion; Class-C amplifier analysis, and high-frequency amplifiers. Prerequisite: Fifth term standing or approval of department head.

Amplifier Circuits and Design Lab (6 Lab Hrs/Wk) 6.215R Term Units 2

The application of theory studied in Amplifier Circuits and Design. Involves the design, construction, and testing of various types of vacuum tube and transistor amplifiers employing direct, transformer, and R-C coupling. Several push-pull circuits utilizing different types of phase inverters are built and tested and the principle of complementary symmetry is demonstrated in the operation of transistors in push-pull. Class-C power amplifiers are constructed and adjusted for proper operation and different types of high-frequency amplifiers are also built and tested. Prerequisites: Fifth term standing or approval of department head.

Automation Systems (3 Class Hrs/Wk) 6.244 Term Units 3

This course is devoted to the study of the techniques of automation. Introduces the basic concepts of automation and covers automatic controls, pneumatic control devices, hydraulic control devices, and electronic and electric control devices. The application of automation is studied from examples in the areas of materials handling and assembling, production of metals, metal casting processes, mechanical working of metals, pressworking of metals, metal cutting operations, heat treating of metals, metal joining operations, and inspection and quality control. Prerequisite: Sixth term standing or approval of department head.

Electrical Diagrams & Drawings (3 Lab Hrs/Wk) 6.201 Term Unit 1

This course is designed to give students the ability to interpret diagrams and drawings. Students are introduced to various electronic-electrical components and their symbols. Students should acquire the ability to sketch various types of diagrams and wiring systems and component parts used in electronic-electrical equipment and the ability to read and interpret the various symbols and parts and to recognize their values. The use of various tables, schematics, and other information supplied by manufacturers are covered.

Electrical Circuits (3 Class Hrs/Wk) 6.204R Term Units 3

A continuation of electrical theory with an emphasis on the analysis of the characteristics of complex waveform circuits. Covers passive filter networks, bi-directional waveforms, complex waveform analysis of series R-C circuits, waveform analysis of series R-L circuits, and waveform analysis of combined networks. Prerequisite: Third term standing or approval of department head.

Electrical Circuits Lab (6 Lab Hrs/Wk) 6.205R Term Units 2

Practical application of the theory studied in Electrical Circuits. Involves the construction and testing of passive filter networks including the constant k , the series m -derived, and the shunt m -derived types. Response of simple circuits involving diodes, resistance, inductance, and capacitance to square-wave, triangular-wave, saw-tooth-wave, and rectangular-wave pulses is analyzed. Various R-L-C combinations are designed and tested for low and high-frequency response, rise and fall times are measured, and integrator and differentiator circuits are constructed and analyzed. Prerequisites: Third term standing or approval of department head.

Electrical Drafting (4 Lab Hrs/Wk) 4.103 Term Units 2

This course covers the techniques required for the electrical and electronic fields. It includes charts, graphs, chassis layout, schematic and pictorial wiring diagrams, routing diagrams (power distribution, lighting, conduit and ducts, underground wiring and ducts), and location drawings. Standard Schematics such as motor starters, annunciators, AM receivers, and other typical industrial circuits will be covered. ASA and EIA approved symbols will be used. Prerequisites: Drafting I or equivalent.

Electrical Mathematics (3 Class Hrs/Wk) 6.115 Term Units 3

An applied course in mathematics for electronic engineering technicians. Includes an introduction to calculus, covers graphical methods, differentiation, and integrates with direct application to electronic and electrical circuits. Prerequisites: Technical Mathematics III or equivalent.

Electrical Theory (DC) (3 Class, 2 Lab Hrs/Wk) 6.200R Term Units 4

Presents 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, series-parallel circuit analysis, complex unidirectional-current circuits, the phenomena of magnetism and electro-magnetism, inductance and its characteristics of capacitance, and electrical measurement instruments. Prerequisites: High school algebra or equivalent.

Electrical Theory (AC) (3 Class, 2 Lab Hrs/Wk) 6.202R Term Units 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 analysis of the sine wave, series circuits with a sine wave input, series resonance, parallel circuits with a sine wave input, parallel resonance, the non-resonant and the resonant transformer and attenuators and pads. Prerequisites: Second term standing or approval of the department head.

Electrical Theory (6 Class, 4 Lab Hrs/Wk) 4.106C Term Units 8

This course contains the same instruction material as Electrical Theory, DC (6.200R) and Electrical Theory AC (6.202R).

Electronic Data Processing (3 Class Hrs/Wk) 6.240 Term Units 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

a digital computer in terms of the arithmetic element, the memory element, input and output devices, and the control element. Prerequisites: Fifth term standing or approval of department head.

Industrial Electronics I (2 Class, 3 Lab Hrs/Wk) 6.218R Term Units 3

An introductory class and laboratory course covering the principles and applications of electronics in industry. Involves a review of the principles of D-C motors and generators, and covers D-C motor controls with emphasis on electronic controls. Also covers relays and time-delay circuits; industrial photo-electric control and typical applications; electronic power-control with saturable-core reactors and the amplidyne; and the electronic control of welding. Prerequisites: Fifth term standing or approval of department head.

Industrial Electronics II (3 Class Hrs/Wk) 6.246 Term Units 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. Prerequisites: Sixth term standing or approval of department head.

Industrial Electronics Lab II (3 Lab Hrs/Wk) 6.247 Term Unit 1

The practical application of the theory studied in Industrial Electronics II. Alternating-current theory and principles are verified by the construction and testing of circuits involving series resistance, inductance, and capacitance. Phase-angle, reactance, and impedance are calculated and checked, and vector diagrams are drawn to show current and voltage relationships. Three-phase transformers are wired in various delta-wye combinations and output voltages are calculated and verified. Small transformers are designed to deliver specified outputs. Alternating-current generators, poly-phase induction motors, synchronous motors, selsyn transmitters and receivers, and single-phase motors of all types are disassembled and their construction studied. Various circuit-protective and switching equipment are connected from a test panel to motors and tested. All types of electrical measuring equipment are tested by application and a D-C, A-C vacuum tube voltmeter is constructed and tested. Prerequisites: Sixth term standing or approval of department head.

Industrial Television I (2 Class, 3 Lab Hrs/Wk) 6.228 Term Units 3

A theory and lab course designed to cover television systems, scanning and synchronization, composite video signal, frequency-modulation, television receivers and monitors, picture tubes, power supplies, video amplification, practical design of video amplifiers, brightness-control and d-c reinsertion video deflection, automatic gain-control and sync-separation, and deflection oscillator and amplifier circuits. Prerequisites: Fifth term standing or approval of department head.

Industrial Television II (1 Class, 2 Lab Hrs/Wk) 6.235 Term Unit 1

A theory and laboratory course covering closed-circuit television systems, picture transmission, scanning process and the composite signal, camera tubes and circuits, camera video amplifier systems, camera sync and deflection generators, and several types of commercial industrial cameras with emphasis on circuit analysis, set-up procedure, operation and adjustment. Prerequisites: Sixth term standing or approval of department head.

Microwaves (2 Class, 2 Lab Hrs/Wk) 6.242 Term Units 3

A theory and laboratory course designed as an introduction to microwaves. Begins with the study of ultra-high frequencies to develop a good foundation for the development of waveguides and microwave circuitry. Covers UHF transmission lines, the application of quarter-wave lines, matching stubs, and standing-wave measurements. Transmission of microwave energy through waveguides is analyzed and the TE and TM modes of transmission are studied. Various types of waveguide plumbing including choke joints, directional couplers, flap-attenuators, horns, guide partitions, and flexible waveguides are studied. Includes also cavity resonators, high-frequency oscillators, magnetron and klystron oscillators, the resonator, travelling wave tubes, and other high-frequency tubes and devices. Various types of UHF and microwave antennas and receiver circuitry are included. Microwave measurements involve the use of thermocouple voltmeters, bolometers, cavity wavemeters, slotted lines, and directional couplers. Prerequisites: Sixth term standing or approval of department head.

Oscillator Circuits and Design (2 Class Hrs/Wk) 6.212R Term Units 2

A continuation of vacuum tube and transistor analysis. Involves the study of single-phase rectifier circuits and filters with calculation of the ripple-factor. Introduces the fundamental feedback equation and covers positive and negative feedback. Various types of feedback oscillators including the Hartley and Colpitts are analyzed. Covers negative-resistance oscillators, miscellaneous sine-wave oscillators, non-sinusoidal oscillators including various multivibrator circuits. The principles of AM and FM modulation and detection are studied and the theory and application of the cathode-ray oscilloscope is included. Prerequisites: Fourth term standing or approval of department head.

Oscillator Circuits and Design Lab (6 Lab Hrs/Wk) 6.213R Term Units 2

Practical application of the theory studied in Oscillator Circuits and Design. Involves the testing of half-wave and full-wave single-phase rectifier circuits and measurement of the D-C output and ripple-voltage. Includes the construction and testing of Hartley, Colpitts, Armstrong, electron-coupled, crystal, tri-tet, phase-shift, Wein-bridge, and other types of feedback and negative-resistance oscillators. Grid, cathode, screen and plate AM modulation are tested and checked for percentage by means of an oscilloscope. The reactance-tube modulator is constructed and tested for FM modulation. The cathode-ray oscilloscope circuits are analyzed. Frequency-comparisons are made with Lissajous' patterns and Z-axis modulation. Applications and proper techniques for use of the oscilloscope are also included. Prerequisites: Fourth term standing or approval of department head.

Servo Systems (1 Class, 3 Lab Hrs/Wk) 6.236R Term Units 2

Presents the principles of servo and data transmission systems with emphasis on fundamentals. Covers control systems and servo-mechanisms, elementary forms of control systems, servo systems, synchros, servo element, electronic and magnetic amplifier, direct current servomotors, performance improvers, methods for servos and measurement, and examples of servos and servo systems. Prerequisites: Fourth term standing or approval of department head.

Vac. Tube & Transistor Analysis (3 Class Hrs/Wk) 6.210R Term Units 3

An introductory course to the analysis of the electrical characteristics of vacuum tubes and transistors. Includes a review of electron physics with emphasis on electron devices including hot and cold-cathode vacuum and gas diodes and semiconductor diodes; three-element vacuum tubes and transistors; multi-grid tubes including tetrodes, pentodes, and beam-power tubes; special transistors and diodes. Includes a review of auxiliary electronic components including potentiometers, transformers, and relays, and a review of several electronic circuits involving series and parallel resonance, bandwidth, and coupled-circuit theory. Also covers elementary filter design, harmonic analysis, network theorems, and four-terminal networks. Prerequisites: Third term standing or approval of department head.

Vac. Tube & Transistor Analysis Lab (3 Lab Hrs/Wk) 6.211R Term Unit 1

Practical application of the theory studied in Vacuum Tubes and Transistor Analysis. Involves the disassembling of diodes, triodes, tetrodes, pentodes, and multigrad tubes, and transistors to observe their construction. Also includes the plotting of the electrical characteristic curves of vacuum tubes and transistors. The plotted curves are used to determine the transconductance, the amplification factor, and the plate-resistance of vacuum tubes and the current-gain of junction transistors in various circuit configurations. The operation of the Thyatron is tested with A-C and D-C plate voltages, using a phase-shifter for grid-control. Includes the testing of Zener and double-based diodes and special transistors such as the PNP. Transformer-coupled theory is verified by testing out under-coupled, optimum-coupled, and over-coupled coils. Gain of amplifiers is computed in decibels and auxiliary audio elements such as microphones, speakers, and tape-recorders are reviewed. Prerequisites: Third term standing or approval of department head.

Wave Gen. & Shaping (2 Class, 3 Lab Hrs/Wk) 6.234R Term Units 3

A class and laboratory course designed as an 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 the 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 principles of operation, and application. Prerequisites: Fourth term standing or approval of department head.

GENERAL DRAFTING**Advanced Drafting Problems (3 Class Hrs/Wk) 4.115 Term Units 3**

Introduction to practical descriptive geometry used by the draftsman. Theory of auxiliary views, true length, shape, angle, and point of intersection developed from point-line-plane through the use of revolution. Introduction to graphical solution of simple vector problems. Emphasis on application of principles to problems commonly encountered by draftsmen. Prerequisite: Drafting II and Mathematics III.

Introd. to Fabrication Prac. (1 Class, 6 Lab Hrs/Wk) 4.100 Term Units 3

An introductory course of observation and drafting. Students will be assigned drawing projects and will normally view the physical object of the drawing in order to develop their visualization of the subject on the drafting board. Frequent field trips should be made to observe modern methods of manufacturing, casting, forging, construction, and assembly at local industry. Emphasis will be placed on materials, methods of fabrication, glossary, scaling for drawing, and visualization of fabricated objects or assemblies. Prerequisite: Drafting I-A may be taken concurrently.

Mechanical Drafting (4 Lab Hrs/Wk) 4.109 **Term Units 2**

An advanced course emphasizing mechanical design. It includes sketching, cam and gear layout, isometric drawings, welding drawings, tolerances and allowances, and tool jig drawings. Simplified drawing techniques will be covered and general shop procedures will be discussed. Emphasis will be placed on the industrial requirements of drawings. Prerequisite: Third term standing or approval of department head.

Project Drafting I (9 Lab Hrs/Wk) 4.119 **Term Units 3**

This course emphasizes working conditions of the industrial drafting room. Students will be assigned projects that will include one or more drawings requiring all of the skills previously acquired. Instruction will include the methods for detail layout, reading specifications, common materials of fabrication, checking and back-checking drawings, and material take-offs. Discussion will cover the administration of the drafting room, issuing drawings, and revisions. Speed and accuracy will be considered of paramount importance. Prerequisite: Drafting II which may be taken concurrently.

Project Drafting II (8 Lab Hrs/Wk) 4.121 **Term Units 3**

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

BUSINESS AND COMMERCE

Business is the activity through which our society provides itself with economic goods and services.

Man, in his pursuit of the better life, must sustain himself to this end. A great many occupational opportunities are to be found in the business field. Whatever your interest in the field may be, the opportunities are almost unlimited.

It is the purpose of business education to assist the student to prepare himself to take advantage of the opportunities that are available to him. A full-time Day School is scheduled. Certain courses will also be offered in the Evening School.

The courses in the curriculum are designed to meet the needs of persons preparing for employment in the retail business field and to provide opportunities for those already engaged in these occupations to obtain further training that will help them advance in their employment.

ENTRANCE REQUIREMENTS

The entrance requirements for admission to the Business Day School are the same as those of the College. No requirements for admission to the evening courses except minimum age and ability to do the work.

EVENING BUSINESS COURSES

Certain business subjects are offered in the evening school. These may, in some cases, be taken for credit toward a Business Certificate but only if the student has made application and been accepted as a curricular student at the time of registration.

GENERAL REQUIREMENTS FOR ONE-YEAR CERTIFICATE IN BUSINESS

1. Minimum of 48 units of specified courses (see curriculums).
2. Grade point average minimum of 2.00 (C average).
3. Must attend S.W.O.C. at least two terms (including the last term) before certificate is awarded, and must have completed 24 units of work at S.W.O.C.

GENERAL REQUIREMENTS FOR A TWO-YEAR CERTIFICATE

The course requirements are listed under the curriculum on page 27.

COURSE DESCRIPTIONS

- Payroll Accounting (3 Class, 3 Lab Hrs/Wk) 2.550C Term Units 4**
 This has two main purposes. Payroll accounting is the first concern. The student is taken from the initial hiring of an employee through government reports and requirements. Federal income tax, social security, unemployment insurance, and other payroll and employee accounting problems are covered. The second purpose is to cover most prevalent accounting problems not covered in Bookkeeping I and II. Handling accruals and pre-payments, distribution of sales and expenses, consignments, and special accounting problems encountered locally. Prerequisites: Bookkeeping II or equivalent.
- Bookkeeping (3 Class, 3 Lab Hrs/Wk) 2.531R Term Units 4**
 Bookkeeping I is a beginning course with the balance sheet approach. Extreme importance is given to basics to insure that each student has grasped beginning bookkeeping principles. A practice set is introduced. Emphasis is on actual problems. Attention is given to statements, accounts, ledgers, journals, banking procedures, purchases and sales, and general records.
- Bookkeeping (3 Class, 3 Lab Hrs/Wk) 2.533R Term Units 4**
 A continuation of Bookkeeping I, payroll, office routine; notes receivable and payable; periodic adjustments; costing and inventory; working sheet; adjusting, closing and readjusting entries; interpretation of financial statements; and types of business ownership are offered which will enable the student to step from the classroom into the business office. Practice set is concluded. Prerequisites: Bookkeeping I or equivalent.
- Business Mathematics (3 Class Hrs/Wk) 2.508 Term Units 3**
 Business Mathematics 2.508 is a course designed to give the student the arithmetical background needed in general office work. Principles and shortcuts in basic functions such as addition and multiplication, decimals, fractions, percentage, simple and compound interest and discount, and the application of these functions in modern business.
 Prerequisite: High school arithmetic or approval of department head.
- Business English (3 Class Hrs/Wk) 2.525 Term Units 3**
 Business English I is aimed at building the student's vocabulary, spelling ability, usage of words, and provides a thorough review of the principles of grammar while applying them in sentences. Written and oral communications as required in business situations are emphasized.
- Business English (3 Class Hrs/Wk) 2.527 Term Units 3**
 This course is intended to follow Business English I and will include continuation of the review of grammar, study of vocabulary building, spelling, punctuation, and penmanship. Writing of business letters will be introduced. Speech and the informal personal communications studied. Practical application in the writing of business letters will be stressed.
- Business English (3 Class Hrs/Wk) 2.529 Term Units 3**
 In this term grammar, punctuation, spelling, penmanship, and personal communication will receive specialized coverage. Emphasis will be given to special types of business letters, forms, wire communications, and reports.
- Business Law (3 Class Hrs/Wk) 2.320 Term Units 3**
 A review of the nature of law as necessary. Emphasis is on contractual relationships, the law of sales, bailments, and negotiable instruments. Case studies are used to illustrate the principles involved.
- Business Law (3 Class Hrs/Wk) 2.321 Term Units 3**
 A review of the nature of law as necessary. Emphasis is on agency and employment, union labor contracts, personal property, real property, suretyship and guaranty.
- Business Law (3 Class Hrs/Wk) 2.322 Term Units 3**
 A review of the nature of law as necessary. Emphasis is on risk-bearing devices, partnerships and corporations, bankruptcy, and current social legislation.
- Office Machines (2 Class, 2 Lab Hrs/Wk) 2.519R Term Units 3**
 This is the first of two terms. Machines are assigned on a rotation basis. Following are some of the machines used: 10 key adding-listing, full key board adding-listing, rotary calculators, key driven calculators, posting machine, printing calculator, dictating machines, and duplicating machines.

- Office Machines (2 Class, 2 Lab Hrs/Wk) 2.521R Term Units 3**
A continuation of Office Machines 2.519R.
- Credit Procedures (3 Class Hrs/Wk) 2.301 Term Units 3**
A study of the principles and methods of credit administration in the mercantile and retail field, including sources of information, credit policy, credit control, legal remedies, and collection techniques.
- Fundamentals of Advertising (3 Class Hrs/Wk) 2.303 Term Units 3**
This course introduces the student to advertising and its relationship to business. Emphasis is placed on planning an advertising program, advertising budget.
- Fundamentals of Marketing (3 Class Hrs/Wk) 2.304 Term Units 3**
A general survey of the nature, significance, and scope of marketing. Emphasis is placed upon the channels of distribution; the marketing of consumer, shopping, specialty and other goods; service marketing; middlemen, wholesaling, shipping and warehousing; standardization, grading, and pricing; government regulation of competition.
- Office Procedures (5 Class Hrs/Wk) 2.583C Term Units 3**
This first course in Office Procedures is designed to introduce the student to the importance of Human Relations in the office. It also introduces the student to a detailed study of filing procedures.
Prerequisites: None.
- Office Procedures (5 Class Hrs/Wk) 2.584C Term Units 3**
This course is designed to introduce the student to general office duties and the simple tools he will use in an office. It prepares the student to handle office mail, telephone and telegraph communications, shipping procedures, and reference material essential to efficient office procedure. Additional study is made of human relations in the office.
Prerequisites: Office Procedures 2.583C or equivalent.
- Office Procedures (5 Class Hrs/Wk) 2.585C Term Units 3**
This is a continuation of Office Procedures 2.584C with emphasis on meeting the challenge of the business world, the study of banking services, oral and typing techniques, finding and landing a job, and getting off to the right start on a job.
Prerequisites: Office Procedures 2.584C or equivalent.
- Principles of Retailing (3 Class Hrs/Wk) 2.305 Term Units 3**
A general survey of the principles of efficient store organization and management. Topics include location and layout, types of store organization, personnel management operating activities, financial and budgetary control, coordinating policies, and store protection.
- Shorthand (2 Class, 4 Lab Hrs/Wk) 2.541 Term Units 4**
This is a beginning course in Gregg Simplified Shorthand. It is a study of simplified principles which would enable the student to take simple dictation and transcribe it in the early part of the course; and while rhythm and good penmanship in forming shorthand characters are stressed more than speed, the student should progress to a satisfactory speed. Prerequisite: No previous shorthand experience. Business English I or equivalent. Business English I may be taken concurrently.
- Shorthand (2 Class, 4 Lab Hrs/Wk) 2.543 Term Units 4**
This course is a continuation of Shorthand I. It deals principally with special and abbreviated forms, punctuation, and compound words, in conjunction with writing and transcribing exercises to build the student's speed in dictation and transcription. Prerequisites: Shorthand I and Business English I and II or equivalent. Business English II may be taken concurrently.
- Shorthand (2 Class, 4 Lab Hrs/Wk) 2.545 Term Units 4**
This course is for the student who has learned the principles of shorthand covered in Shorthand I and II. It includes advanced vocabulary, phrase building, and word building principles. Practice included should develop the student's speed to acceptable levels in both dictation and transcription. Prerequisite: Shorthand II or equivalent.
- Shorthand (Advanced) (2 Class, 4 Lab Hrs/Wk) 2.547 Term Units 4**
An advanced course designed to train the student for stenographic work on a production basis while allowing specialization in professional and industrial fields such as legal, engineering, medical, etc. Dictation of unfamiliar matter should be taken at levels accepted by business. Prerequisite: Shorthand III or equivalent.
- Typing (5 Hrs/Wk) 2.501 Term Units 3**
This is a beginning course in 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 an acceptable typing speed. Prerequisite: No previous typing experience. Business English I should be taken concurrently.

- Typing (5 Hrs/Wk) 2.503** **Term Units 3**
 This is a continuation of Typing I with emphasis on increasing the typing speed to an acceptable level. Prerequisite: Typing I and Business English II or equivalent. Business English II may be taken concurrently.
- Typing (5 Hrs/Wk) 2.505** **Term Units 3**
 An intermediate course including corrective and acceleration drills to develop an acceptable typing speed. The student receives instruction in the various business papers encountered in the general office. Prerequisite: Typing II or equivalent.
- Typing (5 Hrs/Wk) 2.507** **Term Units 3**
 An advanced course intended to increase the typing speed to an acceptable minimum while introducing the student to various types of specialized applications in industrial and professional fields such as legal, engineering, medical, sales and public relations communications, etc. Prerequisites: Typing III, Business English II, and Office Machines I or equivalent.

HOME ECONOMICS EDUCATION

Day and evening classes in Home Economics are offered by the college for home makers. It is expected that a full curriculum of courses will be offered for full-time students in about two years.

There are no special requirements for admission other than interest and ability to do the work. Students register as "special" students and are not required to submit a formal application.

Course Descriptions

- Basic Clothing Construction (3 Lab Hrs/Wk) HE 6-20** **1 Term (30 Hrs)**
 This course covers the selection and use of good sewing equipment, simple construction processes are learned through the making of four cotton garments such as an apron, a blouse, and a semi-full skirt and dress. Minimum principles of fabric selection are covered.
 Prerequisite: None.
- Basic Fitting & Shirt Making (3 Lab Hrs/Wk) HE 6-22** **1 Term (30 Hrs)**
 Cutting-to-fit and fitting to perfection a basic dress pattern from percale or broad-cloth. A study of plaids cutting to match in a wool or cotton skirt. The use and techniques of inserting interfacings
 Prerequisite: Basic Clothing Construction, HE 6-20.
- Children's Clothing Construction (3 Lab Hrs/Wk) HE 6-23** **1 Term (30 Hrs)**
 For those who need additional experience in sewing, especially for children. Covers techniques as used in cotton pajamas, jumpers, girls' dresses, little boys' shorts, etc. One garment of corduroy. Special trimming details.
 Prerequisite: Basic course, HE 6-20.
- Tailoring a Coat (3 Lab Hrs/Wk) HE 6-24** **1 Term (30 Hrs)**
 This is a tailored coat project featuring the method of interfacing a cut-on facing, lining a garment with raglan sleeves, making and applying a notched collar, slot or modified welt pockets and tailored button holes.
 Prerequisite: Basic Fitting, HE 6-22.
- Tailoring a Suit (3 Lab Hrs/Wk) HE 6-25** **1 Term (30 Hrs)**
 The tailored suit features the method of interfacing a garment with a separate cut facing, a more advanced method for setting in sleeves and making tailored button holes, making shoulder shapes and lining. Treatment of pleat and interfacing waistband of heavier wool fabrics.
 Prerequisites: Tailoring a Coat, HE 6-24.
- Home Furnishings (3 Lab Hrs/Wk) HE 6-10** **1 Term (30 Hrs)**
 The care and selection of furniture and furnishings including window treatment and floor coverings. Some accessories for the home as related to the basic design of the house or apartment.
 Prerequisite: None.
- Family Finance and Resource Management (2 Hr Lecture) HE 6-73** **1 Term (20 Hrs)**
 A study of the management of family resources; the efficient use of time, energy, money, materials and equipment. For men and women.
 Prerequisite: None.

Child Care (General) (1 Two Hour Lecture/Wk) 1 Term (20 Hrs)

The physical and emotional growth and development of the child from pre-natal through early childhood. Understanding needs and behavior of children. Includes child observation field trips.

Prerequisite: None (General Psychology helpful).

Health Education (2 Class Hrs/Wk) 1.605 Term Units 2

This course is designed to provide individuals with select health and physical education activities through participation or study for the purpose of adding to their knowledge and appreciation of desirable mental and physical health practices as they relate to the individual and the community.

Introduction to Psychology (3 Class Hrs/Wk) 1.606 Term Units 3

This course is designed for the student who desires an introductory course in psychology. It explains the scope, methods, basic concepts, and facts of psychology. Some of the subjects covered are motivation, learning, thinking, perception, emotion, personality, mental health, animal behavior, and applied psychology.

Public Speaking (2 Class, 2 Lab Hrs/Wk) 1.610 Term Units 2

This course is intended to develop speaking skills with emphasis on the dual role of speech as both a speaking and listening skill, and on adjusting the approach to the specific audience. Practice is provided through individual speeches and group discussions with careful attention being given to effective organization and delivery. In addition to the general principles of speech, stress is placed on poise and confidence and on understanding their psychological basis.

The Physical World (2 Class, 2 Lab Hrs/Wk) 1.616 Term Units 3

This course introduces the student to the physical world through an integrated study of everyday applications of physical science principles with emphasis on the basic principles of physics and chemistry to provide an understanding of the scientific method and the role it has played in the intellectual history of mankind.

The Physical World (2 Class, 2 Lab Hrs/Wk) 1.617 Term Units 3

This is a continuation of The Physical World 1.616 with emphasis on the basic principles of astronomy, meteorology, and geology.

LIBERAL ARTS AND SCIENCES DIVISION

The Liberal Arts and Sciences Division and its courses represent the ancient and continuing effort of men to extend the range of their experience beyond the narrow limits of the time and place in which they find themselves at birth. To enjoy such a freedom, men must know all they can about themselves and their environment, both physical and social. The liberal arts and sciences are a group of studies designed to assist and direct the exploration of man's nature and his position in the world around him.

By the help of some of these studies, Western man is able to compare his own experiences with those of men in other times, places, and circumstances, and thus share in the inherited wisdom and satisfaction of mankind. Through others, we deepen and extend our knowledge of our physical environment. Knowledge—scientific, historical, and literary—is the indispensable condition of the good life of free men, of "the good society."

ENTRANCE REQUIREMENTS

There are no official entrance requirements, beyond the general entrance requirements of the College, for students intending to choose a major field of study within the Liberal Arts and Sciences Division.

Students intending to major in any of the natural sciences are, however, advised to present at least two units of high school mathematics and two units of high school science. Experience has proved that students who lack this preparation are handicapped in college work in science.

TRANSFER EDUCATION

Transfer (lower-division) courses parallel freshman and sophomore courses offered by major Oregon universities and four-year colleges. Students normally transfer to upper division (junior) standing at the end of the sophomore year, at whatever school they choose to continue. Students may arrange a general education program in the liberal arts, or they may plan a special course of study to meet particular needs. Curricula now offered include the following:

Accounting	Journalism
Art	Literature
Biology	Mathematics
Business Administration	Physics
Chemistry	Political Science
Economics	Psychology
English	Sociology
Foreign Languages	Speech
Geography	
History	

The Associate in Arts Degree is a nationally recognized award that is conferred upon those who complete the general requirements of a terminal lower-division liberal arts program.

General requirements for the Associate in Arts Degree:

1. Not less than 93 term hours of credit in the G.C.D.
2. Grade point average minimum of 2.00 (C average).
3. English Composition: 9 term hours.
4. Health Education: HE 151, 2 term hours for men; HE 250, 3 term hours for women.

5. Physical Education: 6 term hours unless excused.
6. Required year sequence in each of the following groups:
Language and literature, science, and social science. A second year sequence must be chosen in one of the three groups. For a list of sequences that satisfy these requirements, see "Group Requirements" below.
7. At least one of the sequences must be numbered 200 to 210.
8. At least one sequence in language and literature must be in literature. Only one sequence in a survey course will apply in fulfilling this group requirement.
9. The second sequence in either science or social science must be taken in a different department.
10. A student must attend S.W.O.C. at least two terms (including the last term) before the Associate in Arts Degree is awarded, and must have completed 24 term hours at the College.

COURSE NUMBERING

General collegiate courses in the College catalog are numbered in accordance with courses throughout the State System of Higher Education.

- 1- 49 Courses which carry no credit toward a degree, or terminal courses that may not be used as transfer credits.
- 50- 99 Courses in the first year of foreign language, elementary algebra, remedial courses, or courses of similar grade.
- 100-110 Survey or foundation courses that satisfy group requirements in
- 200-210 the language and literature, science, and social science groups.
- 111-199 Other courses offered at first-year and second-year level. Normally, 100-199 numbers are considered freshman courses and 200-299 are considered sophomore.

GROUP REQUIREMENTS

A complete list of sequences approved for the satisfaction of requirements 6 through 9 above are listed below. These may be taken as electives also.

Language and Literature

English

Eng 101, 102, 103	Survey of English Literature	3 hrs. each
Eng 107, 108, 109	World Literature	3 hrs. each
Eng 201, 202,*203	Shakespeare	3 hrs. each
Eng 253, 254, 255	Survey of American Literature	3 hrs. each

Languages

RL 101, 102, 103	Second-Year French	4 hrs. each
GL 101, 102, 103	Second-Year German (applicable as a second literature sequence)	4 hrs. each

Science

General Science

GS 104, 105, 106	Physical Science Survey	4 hrs. each
GS 101, 102, 103	General Biology	4 hrs. each

Chemistry

Ch 201, 202, 203	General Chemistry	3 hrs. each
Ch 204, 205, 206	General Chemistry Laboratory	2 hrs. each

Mathematics

Mth 100	Intermediate Algebra	4 hrs.
Mth 101	College Algebra	4 hrs.
Mth 102	Trigonometry	4 hrs.
Mth 200, 201, 202, 203	Calculus with Analytic Geometry (any three of this group)	4 hrs. each

Social Science**General Social Science**

SSc 101, 102, 103	Survey of the Social Sciences	3 hrs. each
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Economics

Ec 201, 202, 203	Principles of Economics	3 hrs. each
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History

Hst 101, 102, 103	History of Western Civilization	3 hrs. each
Hst 201, 202, 203	History of the United States	3 hrs. each

Political Science

PS 201, 202, 203	American Government	3 hrs. each
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Psychology

Psy 201, 202	General Psychology	3 hrs. each
Psy 204	Psychology of Adjustment	3 hrs. each
Psy 205	Applied Psychology	3 hrs. each

Sociology

Soc 204, 205, 206	General Sociology	3 hrs. each
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CURRICULA PROGRAMS

Many different curricula are organized at the College to care for the varying needs of the students. Among them are a lower-division general education curriculum, which may be either terminal or transfer, and a variety of pre-professional and semi-professional work.

LOWER-DIVISION GENERAL EDUCATION

Lower-division years of work in liberal art and science are intended to be broad and general in scope. Students completing two years' work and fulfilling all requirements normally select a major in a specialized field only at the end of the sophomore year.

For students who plan to complete work for a bachelor's degree, the two lower-division years provide a general education and a foundation for specialization during the junior and senior years in some field in the liberal arts and sciences or in a professional or technical curriculum.

For students uncertain about their educational or professional goals, the lower-division offers the opportunity to explore several fields of study to help determine special interests and aptitudes.

For students who plan to complete no more than two years of college, the lower-division offers a terminal program suited to the needs of the individual, balancing cultural and vocational courses as preparation for intelligent and useful citizenship.

Freshman Year

	Term Hours
Year sequence in any one of the three groups	9-12
Year sequence in another of the three groups	9-12
English Composition (Wr 111, 112, 113)	9
Physical Education	3
Health Education	1
Departmental or exploratory electives	12-18

Total 48

Sophomore Year	Term Hours
Sophomore year sequence in one of the groups begun in the freshman year	9-12
Year sequence in third group	9-12
Physical Education	3
Departmental or exploratory electives	21-27
Total	48

PROFESSIONAL CURRICULA

The following are professional and semi-professional freshman and sophomore year course programs offered by the College. These professional and semi-professional courses prepare for later specialization in the junior and senior years.

Providing the basis for the student to transfer to the professional school of his choice without loss of time, these professional and semi-professional courses of study are closely coordinated with the professional schools within the Oregon State System of Higher Education.

Some of the following professional and semi-professional programs at S.W.O.C., depending upon the purpose of the student, may be used to serve a specific vocational end in themselves. In any case, however, students are required to meet the same level of academic performances as are candidates for degrees.

Students planning to transfer to schools other than those within the State System of Higher Education upon completion of their professional or semi-professional programs should check lower-division course requirements by contacting the Registrar of the institution to which they intend to transfer.

BUSINESS ADMINISTRATION

Freshman Year	Term Hours	Sophomore Year	Term Hours
English Composition (Wr 111, 112, 113)	9	Constructive Accounting (AC 211, 212, 213)	9
Business Environment (MIM 125, 126, 127)	6	Business Law (BA 254, 255)	6
Year Sequence in Literature	9	Principles of Economics (EC 201, 202, 203)	9
Year Sequence in Science	12	History of the United States (HST 201, 202, 203)	9
Extempore Speech (Sp 111, 112)	6	American Government (PS 201, 202, 203)	9
Physical Education	3	Physical Education (PE 180 - 190)	3
Health Education	1	Elective	3
Electives	3	TOTAL	48
TOTAL	49		

ENGLISH

Freshman Year	Term Hours	Sophomore Year	Term Hours
English Composition (Wr 111, 112, 113)	9	Shakespeare (Eng 201, 202, 203)	9
Survey of English Literature (Eng 101, 102, 103)	9	Survey of American Literature (Eng 253, 254, 255)	9
World Literature (Eng 107, 108, 109)	9	Extempore Speech (Sp 111, 112)	6
Year sequence in science or social science	9-12	Introduction to Journalism (J 211, 212, 213)	6
Physical Education	3	Year sequence in science or social science (whichever was not taken as a freshman)	9-12
Health Education	1	Physical Education	3
Electives	9	Elective	3- 6
TOTAL	49-52	TOTAL	48-51

GENERAL SCIENCE

Freshman Year	Term Hours	Sophomore Year	Term Hours
General Biology (GS 101, 102, 103)	12	General Chemistry	
English Composition (Wr 111, 112, 113)	9	(CH 201, 202, 203)	9
Mathematics (Mth 101, 102, 200)	12	General Chemistry Laboratory (CH 204, 205, 206)	6
Physical Education	3	Calculus with Analytic Geometry (Mth 201, 202, 203)	12
Health Education	1	Physical Education	3
Year sequence in literature or social science	9	Year sequence in literature or social science (whichever was not taken as a freshman)	9
Approved electives	3	Approved electives	9
TOTAL	49	TOTAL	48

GENERAL SOCIAL SCIENCE

Freshman Year	Term Hours	Sophomore Year	Term Hours
English Composition (Wr 111, 112, 113)	9	Principles of Economics (Ec 201, 202, 203)	9
Survey of the Social Sciences (SSc 101, 102, 103)	9	History of the United States (Hst 201, 202, 203)	9
General Psychology (Psy 201, 202)	6	American Government (PS 201, 202, 203)	9
History of Western Civilization (Hst 101, 102, 103)	9	General Sociology (Soc 204, 205, 206)	9
Year sequence in literature or science	9-12	Year sequence in literature or science (whichever was not taken as a freshman)	9-12
Physical Education	3	Physical Education	3
Health Education	1		
Approved electives	0-3		
TOTAL	49-51	TOTAL	48-51

LAW

NOTE: The minimum requirements for admission to the School of Law, University of Oregon, is three-fourth of the total credit required for a bachelor's degree from the institution at which the student completes his prelegal work—but not less than 140 term hours.

The prelegal program must include: (1) courses satisfying all lower-division requirements of the University and the liberal arts and sciences lower-division curriculum at the College; (2) the first-year basic college course in accounting (Ac 211, 212, 213) or equivalent; (3) a minimum of 36 term hours of credit in courses in the general field of social science.

For admission to the School of Law a student must have for all prelegal work a cumulative grade-point average of at least 2.25. Applicants for admission to the School of Law must take such entrance or aptitude examinations as may be required by the faculty of the school.

All students intending to enter the School of Law must file a formal application for admission with the dean of the school. Official application forms may be obtained from the School of Law.

MATHEMATICS

Freshman Year	Term Hours	Sophomore Year	Term Hours
Mathematics (Mth 101, 102, 200)	12	Calculus with Analytic Geometry (Mth 201, 202, 203)	12
English Composition (Wr 111, 112, 113)	9	Year sequence in literature or social science (whichever was not taken as a freshman)	9
Physical Education	3	Approved physical science sequence	12-15
Health Education	1	Physical Education	3
Year sequence in literature or social science	9	Electives	12
Electives	15		
TOTAL	49	TOTAL	48-51

TEACHER EDUCATION (Elementary)

Freshman Year	Term Hours	Sophomore Year	Term Hours
English Composition (Wr 111, 112, 113)	9	General Psychology (Psy 201, 202)	6
General Biology (Bi 101, 102, 103)	12	Physical Science Survey (GS 104, 105, 106)	12
Background of Social Science (SSc 101, 102, 103)	9	History of the United States (Hst 201, 202, 203)	9
History of Western Civilization (Hst 101, 102, 103)	9	World Literature (Eng 107, 108, 109)	9
Mathematics for Elementary Teachers (Mth 111)	3	Fundamentals of Speech (Sp 111)	3
Physical Education	3	Physical Education	3
Health Education	1	Electives	6
Electives	3		
TOTAL	49	TOTAL	48

TEACHER EDUCATION (Secondary)

Freshman Year	Term Hours	Sophomore Year	Term Hours
English Composition (Wr 111, 112, 113)	9	General Psychology (Psy 201, 202)	6
Science sequence, specific courses to be determined by choice of first and second teaching field	12	Science sequence, specific courses to be determined by choice of first and second teaching field	12
Social Science sequence, specific courses to be determined by choice of first and second teaching field	9	History of the United States (Hst 201, 202, 203)	9
Survey of Visual Arts (AA 201)	3	Physical Education	3
Introduction to Music and Its Literature (Mus 201)	3	World Literature (Eng 107, 108, 109)	9
Fundamentals of Speech (Sp 111)	3	Electives in teaching field or other electives	9
Physical Education	3		
Health Education	1		
Electives in teaching field or other electives	6		
		TOTAL	48
TOTAL	49		

COURSE DESCRIPTIONS**BUSINESS ADMINISTRATION****BA 111, 112, 113 Constructive Accounting 3 hours each term**

Study of the function of accounting as a tool for the planning and administration of business enterprise. Primary emphasis on analysis and interpretation. Fall: position and income statements, conceptual bases for collecting and presenting data, flows of cost, the accounting cycle, depreciation, formation of working capital. Winter: inventory and its control, risk-equity relationships, interest and annuities, analysis of position and income statements, fund statements, manufacturing costs, organization for and administration of cost and budgetary control. Spring: application of cost concepts to decision making, taxation and its effect on planning, break-even analysis, internal control, capital budgeting, information theory applied to accounting reports, the impact of price-level changes on accounting data. Prerequisite: sophomore standing or consent of instructor.

BA 254, 255 Business Law 3 hours each term

Application of fundamental legal principles to typical business situations, illustrated by selected cases. Emphasis is placed on legal principles as they relate to agency, contracts, partnerships, corporations. Required of all business administration majors.

MIM 125, 126, 127 Business Environment 2 hours each term

The social, political and economic environment within which business functions in the United States; emphasis on the groups confronting business, their attitudes and behavior, and on the social, political, and economic responsibilities of business.

FINE ARTS**AA 201, 202, 203 Survey of Visual Arts 3 hours each term**

Cultivation of understanding and intelligent enjoyment of the visual arts through a study of historical and contemporary works; consideration of motives, media, and forms.

AA 290 Painting 2 to 3 hours any term

Instruction in the use of oil color, water color, and other media. Registration permitted any term, but it is desirable that the work be started in the fall. 12 term hours required for upper-division standing.

AA 291 Drawing 1 to 3 hours any term

Training in observation and selection of significant elements. Registration permitted any term, but it is desirable that the work be started in the fall. 6 term hours required for upper-division standing.

AA 292 Water Color 2 to 3 hours

The technique and use of water color, with special attention to its characteristics as a painting medium. Emphasis on landscape material. May be substituted for third term of AA 291 to meet lower-division major requirement. Open to non-majors with four hours of work in AA 291 or with consent of instructor.

AA 295 Basic Design 2 hours each term

No-grade course. Studio participation exercises involving the basic principles of design; a three-term introductory sequence. Open to non-majors.

- Mus 111, 112, 113 Music Theory I** 4 hours each term
Theory I and II are basic courses for all majors in the School of Music. They provide a thorough groundwork in the elements of music science—melodic, harmonic, and rhythmic—taught through analysis of the styles of Bach, Haydn, Mozart, Beethoven, and other eighteenth and nineteenth century composers.
- Mus 211, 212, 213 Music Theory II** 3 hours each term
For description, see Mus 111, 112, 113. Prerequisite: Mus 111, 112, 113.
- Mus 201, 202, 203 Introduction to Music and Its Literature** 3 hours each term
Cultivation of understanding and intelligent enjoyment of music through a study of its elements, forms, and historical styles.

HEALTH AND PHYSICAL EDUCATION

- HE 151 Personal Hygiene (men)** 2 hours any term
Study of personal health problems which confront the college student; the basic scientific principles of healthful living. Meets the health-education requirement for men.
- HE 250 Health Education (women)** 3 hours any term
Study of the personal health problems of University men and women, with emphasis on implications for family life. Mental health, communicable diseases, degenerative diseases, nutrition. Satisfies the University requirement in health education for men and women.
- HE 252 First Aid** 3 hours winter or spring
Study of first aid and safety procedures—for the individual, schools, athletic, and civilian defense; meets certification standards of the American Red Cross.
- PE 131 Introduction to Health and Physical Education** 2 hours each term
Professional orientation; basic philosophy and objectives; professional opportunities and qualifications.
- PE 180 Physical Education (Women)** 1 hour each term, 6 terms
A variety of activities taught for physiological and recreational values. Special sections for restricted and corrective work. A total of five terms required for all lower-division women students. 3 hours a week.
- PE 190 Physical Education (Men)** 1 hour each term, 6 terms

LANGUAGE AND LITERATURE

- Wr 50 Corrective English** 1 hour any term
No-grade course. One term course in the mechanics of English, required of freshmen who receive low ratings in an entrance placement examination. For such students Wr 50 is a prerequisite for any other course in written English.
- Wr 111, 112, 113 English Composition** 3 hours any term
The fundamentals of English composition; frequent written themes. Special attention to correctness in fundamentals and to the organization of papers.
- Eng 101, 102, 103 Survey of English Literature** 3 hours each term
Study of the principal works of English literature based on reading selected to represent great writers, literary forms, and significant currents of thought. Provides both an introduction to literature and a background that will be useful in the study of other literatures and other fields of cultural history. Fall: Anglo-Saxon beginnings to the Renaissance; Winter: Milton to Wordsworth; Spring: Byron to the present.
- Eng 107, 108, 109 World Literature** 3 hours each term
Study of the literary and cultural foundations of the Western world through the analysis of a selection of masterpieces of literature, ancient and modern, read in chronological order. The readings include continental, English, and American works.
- Eng 201, 202, 203 Shakespeare** 3 hours each term
Study of the important plays—comedies, histories, and tragedies. Required for majors.
- Eng 253, 254, 255 Survey of American Literature** 3 hours each term
American literature from its beginning to the present day.

- Sp 111, 112 Extempore Speaking** 3 hours each term
Original speeches; analysis and synthesis of material, adaptation to audience, outline construction; development of confidence and release on platform; voice, enunciation, gesture, and bearing in delivery; speeches for special occasions; the extended address. Must be taken in sequence.
- Sp 232 Group Discussion** 3 hours each term
Preparing for, leading and participating in types of discussions used in various groups led by extension workers, technical and professional people, and teachers, in conferences, panels, lecture-forums, and symposiums; strong emphasis on problem-solving and interpersonal relations. Prerequisite: Sp 111.
- Sp 237 Argumentation** 3 hours each term
Analysis; brief-drawing; collection and use of evidence; deductive and inductive reasoning; types of argument; fallacies; construction of speeches. Prerequisite: Sp 111.
- Sp 238 Persuasion** 3 hours each term
Study of models; composition exercises; writing a term speech; mastery of audience psychology and effective style. Prerequisite: Sp 111.
- J 211, 212, 213 Introduction to Journalism** 2 hours each term
Required of prejournalism majors; open to non-majors. Survey of journalistic fields; instruction in the fundamentals of reporting, copyediting, advertising, and technical processes. The terms need not be taken in sequence.
- GL 50, 51, 52 First-Year German** 4 hours each term
Designed to provide a thorough grammatical foundation and an elementary reading knowledge of German, as well as an understanding of the spoken language.
- GL 101, 102, 103 Second Year German** 4 hours each term
- RL 50, 51, 52 First-Year French** 4 hours each term
An Introduction to French, stressing reading and speaking. Exercises in elementary composition and grammar.
- RL 101, 102, 103 Second-Year French** 4 hours each term
Study of selections from representative authors; review of grammar; considerable attention to oral use of the language.
- RL 60, 61, 62 First-Year Spanish** 4 hours each term
An introduction to Spanish, stressing speaking and reading. Exercises in elementary composition.

SCIENCE AND MATHEMATICS

- GS 104, 105, 106 Physical Science Survey** 4 hours each term
General introduction to the physical sciences; principles of physics and chemistry, geologic processes, and man's relation to them. Special emphasis on scientific method. 3 lectures; 1 quiz period.
- BI 101, 102, 103 General Biology** 4 hours each term
Principles of life science, illustrated by studies of selected organisms. 3 lectures; 1 three hour laboratory period.
- Mth 10 Elements of Algebra** No credit
A remedial course intended primarily for students entering with less than one year of elementary algebra. 4 class meetings a week.
- Mth 51, 52 Mathematics for Elementary Teachers** 3 hours each term
Basic concepts of arithmetic, elementary algebra, and plane geometry; applications to statistics and mathematics of finance. For prospective elementary teachers; not open to other students. 4 recitations.
- Mth 100 Intermediate Algebra** 4 hours
Functions and graphs, linear equations in two unknowns, quadratic equations, negative and fractional exponents, radicals, progressions, binomial theorem, logarithmic computation. Prerequisite: Math 10 or equivalent.
- Mth 101 College Algebra** 4 hours
Review of high school algebra emphasizing number system, logarithms, progressions, binomial series, theory of equations, determinants. Prerequisite: Mth 100 or equivalent.

Mth 102 Trigonometry 4 hours

Trigonometric functions for general angles, solution of triangles, addition formulas, trigonometric equations, graphs, complex numbers, and De Moivre's theorem. Prerequisite: Mth 101 or equivalent.

Mth 200, 201, 202, 203 Calculus with Analytic Geometry 4 hours each term

Mth 200: differentiation and integration; applications to rates, area, volumes. Mth 201: Applications in mechanics; plane analytic geometry, elementary transcendental functions. Mth 202: Techniques of integration, vectors, solid analytic geometry. Mth 203: Partial differentiation, multiple integration, infinite series. Prerequisite: Mth 102.

Ch 101, 102, 103 Elementary Chemistry 3 hours each term

A basic sequence covering fundamentals of chemistry and applications in industry, medicine, agriculture, etc. Primarily intended as a terminal course, but the first quarter may serve in lieu of high school chemistry for those not adequately prepared to begin Ch 201.

Ch 201, 202, 203 General Chemistry 3 hours each term

An introduction to the field of chemistry, providing an understanding of the structures of atoms, molecules, and ions and their interactions, and a foundation for further study of chemistry. 3 lectures. Prerequisite: Mth 10 or equivalent.

Ch 204, 205, 206 General Chemistry Laboratory 2 hours each term

Planned to accompany Ch 201, 202, 203. Required for chemistry majors and for premedical and pre dental students. 1 three hour laboratory period; 1 quiz period. 205, 206. 1 three hour laboratory period; 1 quiz period.

Ch 226 Elements of Organic Chemistry 4 hours each term

Chemistry of the carbon compounds; the aliphatics, aromatics, and derivatives. For pre dental, premedical, and medical-technology students. Prerequisite: Ch 106 or 206.

Ch 234 Quantative Analysis 5 hours each term

Principles of gravimetric analysis and volumetric analysis. Designed for pharmacy, pre dental, premedical, and medical-technology students. Prerequisite: Ch 106 or 206.

Ph 101, 102, 103 Essentials of Physics 3 hours each term

Fundamental principles of physics for students not majoring in science. Prerequisite: Mth 10 or equivalent.

Ph 201, 202, 203 General Physics 5 hours each term

Standard College physics. Prerequisite: Mth 102, or consent of instructor.

SOCIAL SCIENCE**Anth 101, 102, 103 General Anthropology 3 hours each term**

Man as a living organism; biological evolution; the human life cycle. Evolution of man; human races, nature and problems. The development of culture; organization of culture; man, participant in and observer of culture.

Anth 207, 208, 209 Introduction Cultural Anth. 3 hours each term

The meaning of culture; its significance for human beings; its diverse forms and degrees of elaboration among different groups of men; its processes of growth and expansion.

SSc 101, 102, 103 Background of Social Science 3 hours each term

Orientation in social sciences emphasizing the integration of all the social sciences into a discipline of learning; general influences on human behavior; scientific method in social sciences. Open to freshmen and sophomores only.

Hst 101, 102, 103 History of Western Civilization 3 hours each term

Origins and development of Western Civilization from ancient times to the present.

Hst 201, 202, 203 History of the United States 3 hours each term

From colonial times to the present.

Ec 201, 202, 203 Principles of Economics 3 hours each term

Principles that underlie production, exchange, distribution, etc. Prerequisite: sophomore standing.

Soc 204, 205, 206 General Sociology 3 hours each term

The basic findings of sociology concerning the individual, culture, group life, social institutions, and factors of social change. Prerequisite: sophomore standing or consent of instructor.

- Psy 111 Personality and Development** 3 hours
Self-understanding and development; emphasis upon habits, attitudes, emotional problems, and efficient learning techniques.
- Psy 201, 202 General Psychology** 3 hours each term
Introductory study of behavior and conscious processes. Survey of experimental studies of motivation, learning, thinking, perceiving, and individual difference.
- Psy 204 Psychology of Adjustment** 3 hours
The nature and origins of differences in personality; means of making desired changes.
- Psy 205 Applied Psychology** 3 hours
Applications of psychology in personal selection and training; human factors in equipment design. Prerequisite: Psy 201, 202.
- Psy 208, 209, 210 General Psychology Laboratory** 1 hour each term
Introduction to research methods. Designed to familiarize the student with scientific approaches to problems in psychology. 1 laboratory period.
- PS 201, 202, 203 American Government** 3 hours each term
Fall and winter: national government; spring: state and local governments.
- PS 205 International Relations** 3 hours
Analysis of the nature of relations among states, with particular reference to the contemporary international issues; a study of motivating factors, including nationalism, imperialism, economic rivalries, quest for security, etc.; study of the problem of national sovereignty and its relation to international cooperation.
- Geog 105, 106, 107 Introductory Geography** 3 hours each term
Elements and implications of geography. Geog 105, World Regions: analysis of the patterns of world environment; man and his activities. Geog 106, Economic Geography: world commodity production. Geog 107, Political Geography: implications of geography on world political entities. To be taken in sequence.

South Western Oregon College

2750 COLORADO STREET
NORTH BEND, OREGON

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