

**1962-1963**  
**PORTLAND CENTER**  
GENERAL EXTENSION DIVISION  
**BULLETIN**



**Portland Evening Class Catalog**  
OREGON STATE SYSTEM OF HIGHER EDUCATION

**FALL**

**WINTER**

**SPRING**

**1962**

**1963**

**1963**



General Extension Division

## BULLETIN

Oregon State System of Higher Education  
1633 S.W. Park Ave.  
Portland 1, Ore.

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PORTLAND SERIES NO. 130

MAY 20, 1962

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**GENERAL EXTENSION  
DIVISION**

# **BULLETIN**

## **Portland Center Evening Classes 1962-63**

**Oregon State University  
University of Oregon  
Portland State College  
Oregon College of Education  
Eastern Oregon College  
Southern Oregon College  
Oregon Technical Institute**

**1633 S. W. Park Avenue  
Portland 1, Oregon  
Telephone CApitol 6-6601**



Undergraduate and graduate courses scheduled during the 1962-63 academic year at Portland Center of the General Extension Division are derived from the curricula of the colleges and universities in the Oregon State System of Higher Education.

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## **State Board of Higher Education\***

	Term Expires
CHERYL S. MACNAUGHTON, Portland.....	1963
J. W. FORRESTER, JR., Pendleton.....	1963
ALLEN HART, Portland.....	1964
DOUGLAS MCKEAN, Beaverton.....	1964
WILLIAM E. WALSH, Coos Bay.....	1965
RALPH E. PURVINE, Salem.....	1965
JOHN MERRIFIELD, Portland.....	1966
CHARLES R. HOLLOWAY, JR., Portland.....	1967
ELIZABETH H. JOHNSON, Redmond.....	1968

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CHARLES R. HOLLOWAY, JR.....	Vice-President
J. W. FORRESTER, JR.....	Member, Executive Committee

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ROY E. LIEUALLEN, Ed.D., L.H.D., Chancellor  
EARL M. PALLETT, Ph.D., Secretary of Board

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Office of the State Board of Higher Education  
Post Office Box 5175  
Eugene, Oregon

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\* Board members are appointed to six-year terms by the Governor of Oregon with confirmation by the State Senate.

## **Oregon State System of Higher Education**

The Oregon State System of Higher Education, as organized in 1932 by the State Board of Higher Education following a survey of higher education in Oregon by the U. S. Office of Education, includes all the state-supported institutions of higher education. The several institutions are elements of an articulated system, parts of an integrated whole. The educational program is so organized as to distribute as widely as possible throughout the state the opportunities for general education and to center on a particular campus specialized, technical, and professional curricula closely related to one another.

The institutions of the state system of higher education are Oregon State University at Corvallis, the University of Oregon at Eugene, Portland State College at Portland, Oregon College of Education at Monmouth, Southern Oregon College at Ashland, Eastern Oregon College at La Grande, and Oregon Technical Institute at Klamath Falls. The University of Oregon Medical School and the University of Oregon Dental School are located in Portland. The General Extension Division, representing all the institutions, has headquarters in Portland and offices in Ashland, Corvallis, Eugene, La Grande, Monmouth and Salem.

At Oregon College of Education, Southern Oregon College, and Eastern Oregon College, students may complete major work in teacher education or general studies or enroll in a pre-professional programs.

Portland State College offers major work in general studies and selected liberal arts and professional fields as well as certain preprofessional programs.

At the University of Oregon and Oregon State University, major curricula, both liberal and professional, are grouped on either campus in accordance with the distinctive functions of the respective institutions in the unified state system of higher education.

Terminal courses in technical and semi-professional areas are offered at Oregon Technical Institute.

An interinstitutional booklet, *Your Education*, which outlines the curricula of the several institutions and contains other information, is available. For a copy, write to Division of Information, Board of Higher Education, P. O. Box 5175, Eugene, Oregon.

# Academic Calendar 1962-63

## SEPTEMBER 1962

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## OCTOBER 1962

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## NOVEMBER 1962

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## DECEMBER 1962

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## JANUARY 1963

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## FEBRUARY 1963

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## Fall Term 1962

*Student Advising.....	September 17-21
Registration begins.....	September 4
Classes begin.....	September 24
Late fee begins.....	October 1
Last day to register or add a course.....	11:30 a.m., October 6
Last day to drop course without responsibility for grades.....	11:30 a.m., November 3
Thanksgiving vacation.....	November 22-25
Final examinations.....	December 10-15
Term ends.....	December 15

## Winter Term 1963

*Student Advising.....	December 27-January 5
Registration begins.....	December 10
Classes begin.....	January 2
Late fee begins.....	January 9
Last day to register or add a course.....	January 15
Last day to drop a course without responsibility for grades.....	February 13
Final examinations.....	March 11-16
Term ends.....	March 16

\*Advisers are available on dates indicated, at the following times: Before the week in which classes begin: By appointment only, 9:00 a.m.-7:00 p.m. weekdays, and 9:00-11:30 a.m. Saturdays.

During the week in which classes begin: By appointment only, 9:00 a.m.-4:30 p.m. weekdays, and 9:00-11:30 a.m. Saturdays. During the week in which classes begin only, advisers are also available 5:30-8:30 p.m. weekdays, without appointment.



# Portland Center General Extension Division

## MARCH 1963

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## APRIL 1963

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## MAY 1963

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## JUNE 1963

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## JULY 1963

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## AUGUST 1963

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## Spring Term 1963

*Student Advising.....	March 18-30
Registration begins.....	March 11
Classes begin.....	March 25
Late fee begins.....	April 1
Last day to register or add a course, 11:30 a.m.,	April 6
Last day to drop a course without responsibility for grades.....	May 6
Memorial Day—Holiday.....	May 30
Final examination.....	June 3-8
Term ends.....	June 8

## Summer Term 1963

*Student Advising.....	June 10-14
Registration.....	June 17
Classes begin.....	June 17
Last day to enter classes without instructor's signature.....	June 20
Late fee begins. Last day to change program without change-of-program fee.....	June 20
Last day to register or make program changes.....	11:30 a.m., June 22
Last day to withdraw without responsibility for grades.....	11:30 a.m., June 22
Independence Day—Holiday.....	July 4
Final examinations.....	August 8-9
Summer term ends.....	August 9

# Portland Center

## General Information

Portland Center of the General Extension Division marks its 45th academic year of extending the resources of the State System of Higher Education to students in the greater Portland area. This service is maintained in evening classes during the regular academic year and in predominantly daytime classes during Portland Center's Summer Term (for which a separate catalog is published).

Portland Center and Portland State College share many of the same instructional buildings but are separately administered. The Center extends certain resources of the college in the same way that it extends resources of the other degree-granting institutions within the State System.

**Location:** Portland Center and Portland State College face S.W. Park Avenue between Market and Hall Streets, near downtown Portland. However, various classes and special programs are scheduled at other Portland area locations, including some public schools, the Crippled Children's Division of the University of Oregon Medical School and the Oregon Regional Primate Center. Portland Center's administrative offices, to which mail normally should be addressed, are at 1633 S. W. Park Avenue, Zone 1. Telephone number is CApitol 6-6601.

**Faculty:** Faculty for Portland Center of the General Extension Division is drawn from the regular staffs of the institutions within the Oregon State System of Higher Education, as well as from business, industry and the professions with the approval of the colleges or universities whose extension classes they teach.

## Undergraduate Work

**Admission as an Undergraduate:** Portland Center itself does not confer degrees; therefore, the student wishing credits earned at the Center to apply toward a degree must inform himself of the degree-program requirements of the institution from which he expects to receive his degree.

Information concerning admission, advanced standing, credit transfer, residence, and graduate requirements should be obtained from the Registrar of the degree-granting institution, whether within the Oregon State System of Higher Education or elsewhere.

**Credit Hour Load:** Undergraduate students at Portland Center normally may enroll for not more than 7 term hours or 2 courses. Undergraduates who are unable to enroll at a campus institution, may petition the registrar for permission to enroll for more than seven term hours.

## Graduate Work

Certain masters' degrees granted by various institutions within Oregon State System of Higher Education, as well as work toward these degrees which may be completed at Portland Center, are shown below:

**Master of Education:** Degree may be taken either at University of Oregon or at Oregon State University.

University of Oregon has a 24-hour residence requirement. This requirement may be met by attending two Portland Center Summer terms.

Oregon State University has a 12-hour residence requirement. This requirement must be met by attendance on OSU campus proper.

At both institutions, this degree is regarded as a professional teaching degree and not necessarily as a research degree; however, at University of Oregon a thesis or field study is required of candidates whose area of specialization is one of the following: (1) Administration; (2) Psychology, Measurement and Evaluation.

At Oregon State University neither thesis nor field study is required under Options "C" or "B."

For the degree with either of these Oregon institutions a well-integrated program embraces: (1) common core of required courses; (2) area of concentration which provides a complex of courses organized to meet special interests and needs of the student.

At the University of Oregon, both qualifying and final examinations are written. Oregon State University requires either oral or written final examinations, but no qualifying examination. Graduate work for degree of Master of Education may be pursued with specialization in either elementary or secondary fields.

**Master of Science in Education** from Oregon College of Education at Monmouth, Eastern Oregon College at La Grande, or Southern Oregon College at Ashland.

Oregon College of Education requires 33 hours of credit in residence. Requirement may be met by attending Portland Center Summer term, and one Summer session on the Monmouth campus.

Eastern Oregon College and Southern Oregon College will accept a maximum of 15 hours of course work completed in Portland Center Summer Term.

Thesis is optional with each student, but it is recommended for those planning further graduate work. Qualifying examination is written, and final examination may be both written and oral.

**Master of Arts in General Studies:** This is a research degree. It is open to individuals whose research interest and broad academic background, usually in three disciplines, make them eligible for graduate work wherein offerings of several major departments are correlated. Thesis is required. Before a candidate's course work can be planned, he must present and justify a thesis topic which involves a research project embracing at least three major disciplines. An acceptable thesis in General Studies cannot be typical of work normally presented to any single department for a departmental degree.

Under favorable circumstances all work toward this degree from Oregon State University may be completed in Portland, but the University of Oregon requires that candidates earn at least 33 hours in residence on the Eugene campus.

**Master of Arts (Departmental), Master of Science, Master of Science in General Studies:** Programs for these degrees must be arranged with the candidate's major department at the degree-granting school selected. On approval by the major department, a maximum of 15 hours of graduate work may be completed in Portland.

**Master of Business Administration:** Programs leading to the Master of Business Administration at the University of Oregon are offered in Portland. Students working toward this degree may complete up to 36 credit hours in Portland through courses taught by regular University of Oregon School of Business Administration faculty. Students fulfilling residence requirements at Portland Center will be required to write a thesis for the MBA degree.

**Master of Science in Health, Physical Education and Recreation:** Programs permitting up to 18 credit hours toward the Master of Science in Health, Physical Education and Recreation at University of Oregon are offered in Portland. However, 12 credit hours of residence at the Eugene campus will be required by the School of Health, Physical Education and Recreation.

OSU courses in these areas are also available and can be used as majors on the M.Ed. degree.

**Master of Education in Library Science:** A sequential program leading to Master of Education at University of Oregon is offered in Portland. Heavy specialization in library will be required.

**Master of Science in Engineering:** A graduate program leading to a Master of Science degree in Engineering from Oregon State University is provided through Portland Center of the General Extension Division. Graduate level courses in Engineering as well as other approved subject areas offered through Portland Center may be used for the required course program leading to the Master of Science degree. Students admitted to the Oregon State University Graduate School and participating in the Master of Science program in extension must meet the same requirements and responsibilities as any other Oregon State University graduate student with the exception of the residence requirement which has been excused. A thesis is required. Detailed information about this degree is available in the Oregon State University Graduate School catalog and in a special Graduate Engineering brochure available at Portland Center, 1633 S.W. Park Avenue, Portland 1, Oregon.

**Master of Engineering:** This degree was approved by the graduate council exclusively for those engaged in authorized off-campus instruction made available through the General Extension Division. A minimum of 45 quarter hours is required, divided into approximately 30 hours for a major and 15 hours for a minor or minors. Included within the major and for a variable number of hours will be a formal report in lieu of thesis with the scope and content of the report to be approved by the major professor. Prerequisite to study for the degree will be a degree from an undergraduate curriculum in Engineering and admission to the graduate school. The general requirements are the same as for the Master of Science degree except for those related to the thesis and the formal report.

**Master of Bio Engineering:** This new degree program will be offered under authorization of off-campus instruction administered by Portland Center in cooperation with the Oregon Regional Primate Research Center. Studies will be concerned with the application of engineering knowledge, principles and techniques in the areas of biological and medical research. The program is a minimum of two years' duration, each student being assigned as a staff research engineer upon a part time basis in the laboratories in the Primate Center. He will normally spend six months in each of four different laboratories selected upon advisement. Graduate work will be under the direction of a major professor selected from among the members of the graduate faculty. A minimum of 45 quarter-credit hours of work will be required for the degree—approximately 30 hours in the major including thesis and 15 hours in the minor or minors. Prerequisites include graduation from an undergraduate engineering curriculum with high level academic accomplishment in areas related to the programs of the Primate Center and some minor competence in the bio sciences, quantitative analysis and basic electronics. Deficiencies in the minor areas must be removed during the first year of the program. Applicants must be admitted to the Graduate School of Oregon State University and accepted by the Oregon Regional Primate Research Center. Inquiries regarding appointment should be made to Portland Center of General

Extension Division or the Primate Center, followed by application for admission to the Admissions Office of Oregon State University.

**Advisers:** Authorized advisers for any of the master's degrees in education and for the Master of Arts in General Studies degree will be available at Portland Center to assist students in planning programs and in establishing candidacy for the degrees. Students should note that mere accumulation of graduate credit does not establish candidacy for any degree.

**Admission:** Graduate students who wish to apply their Oregon credits toward advanced degrees at one of the institutions within the Oregon State System of Higher Education must make application for admission to the graduate school selected and take qualifying examination at the earliest opportunity.

**Time Limit:** Oregon institutions expect that all work for the master's degree, including work for which credit is transferred, thesis, and final examination, will be completed within a period of seven years.

**Maximum Load:** Six term hours of graduate credit, except where thesis credit is involved, is the maximum which a student who is employed may earn in any regular session at Portland Center, unless the appropriate dean in the student's degree-granting institution approves an excess number of hours of credit in writing and in advance of registration.

## Service and Community Programs

Portland Center arranges, on request, special courses or groups of courses dealing with professional or technical subjects. This usually is done in cooperation with business firms and with professional, labor or other groups. Courses dealing with avocational subjects may also be arranged.

These may be either degree or non-degree oriented programs, designed to meet the special needs of the groups concerned. Representative of these service and community programs are the following:

### Teacher Training

Teachers and administrators seeking to fulfill requirements for the various certificates, including administrators' certificates and certificates to teach handicapped or exceptional children, should refer to *Oregon Rules and Regulations Governing the Certification of Teachers*, an annual publication of the Superintendent of Public Instruction, Salem, Ore.

**Elementary and Secondary Teacher Training:** Portland Center offers required courses for regular or emergency elementary certification and for secondary certification, except for supervised teaching. Portland Center Summer Term and Portland State College offer supervised teaching. A limited number of students may meet supervised teaching requirements through these facilities.

**In-Service Institute in Mathematics for Secondary School Teachers:** Conducted under grant from National Science Foundation to General Extension Division, Portland In-Service Institute in Mathematics for Secondary School Teachers has been scheduled for Tuesday evenings, starting in October and running full 1962-63 academic year. It will be directed by Dr. J. Richard Byrne, assisted by Dr. Robert W. Rempfer. Grant will cover text, tuition and travel expenses for enrollees.

**In-Service Institute in Mathematics for Elementary School Teachers:** Conducted under grant from National Science Foundation to General Extension Division, this institute will be held the full 1962-63 academic year. It will be directed by Dr. J. Richard Byrne. Grant will cover text, tuition and travel expenses for enrollees.

**Training for Teaching Exceptional Children:** Portland Center schedules a selection of courses so that students may strengthen their preparation for teaching in the special areas of reading, speech, and the mentally handicapped. Students who have the necessary prerequisites may complete certification requirements in these areas by enrolling in Portland Center.

**Administrators' Certificates:** Portland Center classes are scheduled to permit fulfillment of course requirements for various administrators' certificates.

**Counseling and Guidance Training Institute:** Portland Center will conduct a year-long Counseling and Guidance Training Institute for secondary school teachers, September 17, 1962, to June 7, 1963. The Portland Institute, with others throughout the nation, will be conducted under contract with the United States Office of Education and is financed by congressional appropriation under the National Defense Education Act of 1958.

Enrollees selected will receive weekly stipends of \$75, and \$15 a week for each dependent. A total of 30 enrollees will be selected. High school teachers who have not previously been assigned to counseling and guidance duties will receive preference for admission.

Application should be made to Dr. Harold Bernard, Director, Counseling and Guidance Institute, Portland Center, 1633 S.W. Park Ave., Portland 1, Ore.

## Cooperative and Certificate Programs

Business and industrial concerns and trade, labor, and professional organizations may supplement their own educational and training programs by working cooperatively with the Center on non-credit seminars, short-courses, workshops and other specially designed activities. Under certain conditions, special sections of credit courses may also be arranged.

Contents of and financial arrangements for programs of this kind vary with circumstances. Fees can be based on actual costs, which are billed to the sponsoring agency. Planning for such programs should begin at least 90 days in advance of the initial class meeting.

The Certificate Programs are designed for evening enrollees who do not expect to qualify for collegiate degrees. Courses in these programs are from functional areas of business administration, and are conducted at the professional level. They carry collegiate credit and are geared to increase professional competence. Certificates of accomplishment will be granted upon completion of such programs.

**Cooperative Speech and Hearing Training Center:** Portland Center cooperates with the Crippled Children's Division of the University of Oregon Medical School in a program designed to extend training opportunities for Speech Clinicians, and for the expansion of services to children with speech disorders. This facility is housed at the Crippled Children's Division of the University of Oregon Medical School in Portland.

**Museum Art School:** A program in art is offered by the Center in cooperation with the Museum Art School of the Portland Art Association. Classes meet in the Portland Art Museum, S.W. Park Ave. at Madison St. Enrollment in

these classes is limited to the number which can be accommodated in the studio facilities available.

Any student who wishes to take courses at the Museum Art School must register and pay fees at the Museum Art School. A Museum Art School registration cannot be combined with a Portland Center and/or Portland State registration for fee purposes.

**In-Service Training:** Selected advanced courses are offered as part of the in-service training program of public school systems in and near Portland. These classes are open to qualified students. The courses may be offered for college or university credit, and the fees are the same as for the regular evening courses. These courses are *not designed* for inclusion in a program toward a master's degree.

In-Service and other classes not scheduled in Portland Center facilities are limited to two term hours of credit when offered during late afternoon hours. Classes scheduled for evenings may be offered for three term hours of credit.

In order to make necessary arrangements, including the assignment of qualified instructors, Portland Center must receive requests for in-service and other credit courses to be offered in public schools at least 90 days in advance of the expected beginning date.

## Registration Procedures, Regulations

Students who have not enrolled during the early registration period, either in person or by mail, may register for Portland Center classes any evening during the first week of each term in accordance with the dates shown in the Academic Calendar (see pages 6 and 7). The exact location of evening registration will be designated in the Class Schedule published in advance of each term.

Late registrations by mail will not be accepted. Students may not register for credit during the second week if the class has met during that week.

To be assured of admission to a class for credit students **must be present at the first meeting and must have completed their registration.**

**Auditors:** Auditors should register during the regular registration period under the same regulations as credit students. Beginning with the late registration period, auditors may register at any time during the term, provided they pay late registration fees and provided the instructor is willing to accept their late registration.

**Early Registration, Registration by Mail:** Students are urged to avail themselves of the **early registration period** of two weeks or more which precedes the first week of each term. For the convenience of those who wish to register by mail, a packet of registration materials and instructions will be sent upon request. Address the Registrar, Portland Center, GED, 724 S. W. Harrison Street, Portland 1, Ore., or telephone CApitol 6-6601. **Late registration by mail will not be accepted.**

**Procedure for Graduate Students:** Enrollment for graduate credit is in general identical with enrollment for undergraduate credit. **However, students electing graduate credit in a 400 (G) or (g) course** (see course numbering system, page 16) **must so indicate at the time of registration** for the course; otherwise graduate credit cannot be granted. Graduate credit is not retroactively granted.

# Portland Center Fees

## Fee Schedule

Regular registration and course fees, tuition not included, applicable to undergraduates, graduates and auditors, as established by the Oregon State System of Higher Education, are as follows:

<i>Item</i>	<i>Per Term</i>
Per credit hour rate .....	\$ 12.50
Minimum charge for 1 or 2 credit hours for any student, or for any class ....	25.00
Charge for students enrolled for 8 credit hours or more .....	100.00
Laboratory or course fees are charged in some cases, as indicated in the course descriptions.	
Combined enrollment in Portland Center and Portland State College: Students carrying 8 credit hours or more in Portland Center, Portland State College, or any combinations are considered to be full-time students and pay a total flat fee of \$100.00.*	

NOTE: The fee receipt should be retained. When the student presents the receipt to the library, he is issued a library card, valid for the term covered by the receipt.

## Special Fees and Charges

Late registration fee (includes auditors), per week (\$3.00 during second week of each term; additional \$1.00 for each week thereafter) (if delayed registration is accepted) .....	\$3.00-\$1.00
If payment of fees is met by a check which is returned because of any irregularity for which the student is responsible (NSF, illegible signature, improper bank account number, etc.) a fine of \$1.00 per business day will be charged. (Maximum penalty, \$5.00) .....	\$1.00
Change of program fee per course.....	\$1.00
Reinstatement fee .....	\$2.00
Transcript fee (charge for first copy at any one time \$1.00 and charge for each additional copy furnished simultaneously is \$.50) .....	\$.50-\$1.00
Graduate qualifying examination fee .....	\$1.00-\$15.00
Counseling and testing service fee .....	\$5.00
Staff fee, per credit hour (including staff auditors) .....	\$3.00

(Available only to full-time employees, academic and non-academic, of not only the General Extension Division but of any unit of the Higher Education System, upon approval of institutional executive. In accordance with Administrative Code, Section L-3K(1)-(c), applicable to privileges of academic staff: "Upon approval of the president or executive head, all full-time staff members may register for a limited amount of work for credit in any term, generally for not more than three term hours of credit." Subject to approval of the Dean's Office, all fees and maximum credit-hour limitations may be waived for retired employees; and for staff members on leave, the maximum credit-hour limitation may be waived but the fee is not waived.)

\* Includes \$6.00 for College Center fee at Portland State College for each student enrolled at Portland Center for 8 credit hours or more.



## Fee Refunds

Students who withdraw and who have complied with regulations governing withdrawals are entitled to certain refunds of fees paid, depending on the time of withdrawal. The refund schedule has been established by the State Board of Higher Education and is on file in the business office. All refunds are subject to the following regulations:

(1) Any claim for refund must be made in writing before the close of the term in which the claim originated.

(2) Refunds in all cases are calculated from the date of application for refunds and not from the date when the student ceased attending classes, except in unusual cases when formal withdrawal has been delayed through causes largely beyond the control of the student.

## Library Regulations and Charges

**Note: the library card is issued upon presentation of the student's tuition receipt. This receipt should therefore be preserved, even when payment of tuition is by check. Students who hold cards from a previous term must have them validated for the succeeding term.**

The following regulations govern library fines and charges:

1. Students and faculty are issued a free library card for use in the electric charging machine. A replacement fee of 25 cents is charged if this card is lost.

2. The following fines will be charged for violations of book circulation rules:

(a) For general circulating overdue books, a fine of five cents per day.

(b) For overdue Reserve books, a regular fine of 25 cents for the first hour and five cents each succeeding hour, or fraction thereof, until library closing time for each book each day, until the book is returned or reported lost. A charge of \$1.00 per hour may be made in cases of flagrant violation of the rules.

(c) For failure to return books to the proper department desk when the library is open, 25 cents per book.

3. Books needed for use in the library are subject to recall at any time. A fine of \$1.00 per day per book may be imposed for failure to return a book promptly after notification.

4. A service charge of 10 cents is added to all fines reported to the Business Office for collection.

5. Borrowers losing books will be charged the replacement cost of the book plus the amount of fine incurred up to the time the book is reported missing. In addition, a charge of \$1.00 will be made to cover the cost of processing the replacement copy (ordering, cataloging, preparing for use). At the discretion of the librarian, the cost of the book may be refunded if the book is returned after the borrower has been billed, but the processing charge will not be refunded.

The library is organized according to large subject areas, with Education materials on the first level, Science and Social Science materials on the second, and Humanities materials on the third. General services, such as registration,

circulation and reserve, are on the ground floor. The audio-visual department is in the basement, which has a separate entrance from the concourse. There are also a microfilm room, two typing rooms, and two small conference rooms.

The library is open from 7:30 a.m. to 9:00 p.m. Monday through Friday when classes are in session, and 7:30 a.m. to 4:30 p.m. between sessions. The library is also open Saturdays, from 9 a.m. to 5 p.m. in the weeks that classes are in session, except examination week.

## Miscellaneous Services

**Counseling Center for Adults:** Professional counseling services are available to all regularly-registered evening and summer students, and to others on referral from cooperating school and agencies. Information may be obtained at the Center's offices on the second floor of the General Extension Division building, 1633 S. W. Park Ave., Portland.

**Publications:** *The Night-Owl*, a tabloid publication, is distributed to all Portland Center faculty and students during the academic year. *The Summer Signal* is published during Summer Term.

**Special Events:** Portland Center students are eligible to attend all special events, whether sponsored by Portland State College or by the Center. Lectures, concerts, plays, forums and other activities are scheduled regularly, some with no admission charge.

**College Center:** The College Center is located on S.W. Park Avenue between S.W. Montgomery and S.W. Harrison. Every regularly-registered evening or summer student may use the varied facilities offered in the College Center and may participate in the social and activity programs.

Students and faculty may use the College Center cafeteria, snack bar and dining rooms where group luncheons and dinners are served. There are also meeting rooms and a lounge where art and other special exhibits are displayed. A cooperative bookstore and a game room are located on the lower floor. All College Center facilities are open from 7:30 a.m. to 8:30 p.m. Monday through Thursday, and until 4:30 p.m. on Friday.

College Center facilities are financed through student fees and do not represent state tax monies.

**Textbooks and Materials:** Textbooks and other supplies required for Portland Center classes will be made known at the first meeting of each class. They may be purchased at the cooperative bookstore on the lower floor of the College Center.

## 1962-63 Portland Center Program

**Course Numbering System.** The courses in this catalog are numbered in accordance with the course-numbering system of the Oregon State System of Higher Education. Lower-division (freshman and sophomore) courses are numbered below 300. Upper-division (junior and senior) courses are numbered from 300 to 499. Graduate courses are numbered 500 to 599. A large (G) following the title of a 400 course indicates that the course may be taken for either major or minor graduate credit. A small (g) following the title of a 400 course indicates that the course is approved for graduate minor credit only. A number less than 50 indicates a non-credit course. The originating institution is indicated af-

ter each title: (OSU), Oregon State University; (UO), University of Oregon; (PSC), Portland State College; (OCE), Oregon College of Education; (GED), General Extension Division, non-credit.

**Class Schedule.** A class schedule detailing the course meeting times and places and the instructors for each class is issued shortly before each term. Classes meet one evening a week, at the following hours, unless otherwise noted in the class schedule: Two-hour classes, 6:45-8:40 p.m.; three-hour classes, 6:45-9:30 p.m.; four-hour classes two night a week, 6:45-8:40 p.m. Deviations from this plan will be noted in the class schedule for each term.

*Portland Center reserves the right to divide any class or to change at any time the meeting hour or day of any listed course, or to change the instructor, or to cancel or discontinue any listed course for lack of sufficient enrollment or for other reasons, or to control the number who may enroll in any class.*

**A year sequence** consists of three closely-articulated courses extending through three terms of the academic year.

**A term hour\*** is synonymous with a **quarter hour** and a **credit hour**. It is the unit by which a student's progress is measured and recorded. Usually it represents a minimum of three clock hours of class time each week for one term. The number of lecture, recitation, laboratory, or other periods per week for any course are listed in course descriptions in this bulletin.

**A grade** is a mark used to measure quality of a student's work in an academic course: **A**, exceptional accomplishment; **B**, superior; **C**, average; **D**, inferior; **F**, failure; **Inc**, incomplete; **W**, withdrawn. When a course will not be completed for reasons presented in advance by the student and accepted by the instructor, a report of **Inc** may be made and additional time granted. **A student who fails to appear for the final examination or who discontinues attendance in a course without officially withdrawing through the Registrar's Office within the time designated on the academic calendar for the term receives a grade of F in the course.**

**Non-Credit Courses.** A limited number of courses, designated "non-credit" in the course descriptions, are offered from time to time. Completion of such courses does not reduce the total of hours required in degree programs.

**A grade point** is a numerical expression of the qualitative value of a student's work. Grade points are calculated on the basis of 4 points for each hour of **A** grade; 3 for **B**; 2 for **C**; 1 for **D**, and 0 for **F**. Marks of **Inc** and **W** are disregarded in calculation of points.

**Grade-Point Average (GPA)** is determined by dividing the total grade points earned by the total number of hours for which the student has been registered. Non-credit courses are not considered in computing the grade-point average.

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\* Term hours ("quarter hours") may be converted to semester hours by multiplying the number of term hours by  $\frac{2}{3}$ . Semester hours may be converted to term hours by multiplying the number of semester hours by  $1\frac{1}{2}$ .

# Description of Courses

## Accounting

(Related courses listed under Business Administration and Marketing and Industrial Management and Financial and Business Economics)

Ac 311. **Income Taxation and Business Policy.** 3 hours Spring. (UO)

Designed for students not specializing in accounting. Emphasis on the impact of Federal income and estate taxes on decisions of business management, such as decisions to invest, to merge, to distribute earnings, to establish retirement programs. Students not admitted to both Ac 311 and Ac 411, 412. Prerequisite: Ac 213.

Ac 411-412a, 412b-413. **Income Tax Procedures.** (G) 3 hours fall and winter (UO)

Professional study and analysis of the Federal and Oregon income tax structure, and of the problems involved in determining income tax liabilities. Determination of taxable income and computation of taxes for individuals, partnerships, corporations, estates, and trusts; introduction to tax research. Prerequisite: Ac 213.

Ac 440, 441. **Accounting Verification.** (G) 3 hours fall and winter (UO)

Auditing standards and procedures observed by certified public accountants in the examination of the financial statements of businesses and other organizations; audit standards and objectives, collection of evidence, evaluation of internal control, problems of verification and application of procedures, preparation of programs, work papers, and reports. Prerequisite: Ac 352, Ac 361.

Ac 503. **Thesis.** Hours to be arranged. (UO)

Ac 507. **Seminar.** Hours to be arranged. (UO)

Ac 507. **Seminar: Business Controls.** 3 hours winter. (UO)

Study of basic accounting and statistical techniques in analyzing and interpreting quantitative data for planning and control of business operations. The following areas of business control are considered: budgeting, capital expenditures, taxes, financing, long range development, cost reduction, and methods improvement. The course deals specifically with problems of measuring and reporting to management on the validity of business objectives as well as the effectiveness of policies and procedures employed in attaining these objectives.

Ac 542. **Auditing Concepts.** 3 hours spring. (UO)

Analysis of the problems encountered in examining and reporting on the financial statements of a business enterprise, verification standards, theory and application of sampling techniques, problems posed by data-processing machine systems, innovations in auditing concepts; selection, scope, and application of auditing procedures in the continued examination approach. Prerequisite: Ac 440, 441.

## Anthropology

(Related courses listed under Sociology and Geography)

Anth 207, 208, 209. **Introduction to Cultural Anthropology.** 3 hours each term. (PSC)

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.

Anth 307, 308, 309. **Peoples and Cultures of the World.** 3 hours each term. (PSC)

Origin, description, and analysis of cultures and societies around the world according to a classification by culture areas. Fall: Eastern and Southern Asia, Oceania, Australia. Winter: Southwestern Asia, Africa. Spring: The Americas, Europe.

Anth 411, 412, 413. **World Prehistory.** (G) 3 hours each term. (UO)

Survey of the main developments in world prehistory. Fall: methods of archaeology; geological and biological background and palaeolithic man; the Old World palaeolithic. Winter: Old World village and urban development. Spring: New World hunting and gathering; agricultural-village life, urban society. Prerequisite: upper-division standing.

## Applied Science

(Related courses listed under Physics, Civil Engineering, Industrial Engineering, Mechanical Engineering and other science categories)

A.Sc 321. **Energy Sources and Systems.** 3 hours fall. (PSC)

Study of energy sources and utilization; basic laws of thermodynamics; thermodynamic processes and cycles; heat power systems; internal combustion engines, nuclear power plants, etc. Prerequisite: Mth 203, and Ph 203 or 209.

## Art

(Related courses listed under Art Education)

### At Portland Center

AA 111, 112. **Graphics I.** 3 hours winter and spring. (PSC)

A general exploration of the principles of light, color, and space representations in typical architectural forms. Use of various media and methods, and manipulation of instruments. Perspective, shades and shadows, projection and sectioning. 6 hours required for students intending to major in architecture, interior architecture, and landscape architecture.

AA 178. **House Planning and Architectural Drawing.** 3 hours fall. (OSU)

Appreciation and criticism of domestic architecture. Small-house planning and graphic communication with reference to the needs of students in agriculture, business and technology, education, engineering, forestry, and home economics.

AA 195, 196, 197. **Basic Design.** 3 hours each term. (PSC)

A three-term introductory sequence; a series of studio participation exercises involving the basic principles of design.

AA 257. **Jewelry and Metalsmithing.** 2 hours any term. (PSC)

Introduction to the handworking of nonferrous metals—copper, brass, pewter, silver, gold. Development of design for metal objects. Enameling on metal; centrifuge casting; lapidary work. Maximum credit: 9 term hours.

AA 290. **Painting.** 2 or 3 hours each term. (PSC)

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. Maximum credit: 12 term hours.

- AA 291. **Drawing.** 2 or 3 hours any term. (PSC)  
Training in observation and selection of significant elements. Registration permitted any term, but it is desirable that the work be started in the fall. Maximum credit: 9 term hours.
- AA 311, 312, 313. **Creative Arts and Crafts for the Classroom Teacher.**  
3 hours each term. (PSC)  
Art activities for the elementary classroom teacher. Basic tools and materials. Planning the art program to meet the needs of the child. Art in the school curriculum. Art experiences in relation to child growth and development. Lectures and laboratory work. Prerequisites for AA 313 are AA 311 and 312.
- AA 363, 364, 365. **Introduction to the History of Art.** 3 hours each term. (PSC)  
An historical survey of the visual arts. Selected works of painting, sculpture, architecture and other arts are studied in relation to the culture producing them.

## At Museum Art School

- AA 12, 13, 14. **Understanding Art.** (non-credit) (2) hours each term. (GED)  
Lectures which cultivate the understanding and enjoyment of the visual arts. Consideration of motives, media, and forms of historical and contemporary works.
- AA 22. **Fashion Drawing.** (non-credit) (2) hours each term. (GED)  
Practice with the tools and techniques of fashion art. Drawing from fashion models. Study of requirements for professional fashion illustration.
- AA 32. **Introduction to Art Photography.** (non-credit) (2) hours each term. (GED)  
An exploration of photographic materials and their expressive use. The method will be the "Zone System" of planned photography moving toward a basic understanding of the concept of "camera work" through the subject and the print. Students are required to use their own darkrooms and photographic equipment. Students should have a serious interest in the camera as a creative tool and some experience in processing film and in printing.
- AA 42, 43, 44. **Introduction to Art.** (non-credit) (2) hours each term. (GED)  
Omnibus experience in using various art media. Fall: Drawing, figure drawing, and design; winter: composition, life drawing, and ceramics; spring: paintings and sculpture.
- AA 195, 196, 197. **Basic Design.** 3 hours each term. (PSC)  
A three-term introductory sequence; series of studio participation exercises involving the basic principles of design. Students are required to meet twice a week from 7:30 to 9:30 to meet the three credit-hour requirement.
- AA 217. **Lettering.** 1 hour any term. (PSC)  
Lettering, including a study of historic styles and of more recent adaptations of "built up" letter forms in contemporary use. Display design students should take AA 217 before or concurrently with AA 296. Maximum credit: 3 term hours.
- AA 255. **Ceramics.** 2 hours any term. (PSC)  
Introduction to ceramic techniques and materials. Throwing, moulding, and hand building. Surface decoration of two-and-three-dimensional surfaces. Students participate in stacking, firing, and drawing the kilns. Open to non-majors. Course fee in addition to registration fee is \$4.00.
- AA 290. **Painting.** 2 hours any term. (PSC)  
Instruction in the use of oil color, water color, and other media. Maximum credit: 12 term hours.

- AA 291. Drawing.** 2 hours any term. (PSC)  
Training in observation and selection of significant elements. Emphasis on drawing from live models. 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 293. Elementary Sculpture.** 2 hours any term. (PSC)  
Introduction to materials. Elementary consideration of form; technical and compositional exercises in clay and plaster. Maximum credit: 12 term hours. Course fee \$4.00 in addition to registration fee.
- AA 296. Display Design.** 2 hours any term. (PSC)  
Practical design experience in the fundamentals of applied commercial art, lettering, layout, packaging, and display advertising. Experimental thinking and original ideas are encouraged in the development of problems. Lettering AA 217 should be taken before or concurrently with AA 296. Maximum credit: 9 term hours.
- AA 390. Painting.** 2 hours any term. (UO)  
Third-year painting. Still life, figure, portrait, and landscape; pattern and space organization; color and design studies; various media and processes. Prerequisite: 9 hours in AA 290.
- AA 480. Graphic Arts.** (g) 2 hours any term. (UO)  
Principles and methods of lithography; practice in all stages from the preparation of stones to the hand printing of editions. Special emphasis on the medium's contribution to drawing.
- AA 490. Advanced Painting.** (g) 3 hours any term. (UO)  
Advanced problems in portrait figure, landscape, and still life, in all media. Prerequisite: 12 hours in AA 290, or AA 390, or by special permission.
- AA 507. Seminar: The Understanding of Art.** 2 hours fall and winter. (UO)  
Persons who are seriously interested in art will be given an opportunity to learn the content of a newly developed course in the understanding of art. The course presents methods for analyzing and understanding works of art and gives opportunity to become aware of art as an important means of expression. (People are invited to attend this seminar program by registering on an audit basis without being held responsible for grades.)

## Art Education

### (Related courses listed under Art)

- ArE 414. Art in the Senior High School.** (G) 3 hours spring. (UO)  
Art in the senior high school examined in terms of program, content, materials, etc. Evaluation of current thinking and practice in the field of high-school teaching of art. Required of all majors. Prerequisite: ArE 314, 315 or consent of instructor.
- ArE 535. Art and Architecture for the School Administrator.** 3 hours fall. (UO)  
Problems of the school administrator in the general field of art and architecture, including problems of school-plant design, problems concerning the place of art in the school curriculum, and problems of community planning. Lectures and studio demonstrations.

## Biology

### (Related courses listed under General Science, Microbiology, Zoology)

- Bi 201, 202. General Botany.** 3 hours fall and winter. (PSC)

An introduction to the morphology, physiology, and anatomy of flowering plants; brief survey of plant kingdom; introductory taxonomy.

Bi 204, 205, 206. **General Zoology.** 4 hours each term. (PSC)

For biology and zoology majors and premedical, pre dental, pre nursing, pre-pharmacy, preveterinarian, physical education, psychology, fish and game management, and fisheries students.

Bi 334. **Systematic Botany.** 4 hours spring. (PSC)

Identification and classification of the vascular plants represented in the local flora.

Bi 371, 372. **Human Anatomy.** 3 hours fall and winter. (UO)

Gross anatomy; the skeletal and muscular structure; the circulatory, respiratory, digestive, and neural systems and their functioning in physical activities. Prerequisite: junior standing.

Bi 442. **Introduction to Genetics.** (g) 3 hours fall. (UO)

An introduction to the fundamental principles of genetics.

Bi 446. **Evolution.** (g) 3 hours spring. (OEC)

Evidences of evolution; mechanisms of evolution, including genetic variation, selection, and other factors.

## Business Administration

**(Related courses listed under Accounting, Business Education, Marketing and Industrial Management)**

BA 111, 112, 113. **Constructive Accounting.** 3 hours each term. (PSC)

Technique of account construction; preparation of financial statements. Application of accounting principles to practical business problems. Required of majors, prerequisite to advanced work in business.

BA 121. **Introduction to Business and Industry.** 3 hours each term. (PSC)

Survey of business organization, operation, and management intended to orient the student in business and industry.

BA 122. **Principles of Management.** 3 hours winter and spring. (PSC)

Representative industries within the United States covering development, structure, competitive conditions, basic processes, and services.

BA 221. **Elements of Production.** 3 hours any term. (PSC)

Principles of management as applied to commercial and industrial concerns.

BA 222. **Elements of Finance.** 3 hours fall and winter. (PSC)

The financial problems of corporations. Organization of corporations; how they obtain long-term funds; management of working capital; distribution of securities. Required of all majors. Prerequisite: BA 111, 112, 113.

BA 223. **Elements of Marketing.** 3 hours any term. (PSC)

Methods, policies, and problems. Private and cooperative channels, auctions, exchanges, middlemen; demand creation, assembly, standardization, packaging, financing, risk taking, distribution. Required of business administration majors.

BA 238. **Salesmanship.** 3 hours spring. (PSC)

Salesmanship as a factor in distribution and service; analysis of the customer and his wants; methods of obtaining and holding customers; wholesale and retail sales processes, services, and principles of selling.

BA 239. **Advertising.** 3 hours fall and spring. (PSC)

Advertising as a factor in the distribution process; advertising agencies; evaluation and selection of advertising media for various types of business establishments; preparation of copy.



- BA 314. Principles of Cost Accounting.** 3 hours fall and spring. (PSC)  
Basic principles of cost measurements and reporting for management planning, policy, and control purposes. Methods of data accumulation and control of materials, labor, and indirect costs. Job and process cost systems. Overhead budgeting; departmentalization; fixed and variable cost concepts. Prerequisite: BA 113.
- BA 315. Analysis of Financial Statements.** 3 hours spring. (PSC)  
Analysis and interpretation of financial reports for management purposes. Comparisons; ratios; trends; other financial relationships; evaluations of financial position and operating results. Corrective measures for management policy and executive action.
- BA 316. Managerial Use of Accounting Data.** 3 hours spring. (PSC)  
A study of accounting from the viewpoint of the use of accounting data for the decisional process. The study of relevant costs; whether to use marginal or direct cost theories, opportunity costs, etc. The relationship of economic theory to managerial decisions from accounting data. Recommended for both the professional accounting oriented student as well as the management oriented student. Emphasis upon significance and use of the accounting and statistical data to determine cause and effect relationships. Prerequisite: BA 113.
- BA 329. Production Management.** 3 hours spring. (PSC)  
Problems, reading, and discussion of factory organization, production methods, operational controls, utilization of facilities, supervision, and factory management. Prerequisite: BA 221.
- BA 359. Finance Management.** 3 hours winter. (PSC)  
Problems and case studies in management determinations respecting permanent capital, working capital, retention of earnings, bank loans, commercial credit, and administrative policies. Prerequisite: BA 222.
- BA 366. Marketing Management.** 3 hours fall. (PSC)  
Functions of management in the marketing process; promotion; planning, coordination of production and sales; customer relations; selection, training, and supervision of salesmen; administrative policies. Prerequisite: BA 223.
- BA 383, 384, 385. Accounting Theory.** 3 hours each term. (PSC)  
Comprehensive study of generally accepted principles of accounting and of conventional procedures for the measurement and presentation of financial data. Problems of theory applicable to income pricing, and to the more difficult significant business transactions and inter-organizational relationships. Prerequisite: BA 113.
- BA 411. Business Law.** 3 hours fall. (OSU)  
Basic rules of law for conduct of business generally. Creates an awareness of proper legal practices, including the desirability of professional supervision. Primary emphasis on requirements of formation, performance, and methods of discharge of contracts. Related treatment of quasi-contracts and torts.
- BA 412. Business Law.** 3 hours winter. (OSU)  
Nature of personal property including sales, bailments, chattel mortgages, and conditional sales; law of negotiable instruments including promissory notes, bills of exchange, and checks. Prerequisite: BA 411.
- BA 413. Business Law.** 3 hours spring. (OSU)  
Law of business ownership and organization including individual proprietorship, agency, partnership, corporations, cooperative associations, and business trusts.
- BA 414. Real Estate Law.** 3 hours spring. (OSU)  
Primary features of legal ownership of land including creation and rights of ownership under various estates, title protection, deeds, wills, and inheritance: property transactions related thereto, including contracts, mortgages, leases, and brokerages. Prerequisite: Junior standing.

- BA 415. **Marketing Research.** 3 hours winter. (PSC)  
Research methods in obtaining data for marketing managerial decisions; impact of research in today's marketing structure, proper use of research. Research design; problem of formulation; exploratory research; methodology involved in practical application to a given problem; data summary and interpretation; report writing. Prerequisites: BA 223, BA 366.
- BA 424. **Accounting Theory.** (g) 3 hours fall. (OSU)  
Development of accounting theory under influence of economic factors, law, and administrative ruling; evolution of concepts and procedures for measuring income, cost, value, and results of price level change; accounting ethics. Prerequisite: BA 321, 322, 323. If students have not had prerequisites they must have consent of instructor.
- BA 425. **Analysis of Financial Statements.** 3 hours winter. (OSU)  
The preparation, analysis, and interpretation of balance sheets and operating reports for effective management and control of industrial and trading concerns. Prerequisite: BA 211, 212, 213, or BA 214, 215.
- BA 426. **Accounting Systems.** (g) 3 hours spring. (OSU)  
Systems for accumulating, recording, and summarizing financial data; use of machines in these processes. Demonstrations and field trips. Prerequisite: BA 321, 322, 323.
- BA 431, 432. **Business and Industrial Statistics.** (g) 3 hours fall and winter. (OSU)  
Statistical techniques for collecting and analyzing business data; statistical source materials; methods for dealing statistically with problems of inspection, quality control, personnel testing, financial analysis, and market research; development of facility in use of business data in reports; sharpening of critical faculties for appraisal of statistical "facts" and "proofs." Prerequisite: Mth 104, 105, or Mth 100.
- BA 433. **Credits and Collections.** 3 hours fall. (PSC)  
Management functions performed by a credit department; relation to other functions of the business enterprise; nature of consumer credit and mercantile credit, sources of credit information, evaluation of credit risks, and credit controls useful to business firms; credit policy determination.
- BA 436. **Investments.** 3 hours fall. (PSC)  
The principles of investment in stocks and bonds, analysis of securities from the qualitative and quantitative points of view. Security markets. Current regulatory practices. Prerequisites: BA 111, 112, 113, 222, 359.
- BA 460. **Purchasing.** 3 hours winter. (PSC)  
Significant managerial problems raised by purchase and control of materials, supplies, equipment, merchandise, and other procurement items for business or government organizations.
- BA 463. **Retail Merchandising.** (g) 3 hours winter. (OSU)  
Principles of organizing and operating retail institutions; store location, store layout, buying and selling, operating activities, personnel and control.
- BA 487. **Advanced Cost Accounting.** 3 hours winter. (PSC)  
A continuation of BA 314 relating to presentation and analysis of cost information necessary for valuation, managerial planning and control. A study of standard costs, concepts of capacity of production in relation to overhead cost rates, direct or marginal cost theory, cost-volume-profit relationships, distribution costing and joint by-product costing. Prerequisite: BA 314.
- BA 497. **Human Relations in Business and Industry.** (g) 3 hours spring. (OSU)  
Relationships among managerial, supervisory, and other workers; actual cases used to help develop attitudes, frames of reference, and approaches which will be useful in solving human relations problems in business. Prerequisite: senior standing.

BA 499. **Business and Industrial Policy** (g) 3 hours spring. (OSU)

Advanced integrative course in analysis of top-management decisions, executive responsibilities, and company objectives. Policymaking is studied through business case histories, current business news, and field investigations of region. Prerequisite: senior standing.

## Business Education

(Related courses listed under **Accounting, Business Administration and Marketing and Industrial Management, Financial and Business Economics and Writing**)

BEd 333. **Office Organization and Management.** 3 hours spring. (UO)

The management and organization of the office, with special attention to the scientific approach to analysis and control; functional office layout and equipment; selection, training, and supervision of office personnel; place of automation in the office; planning, organizing, and controlling office services, such as correspondence, mailing activities, records management, communications, duplicating. Prerequisite: junior standing.

BEd 507. **Seminar: Briefhand.** 3 hours spring. (OSU)

Designed for teachers of briefhand.

BEd 536. **Problems and Research Techniques in Business Education.** 3 hours fall. (OSU)

Trends in high school business curriculum; evaluation of methods and available research studies. Prerequisite: Ed 408 or teaching experience in business subjects.

BEd 537. **Measurements in Business Education.** 3 hours spring. (OSU)

Objectives and principles of measurement in business education; testing in specific areas; construction of sample tests; evaluation of available testing materials; use of tests in diagnostic and remedial teaching. Prerequisite: Ed 408, BEd 536. Students who have not had Ed 408 must have had teaching experience in business subjects.

BEd 542. **Current Practices in Shorthand.** 3 hours winter. (OSU)

Correct writing habits; correlation of sound and symbol response; word and sentence building and transcription technique. Prerequisite: Ed 408. Students who have not had Ed 408 must have had teaching experience in stenography.

## Chemistry

(Related courses listed under **Biology, General Science, Microbiology, Physics and other Science headings**)

Ch 104, 105, 106. **General Chemistry.** 4 hours each term. (PSC)

For students majoring in medical technology, pre dental, nursing, and liberal arts.

Ch 232, 233. **Quantitative Analysis.** 5 hours fall and winter. (PSC)

Fundamental principles and laboratory practice. Prerequisite: Ch 106 or 206.

Ch 426. **Instrumental Analysis.** 3 hours spring. (PSC)

Theory and practice in the use of special electrical and optical instrumental methods of quantitative analysis: Colorimetry; spectrophotometry; polarimetry, Potentiometric and conductimetric titrations. Prerequisite: Ch 233.

Ch 440, 441, 442. **Physical Chemistry.** (g) 3 hours each term. (OSU)

Molecular weights, properties of liquids, solids, and solutions, chemical equi-

librium, reaction kinetics, electrochemistry, atomic and molecular structure. Prerequisite: quantitative analysis, and calculus.

## Civil Engineering

**(Related courses listed under Electrical Engineering, General Engineering, Industrial Engineering, Physics and specific Science headings)**

- CE 312, 313. **Photogrammetric and Control Surveying.** 3 hours fall and winter. (OSU)  
Elements of photogrammetry, planimetric mapping from photographs, control by radial-line method, flight planning, principles of Steroscopy and Parallax. Theory and practice of establishing vertical and horizontal control over extended areas.
- CE 481, 482, 483. **Structural Engineering.** (g) 3 hours each term. (OSU)  
Study of elements of steel, timber, and concrete structures; elastic and plastic design, and detail problems. Prerequisite: CE 213, 382, 383.
- CE 505. **Reading & Conference.** 3 hours each term. (OSU)
- CE 519. **Soil Mechanics.** 3 hours winter. (OSU)  
Factors affecting settlement of building foundations; stability of earth dams and dikes; variations in shear strength of clays; principle of flow nets; trends in soil mechanics.
- CE 536. **Plastic Methods of Structural Analysis.** 3 hours fall. (OSU)  
Analysis of civil engineering structures by formation of yield hinges; upper and lower bound theorems; equilibrium and mechanism techniques applied to redundant frames; plastic moment distribution concept. Prerequisite: CE 483, 485.
- CE 538. **Plate and Shell Structures.** 3 hours spring. (OSU)  
Deflection and stress analysis of plate and shells; methods of analysis, design, and construction. Prerequisite: CE 534.
- CE 527, 528. **Hydrology.** 3 hours fall and winter. (OSU)  
CE 527: Weather, climate, precipitation, evaporation, transpiration, stream flow, basin analysis, overland flow, sedimentation, ground water. CE 528: Statistical methods, runoff relations, runoff distribution, waves and flood routing, frequency analysis, design problems, project operations, flood forecasting. Prerequisites: CE 411.
- CE 529. **Seepage and Ground Water.** 3 hours spring. (OSU)  
Practical approach to solution of ground-water problems covering theory of ground-water flow; graphical solution by flow net analysis; flow through dams and levees; flow toward wells and wellpoint systems; base course drainage. Prerequisite: CE 521.

## Clothing and Textile

**(Related courses listed under Family Life and Home Administration and Home Economics Education)**

- CT 331. **Home Furnishing.** 3 hours spring. (OSU)  
Furnishing a small home from standpoint of comfort, beauty, convenience, and economy; influence of historic design. Prerequisite: CT 250; AA 160, 178.
- CT 470. **The Clothing Buyer.** 3 hours fall. (OSU)  
Buying ready-to-wear clothing for retail markets; merchandise selection and fashion trends. Management and personnel responsibilities of the buyer. Prerequisite: CT 350.

## Economics

Ec 12. **Oregon Clergy Conference on Economic Education**, September 16-20, 1962. Surfside Resort, Oceanlake. Non-credit. (GED).

A five-day invitational conference co-sponsored by the Clergy Economic Education Foundation and dealing with current economic problems of interest to clergymen. Economic Values in the Judeo-Christian Society; the United States Economy; Productivity and Automation; Economic Stability; the Pricing System; the Banking Industry; the Distribution of Income; Agriculture; Labor-Management Relations; Economic Policy and the Clergy. The invitation list includes clergymen from all faiths and denominations and laymen from agriculture, business and labor. For applications or information contact Dr. Hugh Lovell, Office of Special Programs.

Ec 201, 202, 203. **Principles of Economics**. 3 hours each term. (PSC)

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

Ec 212. **Outlines of Economics**. 3 hours spring. (PSC)

A rapid survey of the principles of economics and economic institutions. A maximum of three hours credit is allowed for Ec 201 and 212.

Ec 319. **Public Finance**. 3 hours winter. (UO)

Principles and problems of government financing. Expenditures, revenues, debt, and financial administration. Prerequisite: Ec 201, 202, 203 or consent of instructor.

Ec 325. **Labor Economics**. 3 hours fall. (PSC)

Conditions of labor since the industrial revolution. The labor market; wages, hours, conditions of work, unemployment. Prerequisite: Ec 201, 202, 203.

Ec 326. **Organized Labor**. 3 hours winter. (PSC)

History of the labor movement, its philosophy and growth. Present structure and position of organized labor. Prerequisite: Ec 201, 202, 203.

Ec 327. **Labor Legislation**. 3 hours spring. (PSC)

Labor legislation in the United States, problems facing the employer, employee, and the public that call for regulation through public authority. Prerequisite: Ec 201, 202, 203.

Ec 417. **Contemporary Economic Problems**. (g) 3 hours spring. (UO)

Contemporary economic conditions and problems; analysis of economic policies and practices affecting such problems. Prerequisite: Ec 201, 202, 203.

Ec 424. **Money and Banking**. (g) 3 hours winter. (OSU)

Nature and functions of money; factors affecting price; forms of money; functions of banks; history of banking; Federal Reserve Bank Act; American and foreign banking systems. Prerequisite: elementary economics.

Ec 450. **Comparative Economic Systems**. 3 hours fall. (PSC)

Analysis and appraisal of contemporary economic systems; capitalist, socialist, fascist; communist. Prerequisites: Ec 201, 202, 203.

## Education

(Related courses listed under Psychology and major subject areas)

Ed 10. **Reading Improvement**. (non-credit) 2 hours each term. (GED)

A non-credit course for adults who are interested in improving their reading abilities. A practical approach will be combined with some modern devices to improve reading skills, increase reading rate, and stabilize confidence in reading processes.

**Ed 310. School in American Life.** 3 hours any term. (PSC)

A course designed to acquaint prospective teachers with the historical and philosophical background and development of the American public schools. Special attention will be given to the development of the present day curricular practices and a comparison of opposing philosophies of education. Field observation of school-age children is required. Prerequisite: 6 hours of Anthropology or Sociology.

**Ed 312. Educational Psychology: Learning.** 3 hours any term. (PSC)

A consideration of the nature of the learner, changes which occur in learning processes, conditions under which learning best takes place, and the characteristics and methods of the teacher who directs learning in the school. Basic concepts of measurement are utilized to evaluate the changes which characterize learning. Field experiences supplement theoretical study. Prerequisites: 9 hours of Psychology including Human Development.

**Ed 314. Principles of Secondary Teaching.** 3 hours any term. (PSC)

Different methods of presentation of subject-matter; values and weaknesses of each method; individual and group differences; extracurricular activity programs; measuring the results of teaching. Prerequisites: Ed 310, 312.

**Ed 344. Physical Education in the Grades.** 3 hours any term. (PSC)

A study of method and materials in organizing, conducting and evaluating the elementary school physical education program and the significance of its elements. Theory and practice with emphasis upon basic principles and implications from child growth and development characteristics which guide and determine teaching method and selection of class content. Prerequisites: Ed 310, Ed 312.

**Ed 351. School Health Program.** 3 hours any term. (PSC)

Teaching of health education with emphasis on health knowledge, health attitudes, and health habits of school children, and the development of a health-service program. Special study of the state health-education program. Prerequisite: GS 101, 102, 103, and Ed 310, Ed 312.

**Ed 356. Methods and Materials: Reading in the Elementary School.**  
3 hours any term. (PSC)

The place of reading in the modern elementary school. Trends and practices in reading instruction and prevention of reading difficulties. A study of appropriate materials and methods. Classroom observation is required. Prerequisite: Ed 310, 312.

**Ed 358. Methods and Materials: Language Arts and Social Science.**  
3 hours any term. (PSC)

Trends and practices in listening, speaking, spelling, handwriting and English. Educational objectives of social studies and social problems of elementary school pupils. Organization and planning of a unit of work. Attention will be given to appropriate methods, and materials in language arts and social studies. Classroom observation is required. Prerequisites: Ed 310, Ed 312.

**Ed 359. Methods and Materials: Science and Mathematics.** 3 hours any term.  
(PSC)

Science and mathematics in the elementary schools. Methods in the area of science, including experiments, demonstrations. Publications and other instructional materials. Trends and practices in the teaching of mathematics. Emphasis will be placed upon basic principles, research studies, problem solving, and the utilization of life situations. Prerequisites: Ed 310, 312.

**Ed 389. Reading and Telling Children's Stories.** 3 hours spring. (PSC)

An introduction to the collection of old folk and modern fanciful tales, with laboratory practice in the reading and telling of stories for children through the elementary grades. Prerequisites: Eng 388 or consent of instructor.

**Ed 390. Enriching Children's Reading.** 3 hours winter. (PSC)

A study of the enrichment of children's reading through literature. An ad-

vanced course designed for parents and teachers of nursery, kindergarten, and elementary school children. Prerequisite: Eng 388 or consent of instructor.

Ed 401. **Research.** 3 hours any term. (PSC)

Consent of instructor only.

Ed 409. **Practicum: Remedial Education—Elementary.** 3 hours any term. (UO)

Ed 409. **Practicum: Remedial Education—Secondary.** 3 hours any term. (UO)

Ed 424. **Measurement in Education.** (G) 3 hours fall. (UO)

Use and interpretation of informal and standardized tests as supervisory and guidance instruments for the diagnosis, analysis, evaluation, and improvement of instruction in the elementary and secondary schools. Test planning, item writing, essay testing, administration and scoring, analysis of scores and grade assignment. Simple statistics of test interpretation.

Ed 424. **Measurements in Education.** (G) 3 hours winter and spring. (OSU)

Use of standard tests and scales to measure achievement in school subjects; elements of statistical methods. Prerequisite: senior standing.

Ed 427. **School Activities.** (G) 3 hours fall. (UO)

Principles and purposes of school activities; pupil participation in school government; assemblies; clubs, social activities; athletics, speech activities, drama, music, publications; evaluation of the school activity program.

Ed 428. **Psychology of Reading Instruction.** (G) 3 hours fall. (UO)

Nature of the reading process; factors of learning and development related to reading achievement; psychological foundation of methods and materials of reading instruction.

ED 435. **Audio-Visual Aids.** 3 hours fall and winter. (PSC)

The development and use of audio-visual aids in education. Emphasis on actual learning situations in which radio, recordings, films, slides, pictures, maps, charts, etc., are utilized. Sources of materials and equipment; administration of audio-visual programs. Prerequisite: junior standing.

Ed 439. **The Gifted Child.** (G) 3 hours winter. (UO)

The psychology, education, and guidance of the mentally superior and the extraordinarily gifted child.

Ed 440. **History of Education.** (G) 3 hours fall. (UO)

A general review of the growth and development of education in relation to the civilization of the times; emphasis on development of educational philosophies.

Ed 451. **Preprimary Education.** (G) 3 hours fall. (OCE)

An evaluation of the preprimary period in terms of the opportunities it affords to build up good attitudes toward school life, to help the child adjust himself to the group, to build up good habits of work, and to develop a readiness for subjects in the first-grade curriculum, such as reading, numbers, and language.

Ed 452. **Creative Arts in Childhood.** (G) 3 hours winter. (OCE)

A course designed to assist the student in gaining insight into the many ways young children express themselves with creative media. Exploration will be made into the interrelationships of music and rhythm, graphic arts, constructed materials, literature, dramatic play, and other areas of expression as young children use them.

Ed 460. **Psychology of Childhood.** (G) 3 hours fall. (OSU)

Growth of behavior during the prenatal period, infancy, and childhood; development of muscular activities, perception, emotional adjustment, intelligence, language, and social behavior in childhood. Prerequisite: senior standing.

- Ed 461. **Psychology of Adolescence.** (G) 3 hours winter. (OSU)  
Behavior changes during preadolescence and adolescence as related to physiological development and social and cultural factors. Emphasis on personal and social adjustment. Prerequisite: senior standing.
- Ed 462. **Psychology of Exceptional Children.** (G) 3 hours winter. (UO)  
Characteristics and problems of all types of exceptional children, with special emphasis on those with sensory handicaps; consideration of essential educational adaptations.
- Ed 463. **The Maladjusted Child.** (G) 3 hours spring. (UO)  
The discovery and treatment of the emotionally and socially maladjusted child; the home, school, and community in relation to the child's mental health. Opportunities for the observation of family counseling techniques.
- Ed 464. **The Mentally Retarded Child.** (G) 3 hours fall. (UO)  
The psychology, education, and guidance of the mentally retarded child.
- Ed 465. **Diagnostic Techniques in the Basic Skills.** (G) 3 hours fall. (UO)  
Introduction to extreme learning problems; factors associated with retardation in the basic skills; general principles of diagnosis and correction; survey of diagnostic instruments and corrective materials; specific corrective techniques and programs. Concerned with problems at both the elementary and the secondary level.
- Ed 467. **Applied Mental Hygiene.** (G) 3 hours spring. (OCE)  
The development of personality, personality conflicts, mechanisms of adjustment, and the basic principles of mental hygiene. Emphasis on application of mental hygiene principles to personality development of teachers and of children. Prerequisite: Psy 201, 202.
- Ed 468. **Diagnostic and Remedial Techniques in Reading.** (G)  
3 hours winter. (OSU)  
Nature of the reading process, reading readiness, reading skills; causes of retardation; methods of diagnosing difficulties and evaluating progress; and procedures and materials for the development of reading abilities. Prerequisite: Ed 310, 312, 350.
- Ed 468. **Remedial Techniques in the Basic Skills.** (G) 3 hours winter. (UO)  
Review of research in reading disability; diagnostic instruments and techniques relating to reading; corrective and remedial reading methods, materials and programs. Concerned with problems at both the elementary and the secondary level. Prerequisite: Ed 465 or consent of instructor.
- Ed 469. **Reading in High School and College.** (G) 3 hours spring. (UO)  
Basic principles of reading instruction; nature and scope of the total reading program; methods, materials, and organization of the developmental and corrective reading programs in high school and college.
- Ed 476. **School Law and Organization.** (G) 3 hours winter. (OCE)  
The historic and current legal authority of federal, state, county, and local governments in the organization and administration of public school education. Special emphasis placed on the Oregon statutes as they apply to school organization, administration, and teaching.
- Ed 485. **Principles and Practices of Guidance Services.** (G) 3 hours any term. (OSU)  
Beginning course in guidance. Overview of guidance and personnel work; vocational, educational, health, social, personality, recreational, and individual development; participation of teachers, counselors, administrators, parents, and community organizations in guidance program. For teachers and administrators. Prerequisite: senior standing.
- Ed 486. **Occupational and Educational Information.** (G) 3 hours spring. (OSU)  
Materials available regarding occupations; interpretations of present trends;



value and usefulness for high school and college students. Prerequisite: senior standing.

- Ed 487. **Counseling Techniques.** (G) 3 hours winter and spring. (OSU)  
Mental, achievement, trade, and other tests; administration of such tests; classification, methods in educational and vocational counseling. Prerequisite: Ed 485.
- Ed 491. **Social Education.** (G) 3 hours spring. (UO)  
Structure and functioning of society, as a background for the study and evaluation of education in its varied forms; the contribution of sociological principles and findings to the improvement of educational practices.
- Ed 493. **Observation and Evaluation of Teaching.** 3 hours any term. (PSC)  
Opportunity for experienced teachers to observe modern trends in schools and other institutions, and to discuss educational theories and practices. A limited number can be assigned to the few places available for this course. Selection will be made from written applications filed in advance with the Director of Student Teaching.
- Ed 494. **Principles and Objectives of Vocational Education.** (G)  
3 hours spring. (OSU)  
Basic principles and development of vocational education; review of history and legislation; analysis of objectives of vocational schools and vocational programs in relationship to the total program of education. Consent of instructor is required.
- Ed 501. **Research.** 3 hours any term. (UO) (OSU)
- Ed 503. **Thesis.** 3 hours any term. (UO) (OSU)
- Ed 505. **Reading and Conference.** 3 hours any term. (UO) (OSU)
- Ed 507. **Seminar: Human Relations in School Administration.** 3 hours fall. (UO)  
To consider the principles and techniques of cooperative accomplishments as they apply to administrators, teachers and other members of educational enterprises. Using several disciplines, attention will be given to internal staff relations and the role and responsibilities of administrative officers.
- Ed 507. **Seminar: Theories of Administration.** 3 hours spring. (UO)  
A basic course on the nature of theory, theory building, and current theories of administration. Case studies will be used as a test of theories. Prerequisite: Consent of instructor only.
- Ed 507. **Seminar: Client-Counselor Relationships.** 3 hours fall. (UO)  
A seminar designed especially for professional people in the Oregon Commission for the Blind on problems in client-counselor relationships. Through the case conference method, objectives would be: (1) to determine how the over-identification problem is manifested and what those manifestations are; (2) to determine the extent to which the kind of over-identification interferes with the optimal process of the casework; (3) the problem of maintaining an objective case record. September 25-December 11. 4:00-6:45 p.m., 535 S.E. 12th Avenue, Portland, Oregon.
- Ed 507. **Seminar: Teacher/Pupil Relationships.** 2 hours spring. (OCE)
- Ed 507. **Seminar: Teacher/Parent/Pupil Conferences.** 2 hours fall. (OCE)
- Ed 509. **Practicum: Secondary School Counseling.** Hours to be arranged. (UO)
- Ed 511. **Recent Educational Trends and Problems.** 3 hours fall. (OSU)  
Trends, problems, and developments in all fields of education. Prerequisite: 24 hours of upper division education including student teaching.

- Ed 512. **Research Procedures in Education.** 3 hours fall and winter. (OSU)  
Methods, techniques, and tools for doing research work; meaning of scientific method; ways of locating and formulating problems; techniques for solving problems; necessary statistical tools; collection and interpretation of data; preparation of research reports.
- Ed 512. **Research Procedures in Education.** 3 hours spring. (UO)  
The nature and procedures of research in education; special techniques of thesis, field study, research paper, and dissertation. Open to graduate students majoring in other fields. Does not take the place of individual supervision of the student's thesis. An introductory course in statistics is desirable preparation.
- Ed 515. **Educational Statistics.** 3 hours fall. (UO)  
Technique in quantitative and experimental methods. Calculus not required.
- Ed 518. **Public and Professional Relations.** 3 hours winter. (OCE)  
Professional responsibilities and ethics of teachers, as related to the lay public, related social agencies and to the education profession. Procedures in group dynamics, public relations, advisory councils, working with parents and parent groups. Emphasis upon means of achieving the professionalization of teaching.
- Ed 522. **Secondary School Curriculum.** 3 hours spring. (UO)  
Overview of the secondary-school curriculum, with emphasis on the various subject fields; organization of the school for curriculum development; educational objectives; the course of study; evaluation of the secondary-school curriculum.
- Ed 524. **Construction and Use of Objective Examinations.** 3 hours spring. (OSU)  
Principles and statistics in selection of test items; types of examinations; validity; reliability; administering, scoring, grouping results. Prerequisite: graduate standing.
- Ed 527. **Secondary-School Administration and Supervision.** 3 hours spring. (UO)  
The secondary-school principalship; principles of administration, staff relationships, public relations, and professional growth; business administration; administration of guidance services, curriculum, and school activities; evaluation of the secondary school.
- Ed 536. **Language Arts in the Elementary School.** 3 hours fall. (UO)  
The role of language arts in the elementary-school program; objectives; research findings on language development; the teaching of spelling, writing, and speaking-listening skills; newer instructional materials; testing and evaluation.
- Ed 538. **Mathematics in the Elementary School.** 3 hours winter. (UO)  
Number abilities needed by children; research findings in mathematics education; designing number experiences; theories of teaching, desirable teaching procedures, selection and use of materials.
- Ed 543. **History of American Education.** 3 hours winter. (OSU)  
Intellectual development of America with special reference to education. Prerequisite: graduate standing in education.
- Ed 546. **Philosophy of Education.** 3 hours fall. (OSU)  
Fundamental problems of education, with some attempt at their solution; meaning of philosophy; philosophy of education; value for teacher and administrator. Prerequisite: graduate standing in education.
- Ed 550. **The Junior College.** 3 hours winter. (OSU)  
Early junior colleges; junior college movement; aims and functions; curriculum; organization and operation; relation to secondary and higher education. Consent of instructor required.

- Ed 553. **Elementary-School Curriculum.** 3-4 hours spring. (UO)  
A systematic study of the elementary-school curriculum, including pupil needs in everyday life situations, objectives, essentials of a good program, varying curriculum designs, organization of learning experiences, evaluation of learning, and appraisal of newer curriculum practices.
- Ed 554. **Elementary School Supervision and Administration.** 3-4 hours winter. (UO)  
For mature students of elementary education who are preparing for administrative or supervisory positions. Characteristics of good elementary schools, leadership responsibilities and processes, school organization patterns, pupil personnel policies, school-community relationships.
- Ed 561. **Advanced Educational Psychology.** 3 hours spring. (OSU)  
Experimental material that seems most useful and relevant to educational psychology. Prerequisite: graduate standing in education.
- Ed 565. **Curriculum Foundations.** 3 hours winter. (UO)  
Implications of basic social, philosophical, and psychological factors in curriculum planning and organization; historical background; techniques of curriculum planning.
- Ed 566. **Curriculum Construction.** 3 hours spring. (UO)  
Survey and appraisal of curricular patterns; state and city program; courses of study in major subject areas; techniques of course-of-study planning.
- Ed 572. **Public School Administration.** 3 hours fall. (UO)  
Interpersonal relationships in administration; school-board powers, duties, roles, relationships; the superintendency—roles, responsibilities, issues, problems; problems of staff personnel; student personnel problems at the local district level; problems and issues relating to the development of effective school-community relationships.
- Ed 573. **Public School Organization.** 3 hours winter. (UO)  
The schools in relation to state and Federal agencies; the intermediate unit, its purposes, organization, trends; local school districts—problems of organization, plant planning and management, school business administration, transportation, school finance, textbooks and supplies; extralegal agencies affecting education.
- Ed 574. **School Supervision.** 3 hours spring. (UO)  
The role of the supervisor in keeping education geared to the changing demands of society; theories of leadership; group processes and individual conference techniques; action research and related approaches to curriculum change; analysis of concrete supervisory problems.
- Ed 575. **School Finance.** 3 hours spring. (UO)  
The problems of school finance and business management; sources of school income; relationship to the state financial structure; budgeting and accounting. Includes the construction of a school budget. Prerequisite: work in administration and organization; or consent of instructor.
- Ed 576. **School Building.** 3 hours winter. (UO)  
Study of the problems involved in planning, financing, and construction of school buildings; care and maintenance of building; problems of equipment. Includes analysis of the problems of a specific district. Prerequisite: work in administration and organization; or consent of instructor.
- Ed 588. **Supervised Counseling Techniques.** 3 hours any term. (OSU)  
Provides actual counseling experience in counseling laboratory. Interviewing; administering, scoring, and interpreting psychological tests; writing case studies. Consent of instructor required. Prerequisite: Ed 485, 487; Psy 478, 479, 480.
- Ed 594. **Methods in Secondary-School Mathematics.** 3 hours fall. (UO)  
Development of proficiency in the use of the problem-solving approach to the

teaching of topics in arithmetic, algebra, geometry, and advanced high-school mathematics. Consideration of the strengths, inadequacies, and needed revisions of the present-day mathematics curriculum. Prerequisite: teaching experience or consent of instructor.

Ed 595. **Methods in Secondary-School Science.** 3 hours spring. (UO)

Selection of materials for secondary-school science teaching, demonstrations, science test construction, instructional devices; use and care of microscopes, meters, and other equipment. Prerequisite: teaching experience or consent of instructor.

## Electrical Engineering

(Related courses listed under Civil Engineering, General Engineering, Mechanical Engineering, Physics and other Science headings)

EE 201, 202, 203. **Circuits and Fields.** 4 hours each term. (PSC)

Fundamentals of magnetic and electric fields and associated circuits, and electric circuit theory. Prerequisite: Mth 103; GE 103, or instructor's approval.

EE 321, 322, 323. **Electronics.** 4 hours each term. (OSU)

Fundamental theory of electronics including thermionic emission, cold cathode emission, photoelectric emission, space charge, and discharge in gases; principles of vacuum, gas, and vapor tubes, solid state electronic devices, and their basic associated circuits. Prerequisite: EE 203; Ph 209.

EE 505. **Reading and Conference.** 3 hours each term. (OSU)

EE 541, 542, 543. **Power Systems.** 3 hours each term. (OSU)

Advanced study of electric power generation, transmission, distribution, and utilization.

EE 561, 562, 563. **Communication Systems.** 3 hours each term. (OSU)

Theory and design of devices and circuits and their interconnection and functioning in communication systems. Prerequisite: EE 463 or equivalent.

EE 571, 572, 573. **Pulse Circuits.** 3 hours each term. (OSU)

Analysis and synthesis of pulse circuits used in digital computers, control, and communications.

## English

(Related courses listed under Writing)

Eng 101, 102, 103. **Survey of English Literature.** 3 hours each term. (PSC)

From *Beowulf* to the present. Eng 101: *Beowulf* to Milton; Eng 102: Milton to Byron; Eng 103: Byron to the present.

Eng 104, 105, 106. **Appreciation of Literature.** 3 hours each term. (PSC)

The aim is to stimulate the appreciation and criticism of literature through a study of the outstanding works in prose and poetry, selected from all periods including the twentieth century.

Eng 107, 108, 109. **World Literature.** 3 hours each term. (PSC)

A sequence in narrative prose, drama, and poetry. Complete books are included so that the student may be familiar with some of the masterpieces in Western world literature.

Eng 201, 202, 203. **Shakespeare.** 3 hours each term. (PSC)

Study of the important plays—comedies, histories, and tragedies.

Eng 211. **Vocabulary Building.** 3 hours any term. (OSU)

Thorough analysis of words and meanings in context, seeks to increase vocabulary, reading comprehension, and effective use of language.

- Eng 253, 254, 255. **Survey of American Literature.** 3 hours each term. (PSC)  
American literature from its beginning to the present day. Two consecutive terms will satisfy the high-school teaching requirement in English.
- Eng 311, 312, 313. **Tragedy, Comedy, and Satire.** 3 hours each term. (PSC)  
English 311: Tragedy. A study of the nature of tragedy. Eng. 312: Comedy. The comic view in nondramatic forms, as well as in the stage tradition. Eng. 313: Satire. Satire, or criticism through ridicule, as a major type of literary expression.
- Eng 384, 385, 386. **Contemporary Literature.** 3 hours each term. (PSC)  
Modern British, American, and continental literature.
- Eng 388. **Children's Literature and Library.** 3 hours fall and spring. (PSC)  
An introductory course designed to give acquaintance with some significant books for children, with emphasis on the quality of a book, its format, text, and illustrations. An investigation of school library procedures with suggestions for the presentation of children's literature in the elementary school.
- Eng 391, 392, 393. **American Novel.** 3 hours each term. (UO)  
Development of the American novel from its beginnings to the present.
- Eng 407. **Seminar: Anglo-Saxon Literature in Translation.** (G) 3 hours fall. (UO)
- Eng. 425. **Late Medieval Literature.** (G) 3 hours winter. (UO)  
The literature of the Middle Ages, in relation to the social and literary ideas of the period.
- Eng 428. **Chaucer.** (g) 3 hours spring. (UO)  
As much of Chaucer's work read as time permits.
- Eng 481, 482, 483. **Major American Writers.** (G) 3 hours each term. (UO)  
The Romantic Idealists and the Realists. From Emerson to Eliot.
- Eng 488. **Literature for Teachers.** (g) 3 hours spring. (UO)  
For students interested in teaching high-school English. Training in comprehension and analysis of representative literary works. Readings from English and American literature, selected in part from state-adopted high-school texts. Does not apply toward the satisfaction of the minimum requirements for a major in English.
- Eng 491. **Introduction to Modern English.** (g) 3 hours fall. (UO)  
A general view of modern English vocabulary, grammar, pronunciation, and spelling. Eng 491 recommended for teachers of English who do not have time for the fuller treatment of the material in English 492, 493.

## Family Life

(Related courses listed under **Clothing and Textiles and Home Economics Education and Food & Nutrition**)

- FL 407. **Seminar: Current Trends in Child Development.** 3 hours winter. (OSU)
- FL 407. **Seminar: Family Nutrition and Budgeting.** 3 hours winter. (PSC)
- FL 507. **Seminar: Current Trends in Child Development.** 3 hours winter. (OSU)

## Finance and Business Economics

(Related courses listed under Accounting, Business Administration, Business Education and Marketing, Business Management and Economics)

- FBE 425. Real Estate Fundamentals.** 3 hours fall. (UO)  
Problems relating to the purchase, transfer, lease, and financing of land and buildings; home building, site selection, principles of house-and-lot evaluation. Open to nonmajors.
- FBE 426. Real Estate Practice.** 3 hours winter. (UO)  
Application of the principles of land and building management from the standpoint of the broker and owner-operator; real-estate practices and institutions. Prerequisite: FBE 425.
- FBE 427. Real Estate Appraising.** 3 hours spring. (UO)  
Specific factors affecting the value of land and buildings; the effect of city structure, zoning and city planning; demonstrations of various techniques in appraising; preparations of an appraisal report. Prerequisite: FBE 425.
- FBE 430. Advanced Real Estate and Urban Land Use.** (G) 3 hours spring. (UO)  
Principles and practices of real property valuation; factors affecting real-property values and incomes; relationship between land use and land values; the appraisal process; policies and problems of real-estate taxation; trends in real-property values and appraisal procedures.
- FBE 503. Thesis.** Hours to be arranged. (UO)
- FBE 507. Seminar.** Hours to be arranged. (UO)
- FBE 512. Problems in Business Forecasting.** 3 hours fall. (UO)  
Examination of the usefulness of business and economic data—national income accounts, banking and monetary quantities, production and inventory levels—in the estimation of general business trends, prospects of a particular industry, and fluctuations in a field of business activity or geographical region.
- FBE 530. Managerial Economics.** 3 hours fall. (UO)  
The varied forms in which economic concepts appear in the operation of individual business units; emphasis on the approach to problems of management decision making and forward planning through formulation of problems in a conceptually quantitative manner capable of numerical solution. Integration of economic principles with various areas of business administration; the role of uncertainty given particular attention.
- FBE 565. Security Analysis.** 3 hours spring. (UO)  
Each student selects a specific industry for intensive study, prepares a comprehensive appraisal of its financial problems, and subjects typical companies within the industry to critical examination on a comparative basis.

## Food and Nutrition

(Related courses listed under Clothing and Textiles, Family Life and Home Administration and Home Economics Education)

- FN 225. Nutrition.** 3 hours fall. (OSU)  
Principles of nutrition from the standpoint of newer scientific investigation; selection of an optimal diet for health; present day problems in nutrition.
- FN 411. Family Food Buying.** (g) 3 hours spring. (OSU)  
Practical and intelligent food buying for family; cost factors, food laws, quality standards; home adaptation of new trends in food manufacturing and packaging. Prerequisite: FN 313; Ec 212.

# General Engineering

**(Related courses listed under Civil Engineering, Electrical Engineering, Mechanical Engineering, Physics and specific Science headings)**

GE 101, 102, 103. **Engineering Concepts.** 3 hours each term. (PSC)

Lectures and elementary problems dealing with the basic concepts common to all fields of engineering ; engineering analysis and methods of work. Prerequisite : Mth 100 or equivalent.

GE 121, 122. **Engineering Drawing.** 3 hours fall and winter. (PSC)

Fundamentals of graphic composition with particular emphasis on reading and interpretation of line drawings, charts, and diagrams. Service course for students in business and technology.

GE 123. **Descriptive Geometry.** 3 hours spring. (PSC)

Theory and problems on the projection of points, lines, surfaces, and solids ; applications of graphical solution of engineering problems. Prerequisite GE 121, 122.

# General Science

**(Related courses listed under Biology, Physics, Natural History, Geology, Zoology)**

GS 101, 102, 103. **General Biology.** 3 hours each term. (PSC)

The fundamental principles of life as they apply to both plants and animals. For general students and those majoring in fields other than biology. If taken after courses with similar materials have been completed, credit will be restricted.

GS 104, 105, 106. **Physical Science.** 3 hours each term. (PSC)

Fundamental principles of physics, chemistry, astronomy, and geology ; development and application of the scientific method. For students majoring in fields other than the physical sciences who wish a broad view of the principles of several physical sciences. No credit will be allowed in GS 104 after a course in Geology has been completed, nor in GS 105 after a course in Chemistry, nor in GS 106 after a course in Physics.

GS 311, 312, 313. **Natural History of Oregon.** 3 hours each term. (PSC)

The earth and life history of Oregon ; kinds and distribution of contemporary plant and animal life ; man and his relation to the environment ; conservation of natural resources. Prerequisite: upper-division standing and a year sequence in general biology.

GS 507. **Seminar: Fresh Water Biology for Teachers.** 3 hours spring. (OSU)

GS 508. **Workshop: In-Service BSCS Biology.** 2 hours each term. (OSU)

A three term sequence especially designed for high school teachers of biology and based on the Biological Sciences Curriculum Study. Though the "green" version of the BSCS will be emphasized, teachers planning to work with either the "blue" or "yellow" versions would benefit. Enrollment limited to 20 teachers. Lab fee \$2.50 per term.

GS 508. **Workshop: In-Service CBA Chemistry.** 2 hours each term. (OSU)

A three term sequence especially designed for high school teachers of chemistry utilizing the newest approach in the teaching of high school chemistry. Enrollment limited to 20 teachers. Lab fee \$2.50 per term.

GS 541. **Bioecology.** 3 hours fall. (OSU)

# Geography

(Related courses listed under **Natural Resources, Anthropology, and various Social Science headings**)

Geog 105, 106, 107. **Introductory Geography.** 3 hours each term. (PSC)

A general introduction to the field of geography, in sequence as follows: Geog 105, physical and cultural elements; Geog 106, regional geography of North America, South America, and Europe; Geog 107, regional geography of the USSR, Africa, and Asia. Geog 105 is prerequisite to Geog 106 and Geog 107.

Geog 304, 305, 306. **Economic Geography.** 3 hours each term. (PSC)

A systematic survey of man's occupation in terms of the distribution, use, and circulation of earth resources to be presented as follows: Geog 304, Geography of Primary Production; Geog 305, Industrial Geography; Geog 306, Geography of Transportation.

Geog 313. **Geography of the Pacific Northwest.** 3 hours spring. (PSC)

Analysis of human and economic geography of the Pacific Northwest with special attention to Oregon. Prerequisite: Geog 105 or Geog 208, 209, 210.

Geog 414. **Geographic Background of American History.** 3 hours spring. (PSC)

The influence of geographic factors on colonization, settlement patterns and westward movement in America. Prerequisite: 9 hours of history or 9 hours of geography.

Geog 426. **Geography of Europe.** (G) 3 hours fall. (UO)

Geographic backgrounds of European civilization and the evolution of present political and economic patterns. Prerequisite: 6 hours in lower-division geography courses or consent of instructor.

Geog 427. **Geography of the Soviet Union.** (G) 3 hours winter. (UO)

Geography of the Soviet Union; its resources, peoples, and world position. Prerequisite: 6 hours in lower-division geography courses or consent of instructor.

Geog 435. **Urban Geography.** (G) 3 hours spring. (UO)

World distribution of great cities; urban patterns, forms, and functions; systems of urban land classification; forces affecting urban land use; geographic aspects of city planning. Prerequisite: 6 hours in lower-division geography courses or consent of instructor.

Geog 463. **Geography of Middle America.** (G) 3 hours fall. (UO)

Regional geography of the Middle American countries. Prerequisite: 6 hours in lower-division geography courses or consent of instructor.

Geog 464. **Geography of South America.** (G) 3 hours winter. (UO)

Regional geography of the South American countries. Prerequisite: 6 hours in lower-division geography courses or consent of instructor.

# Geology

(Related courses listed under **Natural Resources, Geography and Science classifications**)

G 201, 202, 203. **Geology.** 3 hours each term. (PSC)

Processes of nature by which earth's surface has been built up, deformed and torn down; natural history and occurrence of common rocks and useful minerals; outline of history of earth and life.



- G 312, 313, 314. **Crystallography, Mineralogy and Rock Study.** 3 hours each term. (PSC)  
Crystal forms, physical and chemical properties; identification of economics and rock-forming minerals; common rock types of special industrial importance. Prerequisite: one year of physical science.
- G 350. **Rocks and Minerals.** 3 hours winter. (PSC)  
Opportunity to become acquainted with rocks and minerals without prerequisites of more technical courses. Especially useful to students expecting to teach general science or elementary grades. Prerequisite: upper division standing.
- G 351. **Elements of Geology.** 3 hours fall. (PSC)  
Principles of geology, processes which shape the surface of the earth, historical development of the earth. Designed as an introduction to geology for general science teacher and elementary teacher. Prerequisite: upper division standing.
- G 352. **Geology of Oregon.** 3 hours spring. (PSC)  
Origin and geologic history of landscape features in Oregon. Prerequisite: upper division standing.

## Germanic Languages

(Related courses listed under Romance Languages and Russian)

- GL 50, 51, 52. **First-Year German.** 4 hours each term. (PSC)  
Provides a thorough grammatical foundation of German, stressing hearing, speaking, reading and writing.
- GL 101, 102, 103. **Second-Year German.** 4 hours each term. (PSC)

## Health Education

(Related courses listed under Physical Education, Recreation, Education)

- HE 252. **First Aid.** 3 hours any term. (PSC)  
Study of first aid and safety procedures—for the individual, schools, athletics, and civilian defense; meets certification standards of the American Red Cross.

## History

(Related courses listed under Political Science, Social Science)

- Hst 101, 102, 103. **History of Western Civilization.** 3 hours each term. (PSC)  
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. (PSC)  
From colonial times to the present day.
- Hst 418, 419. **Studies in Western Civilization.** (g) 3 hours winter and spring. (UO)
- Hst 447, 448, 449. **History of Russia.** (G) 3 hours each term. (UO)  
Fall: the Kievan state and the emergence of Muscovy; winter: creation of the Russian Empire, political, social and economic developments; spring: revolutionary Russia, 1861 to the present.

- Hst 457. **The Era of American Sectional Conflict.** (G) 3 hours fall. (UO)  
Forces, events, and persons that contributed to unity and particularism in the United States during the first half of the nineteenth century.
- Hst 458. **The Era of the Civil War.** (G) 3 hours winter. (UO)  
Intensive study of the critical decade before the Civil War and of the course of that conflict.
- Hst 459. **The Era of Reconstruction.** (G) 3 hours spring. (UO)  
Problems of the tragic era following the Civil War; their continuing effects to the end of the nineteenth century.
- Hst 476, 477. **History of the West.** (G) 3 hours fall and winter. (UO)  
The American frontier. First term: the early American frontier; second term: the Great Plains and the Far West.
- Hst 478. **History of the Pacific Northwest.** (G) 3 hours spring. (UO)  
Detailed study of the building of civilization in the Pacific Northwest. Prerequisite: Hst 201, 202 or consent of instructor.
- Hst 479. **Forces and Influences in American History.** (G) 3 hours fall. (UO)  
Geographic influences; influence of the frontier; inheritance and tradition; economic forces; nationalism; sectionalism; manifest destiny; democracy.
- Hst 480, 481. **The United States in the Twentieth Century.** (G) 3 hours winter and spring. (UO)  
Hst 480: to 1918; Hst 481: 1918-38.
- Hst 484, 485, 486. **Early History of the American People.** (G) 3 hours each term. (UO)  
From the discovery of America to the administration of George Washington.

## Humanities

- Hum 356. **The Art of the Film.** 2 hours fall. (PSC)  
A general study of the principles underlying the language of film. A discussion of the processes of film-making and the creative problems of film-makers; the camera as an expressive instrument; editing; the dramaturgy of sound; the use of actors and music. Selected motion pictures are screened and analyzed. Prerequisite: upper division standing or consent of instructor.
- Hum 357. **Film and Society.** 2 hours winter. (PSC)  
The various effects of film on society, and conversely, film as the product, reflecting certain aspects of society; film and behavior; the phenomenon of Hollywood; film and mass cultures; film as projection of national character; the film in education; the children's film; censorship; documentary film; screening of representative films. Prerequisite: upper division standing or consent of instructor.
- Hum 358. **Films and Their Directors.** 2 hours spring. (PSC)  
A survey and analysis of current trends of the film internationally, with emphasis on the work of great directors; the American film since television; the development of Italian neo-realism; the Japanese film renaissance; problems of the British film; the film in the Soviet Union. Screening of pertinent motion pictures. Prerequisite: upper division standing or consent of instructor.
- Hum 511. **Contemporary Developments in the Humanities.** 3 hours spring. (OCE)  
Emphasis upon the search for values in the modern world as reflected in the forces shaping contemporary philosophies and trends in contemporary literature.

# Home Economics Education

(Related courses listed under **Clothing and Textile and Family Life and Home Administration**)

H Ed 507. **Seminar: New Designs in Home Economics Education.** 3 hours fall. (OSU)

Developing an understanding of the many new designs in secondary curriculum in order to adapt these to junior, senior high school and young-adult homemaking classes. Prerequisite: Ed 408d or equivalent.

HEd 507. **Seminar: Teaching Methods in Adult Homemaking Education.** 3 hours winter. (OSU)

Emphasis on planning adult homemaking classes including exploring teaching methods, teaching materials and resources for a wide variety of adult classes, and for different adult groups such as young and retired homemakers. Prerequisite: Ed 408d or equivalent.

HEd 507. **Seminar: Teaching Family Relationships and Child Development.** 3 hours spring. (OSU)

Emphasis on preparing curriculum materials for teaching junior and senior high school students. Prerequisite: Ed 408d or equivalent.

# Industrial Education

IEd 470. **History of Manual and Industrial Education.** (G) 3 hours spring. (OSU)

Historical development and present-day aims of industrial-arts and vocational-industrial education. Prerequisite: senior standing.

# Journalism

J 341. **Principles of Advertising.** 3 hours fall. (UO)

Advertising as a factor in the distributive process; the advertising agency; the "campaign"; the function of research and testing; the selection of media: newspaper, magazine, broadcasting, outdoor advertising, direct mail.

J 407. **Seminar: Industrial Editing.** (G) 3 hours winter. (UO)

Survey of role of magazines, tabloids, newsletters and other publications in business and industry; analysis of objectives, interrelationship of various media of industrial communication; external and internal publications; layout, typography, makeup and printing methods and techniques; effective story and pictorial presentation; examination of enrollees' specific publication problems.

J 444. **Advertising Problems.** (G) 3 hours winter. (UO)

The student is given an opportunity to cultivate his judgment through consideration of actual marketing and merchandising problems, in the solution of which advertising may be a factor. Prerequisite: J 341.

J 455. **Supervision of School Publications.** (G) 3 hours Fall. (UO)

The teacher's role in guiding student publications in secondary schools.

J 459. **Publicity and Public Relations.** (G) 3 hours spring. (UO)

Basic techniques and methods in publicity programs for business, professional, and social organizations and interest groups; relationship of publicity to the broader concepts of public relations. Not open to journalism majors.

## Landscape Architecture

- LA 326. **Plant Materials.** 3 hours fall. (OSU)  
Trees, shrubs, vines, and perennials and their uses in plant composition.
- LA 359. **Maintenance and Construction.** 3 hours winter. (OSU)  
Maintenance of private and public landscape; landscape construction problems. Prerequisite: LA 280.
- LA 392. **Planting Plans.** 2 hours spring. (OSU)  
Planting plans; estimates of costs; construction and seasonal care of planting areas. Prerequisite: LA 290, 326, 327, 328.

## Library Science

- Lib 485. **Advanced Bibliography and Reference.** (G) 3 hours fall (UO)  
Continuation of Lib 481, with emphasis on reference books in the various subject fields; practical experience in bibliography making. Prerequisite: Lib 481 or consent of instructor.
- Lib 489. **Principles of Book Selection.** (G) 3 hours winter. (UO)  
Analysis of criteria for book selection in the light of library objectives; reading habits and interests of adults; use of selection aids and reviewing media; censorship. Practice in oral book reviewing and written annotations.
- Lib 490. **Children's Literature.** (G) 3 hours fall. (UO)  
Designed to give elementary-school teachers and librarians an acquaintance with children's books and their use in the curriculum.
- Lib 495. **Literature of the Social Sciences.** (G) 3 hours spring. (UO)  
Survey of library materials in the social sciences; criteria for evaluation and selection.
- Lib 496. **The Library in The Modern Community.** (G) 3 hours spring. (UO)  
The history and development of the principal fields of public library service; major trends and problems, with special attention to public library management.

## Marketing and Industrial Management

(Related courses listed under Accounting, Business Administration, Business Education)

- MIM 330. **Merchandising Control.** 3 hours fall. (UO)  
Application of quantitative methods to the control of merchandising activity; relation of profit-and-loss statements to merchandise planning; determination and averaging of mark-up and mark-up percentages; development of price lines; dollar and unit control of inventory; application of the transactions method of sales and expense analysis; calculation of open-to-buy; control of mark-downs. Prerequisite: MIM 323.
- MIM 349a, 349b. **Domestic Transportation and Traffic Management.**  
Designed to acquaint the student with the principles and practices of transportation which should be known to every businessman engaged in production or distribution. The physical transportation plant of the United States and its performance; carrier responsibilities, services, and cooperation; economic and legal basis of rates, the process of freight classification and tariff preparation and interpretation, various kinds of rate structures, and relationships between transportation and the location of economic activity. Organi-

zation, management, and services of industrial traffic departments. Prerequisite: Ec 201, 202, 203 or consent of instructor.

**MIM 354. Risk and Insurance.** 3 hours fall. (UO)

Introduction to the basic principles of insurance from the viewpoint of the consumer; risk and risk bearing; ways of handling risk; insurance as a device to handle risk; principles of insurance buying, including carrier and agency selection; major types of private insurance—life, property, and liability—with emphasis on the underlying economic problems each type is designed to meet; the insurance contract and its legal basis, with emphasis on the elements common to all insurance contracts; economic and historical significance of insurance; insurance regulation.

**MIM 412. Personnel Management.** (g) 3 hours fall. (UO)

Personnel management in the modern business organization; personnel policies and practices conducive to good relations with employees; personnel problems of small organizations.

**MIM 413. Wage and Salary Administration.** (G) 3 hours winter. (UO)

Systematic administration of wages and salaries as a means of motivation and control in the business enterprise. Job analysis, description, and specifications; job evaluation methods; community wage and salary surveys; establishing wage structures by job evaluation and wage levels by collective bargaining and other methods; principles and administration of wage incentive plans; evaluating the results of wage incentives; compensating clerical, supervisory, and management personnel. Prerequisite: MIM 412 or consent of the instructor.

**MIM 414. Problems in Personnel Management.** (g) 3 hours spring. (UO)

Major areas of personnel policy determination, with special emphasis on relations with organized employees at the enterprise level and within the enterprise. The impact of union practices on personnel policy and procedures in both unionized and nonunion enterprises. Prerequisite: MIM 412 or consent of instructor.

**MIM 436. Retail Store Management.** 3 hours spring. (UO)

Retail policies and problems. Stock-control systems, buying, methods of sales promotion, plant operation, personnel, credit, turnover, pricing, expense classification and distribution. Prerequisite: MIM 323.

**MIM 455. Property and Liability Insurance.** (G) 3 hours spring. (UO)

The more important methods of reducing business and personal risks from physical and moral hazards; major contracts of insurance to indemnify for losses from such perils as fire, windstorm, explosion, transportation, legal liability, dishonesty, and insolvency of others; loss adjustment practices, underwriting problems, reinsurance, rate making, consequential losses.

**MIM 503. Thesis.** Hours to be arranged. (UO)

**MIM 507. Seminar.** Hours to be arranged. (UO)

**MIM 507a, 507b. Seminar: Practices and Procedures Before the Interstate Commerce Commission.** 3 hours fall and winter. (UO)

**MIM 520. Marketing Problems and Policies.** 3 hours fall. (UO)

Cost controls in distribution, delineation of market areas for the firm and industry, trade-channel analysis, organization for distribution, market-share analysis, product development and innovation, interregional trends.

**MIM 531. Theory of Business Organization.** 3 hours winter. (UO)

Development of the management role in business since 1900; principles of organization as they apply to lines of authority and responsibility in the business firm; planning and communicating personal leadership and judgment; development of standards in business organization.

**MIM 532. Problems in Business Policies.** 3 hours spring. (UO)

Policy formation and administration; a systematic approach to company-wide problems developed through the solution of actual business problems. The viewpoint is that of general rather than functional management.

# Mathematics

(Related courses under Engineering, Education, and Statistics headings)

Mth 10. **Elements of Algebra.** (non-credit) (2) hours any term. (GED)

For students with less than one year of algebra. Open to others on recommendation of department.

Mth 100. **Intermediate Algebra.** 4 hours any term. (PSC)

Prerequisite: one year of high-school algebra, or Mth 10. No credit is allowed for this course if it is completed after Mth 101 or any other more advanced course in mathematics.

Mth 101. **College Algebra.** 4 hours any term. (PSC)

Prerequisite: one and one-half years of high-school algebra, or Mth 100.

Mth 102. **Trigonometry.** 4 hours winter and spring. (PSC)

Prerequisite: Mth 101.

Mth 103. **Analytic Geometry.** 4 hours spring. (PSC)

Prerequisite: Mth 102.

Mth 111. **Mathematics for Elementary Teachers.** 3 hours any term. (PSC)

Treatment of historical aspects of mathematics, social uses and relationships, mathematical principles, development of problem-solving ability and proficiency in the fundamental skills of mathematical processes.

Mth 207, 208, 209. **Calculus.** 4 hours each term. (PSC)

Standard sequence for students of science and engineering. Prerequisite: Mth 103.

Mth 331, 332. **Differential Equations.** 3 hours fall and winter. (PSC)

Ordinary and partial differential equations. Prerequisite: Mth 203.

Mth 421. **Vector Analysis.** (G) 3 hours spring. (OSU)

Calculus of functions of two or more variables, approached by way of vector notation. Prerequisite: Mth 322.

Mth 425, 426, 427. **Elements of Statistical Methods.** (g) 3 hours each term. (UO)

A basic sequence in statistical analysis; not intended for mathematics majors. Presentation of data; sampling theory; tests of significance; analysis of variance and covariance; regression and correlation; sequential analysis; design of experiments; distribution-free techniques. Prerequisite: one year of high school algebra; junior standing.

Mth 471, 472, 473. **Mathematics in Engineering and Physics.** (G) 3 hours each term. (OSU)

Analytical methods in obtaining solutions of problems in engineering and physics. Dynamics, vibrating systems, boundary value problems in electricity and elasticity, operational calculus, numerical methods. Prerequisite: Mth 421, 422, 423.

Mth 507. **Seminar: Geometry.** 2 hours each term. (OSU)

Figures and constructions. Axioms. Simple algebraic realization of axiom systems. Isomorphism and the relation of analytic to synthetic geometry. The reflections group and Euclidean geometry. Finite and nonEuclidean geometrics. There will also be class invention of original axiom systems (without attempt to have these minimal or independent) and the derivation of simple theorems from them. A three-term offering (total 6 hours) underwritten by funds from the National Science Foundation designed for secondary school teachers of mathematics. A limited number of people will be permitted to take the 6 hours at their own expense. Request for permission to enroll not as an NSF participant must be made to Dr. Byrne.

Mth 507. **Seminar: Modern Mathematics for Elementary Teachers.** 2 hours each term. (OSU)

A selection of topics from number theory will be introduced by examples and experiments with familiar arithmetic. This selection will include topics like prime numbers, unique factorization, greatest common divisor, lowest common multiple, the Euclidean algorithm, congruence, positional notation, binomial coefficient, continued fractions. A three-term offering (total 6 hours) underwritten by funds from the National Science Foundation. Admission by application to be filed not later than September 15. Applications received on or before June 15, 1962, will be given first consideration. Application forms may be obtained from the office of Special Programs, 1633 S.W. Park Avenue. A limited number of people will be permitted to take the 6 hours at their own expense. Request for permission to enroll not as an NSF participant must be made to Dr. Byrne.

Mth 591. **Mathematics for High School Teachers: Arithmetic.** 3 hours fall. (OSU)

Mth 592. **Mathematics for High School Teachers: Algebra.** 3 hours winter. (OSU)

Mth 593. **Mathematics for High School Teachers: Geometry.** 3 hours spring. (OSU)

## Mechanical Engineering

(Related courses listed under Civil Engineering, Electrical Engineering, General Engineering, Physics and other related sciences)

ME 217, 218, 219. **Mechanics of Materials.** 3 hours each term. (PSC)

Fall: Forces and force systems (statics); characteristics of resultants and of equilibrium conditions of rigid bodies, especially machine and structural elements, numerous problems. Winter and spring: mechanics as applied to analysis of stress and strain distribution in machine and structural elements; rational design possibilities. Prerequisite: Mth 201 or equivalent. (Mth 201 can be taken concurrently.)

ME 505. **Reading and Conference: Advanced Mechanical Design.** 3 hours fall. (OSU)

ME 505. **Reading and Conference: Air Conditioning Design.** 3 hours winter. (OSU)

ME 505. **Reading and Conference: Materials.** 3 hours spring. (OSU)

ME 505. **Reading and Conference.** 3 hours each term. (OSU)

## Microbiology

(Related courses listed under Biology, General Science, Zoology and Health)

Mb 426. **Community Health Problems.** (2nd term) (g) 3 hours winter. (OSU)

Application of principles of hygiene to sanitary, statistical, governmental, epidemiological, and sociological problems. Prerequisite: junior or senior standing, one year of upper division biological science.

## Music

Mus 111, 112, 113. **Music Theory I.** 3-4 hours each term. (PSC)

A course which provides a thorough groundwork in the elements of music

science—melodic, harmonic, and rhythmic—taught through the analysis of the styles of Bach, Haydn, Mozart, Beethoven, and other eighteenth- and nineteenth-century composers.

**Mus 190\*. Applied Music.** 1 hour any term. (PSC)

Freshman year. Individual instruction in organ, piano, violin, cello, harp, voice, orchestral and band instruments. Attendance at class sessions and recitals required. Prerequisite: qualifying examination.

**Mus 196. Orchestra.** 1 hour any term. (PSC)

Six hours maximum credit.

**Mus 290\*. Applied Music.** 1 to 2 hours any term. (PSC)

Sophomore year. Continuation of Mus 190, which is prerequisite.

**Mus 360, 361, 362. History of Music.** 3 hours each term. (UO)

A study of the development of music from primitive times to the present day.

**Mus 381, 382. Music Fundamentals.** 3 hours fall and winter. (PSC)

Basic musicianship for the elementary teacher, developed through experiences relevant to the classroom. Required of majors in elementary education. Prerequisite to Mus 382: Mus 381 or consent of instructor.

**Mus 383. Music Fundamentals (Teacher Education).** 3 hours spring. (PSC)

Experience in teaching the various music activities found in the elementary classroom. Required of majors in elementary education. Prerequisite: Mus 381 and 382 or consent of instructor.

**Mus 390\*. Applied Music.** 1 to 3 hours any terms. (PSC)

Junior year. Individual instruction in organ, piano, violin, cello, harp, voice, orchestral and band instruments. One or two lessons a week. Attendance at class sessions and recitals required. Prerequisite: Mus 290 or equivalent and qualifying examination for upper-division standing.

**Mus 396. Orchestra.** 1 hour each term. (PSC)

Six hours maximum credit.

**Mus 407. Seminar: Creative Music.** (G) 3 hours any term. (UO)

**Mus 407. Seminar: Basic Understanding of Music.** 3 hours fall and spring. (PSC)

**Mus 490\*. Applied Music.** 1 to 2 hours any term. Senior year. Continuation of Mus 390, which is prerequisite. (PSC)

## Music Education

**MuE 533. Music in the Elementary School.** 3 hours winter. (UO)

Theory, supervision, curriculum, materials, and procedures of vocal music teaching in the elementary school. Research in problems involving music and related areas of instruction.

## Natural Resources

(Also see **Geography, Geology and other related Sciences**)

**NR 261, 262, 263. Cartography.** 3 hours each term. (OSU)

. Development and utility of cartography; tools and materials; study and practice in using, compiling, and drafting maps, charts, and diagrams; reproduction problems.

**NR 511. Conservation in the United States.** 3 hours winter. (OSU)

Principles and needs of conservation. Prerequisite: Graduate standing.

\* Special fee



# Oceanography

(Related courses listed under **Biology, General Science, Zoology, Geography and other related Science subjects**)

Oc 331. **Introduction to Oceanography.** 3 hours winter. (OSU)

Elective nontechnical course designed to give student broad general background. Emphasis on relationship between oceanography and other fields. Prerequisite: junior standing.

# Philosophy

(Related course under **Humanities**)

Phl 201. **Problems of Philosophy.** 3 hours fall and winter. (PSC)

An introduction to some of the persistent problems and great systems of philosophy through reading and discussion of selected source materials.

Phl 202. **Elementary Ethics.** 3 hours winter. (PSC)

The course develops the idea of man as a moral agent and considers critically various interpretations of the ideals and standards of moral conduct.

Phl 203. **Elementary Logic.** 3 hours fall and spring. (PSC)

An introductory study of the standard forms of reasoning. Exercise in recognizing, analyzing, criticizing, and constructing the main types of argument and proof.

Phl 204. **Elementary Aesthetics.** 3 hours spring. (PSC)

An introductory study of theories of beauty and art, and interpretations of aesthetic experience.

Phl 301, 302, 303. **History of Philosophy.** 3 hours each term. (PSC)

A study of Western philosophy from the pre-Socratic Greek philosophers to Hegel.

Phl 331-332a, 332b-333. **Contemporary Philosophy.** 3 hours fall and winter. (UO)

Some common phases of recent philosophical theory.

# Physical Education

(Related courses listed under **Health and Recreation**)

PE 341. **Principles & Practice of Physical Education.** 3 hours spring. (PSC)

An interpretative study and analysis of the principles and practices of physical education, through their historical development and in their present application and significance.

PE 472. **Kinesiology.** 3 hours spring. (UO)

Action and muscles involved in fundamental movements, calisthenics, gymnastics, and athletics. Prerequisite: Bi 371, 372.

PE 506. **Special Problems: Athletic Injuries.** Hours to be arranged spring. (UO)

PE 507. **Seminar: Contemporary Dance.** 3 hours fall. (UO)

The seminar in Contemporary Dance will be conducted on a combined lecture-laboratory basis. Purposes of the course will be to provide students with experiences designed to enrich the movement vocabulary; to prepare the body in greater strength, agility and coordination; to experience using the body as an instrument of expression through the medium of movement. Stress will be placed upon the organization of materials of dance for use in teaching,

appropriately selected and presented for use at various grade and experience levels.

PE 507. **Seminar: Dance Choreography.** 3 hours winter. (UO)

The seminar in Dance Choreography will be conducted on a combined lecture-laboratory basis. Purposes of the course will be: (1) to analyze and employ movement as related to time, space, and force; (2) to study and apply the basic principles of art form to dance; (3) to select thematic materials for dance from other art forms. The principles of choreographic form will be studied and then applied through the development of studies based on improvisational, sensory, and ideational stimuli.

PE 507. **Seminar: Dance History & Philosophy.** 3 hours spring. (UO)

Study of the history of dance from the basic cultures to the early Middle Ages relating dance to anthropological roots and identifying music and movement forms and choreography to cultures in which they appear. Present-day dance forms will be traced to early origins. Philosophic concepts for dance in education will be studied from which principles will be determined for guiding the teaching of dance.

PE 572, 573. **Gross Anatomy.** 3 hours fall and winter. (UO)

Principles and facts in the fields of myology, osteology, arthrology, neurology, and angiology of importance to college teachers of physical education who give instruction in anatomy, kinesiology, and physiology of exercise. Application to body movement and performance. Prerequisite: Bi 371, 372, PE 472, PE 473; or equivalent.

## Physics

(Related courses listed under Mathematics, Engineering and Science classifications)

Ph 201, 202, 203. **General Physics.** 5 hours each term. (PSC)

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

Ph 474, 475, 476. **Atomic and Nuclear Physics.** (g) 3 hours each term. (OSU)

Atomic structure and atomic processes; introduction to quantum mechanics; properties of atomic nuclei; subatomic particles and their behavior. Prerequisite: Ph 313 and Mth 322 or graduate standing in chemistry or engineering and approval of instructor.

Ph 520. **Astronomy.** 3 hours fall. (OSU)

Ph 591. **Meteorology.** 3 hours winter. (OSU)

## Political Science

(Related courses listed under History and Social Science)

PS 201, 202, 203. **American Governments.** 3 hours each term. (PSC)

Fall and winter: National government. Spring: state and local governments.

PS 311. **Principles of Political Science.** 3 hours fall. (UO)

Analysis of major concepts underlying the study of politics and administration, designed to provide a systematic introduction to the field for political science majors.

PS 407. **Seminar: Marxist-Leninist Ideology and the Evolution of Soviet Society.** 3 hours fall. (PSC)

Background of Marxist ideology and the development of Soviet society from Czarist times.

- PS 414. **Political Parties and Public Opinion.** (G) 3 hours fall. (UO)  
 Analysis of the structure and functions of political parties and public opinion, to provide a thorough understanding of the broad area of politics in various contexts, and of the critical role of politics in society; the interrelationship of generalization and political experience.
- PS 425. **Government and Politics of France.** (G) 3 hours winter. (UO)  
 Governmental institutions and political processes in France.
- PS 427, 428. **Government and Politics of the Soviet Union.** (G) 3 hours winter and spring. (UO)  
 Governmental institutions and political processes in the Soviet Union.
- PS 454. **Competing Ideologies in the World Today.** (G) 3 hours spring. (UO)

## Psychology

### (Related courses listed under Education, Speech Correction)

- Psy 201, 202, 203. **General Psychology.** 3 hours each term. (PSC)  
 Basic principles and theories of behavior. Discussion of individual differences, intelligence, aptitude, methods of psychological measurement and testing, drives and motives, emotions and reactions to stress, perception, learning, thinking, reasoning, personality; and the response mechanism, communication processes, attitudes and social processes, frontiers of psychology. Sophomore standing is recommended.
- Psy 311. **Human Development.** 3 hours any term. (PSC)  
 Development of the child as an individual and as a member of social groups. Included is a comparative study of different home and school environments as they influence the psychological growth of the child. Field projects supplement the class work. Primarily for majors in education. Prerequisite: Psy 201, 202.
- Psy 318. **Applied Psychology.** 3 hours spring. (PSC)  
 Application of psychological facts and principles to human problems in business, industry, law enforcement, crime detection, advertising, and related fields. Prerequisites: Psy 201, 202, 203.
- Psy 335. **Counseling and Testing.** 3 hours winter. (PSC)  
 A survey of counseling and interviewing techniques, use of psychological tests in support of counseling procedures. Prerequisites: Psy 201, 202, 203.
- Psy 407. **Seminar: Advanced Techniques of Counseling Alcoholics for Clergy.** 2 hours spring. (UO)  
 Limited to clergy with scholarships. Contact Mr. Robert J. Gridley.
- Psy 407. **Seminar: Understanding and Counseling the Alcoholic.** 2 hours fall and winter. (UO)  
 Limited to clergy with scholarships. Contact Mr. Robert J. Gridley.
- Psy 411. **Mental Hygiene.** (g) 3 hours spring. (OSU)  
 Principles and application of mental hygiene to problems of individual in home, school, and occupational situations. Prerequisite: Psy 314 or equivalent.
- Psy 421, 422. **Principles and Methods of Psychological Assessment.** (g) 3 hours fall and winter. (UO)  
 Application of psychological methods to the study of the individual; theoretical and statistical rationale of test construction and interpretation; problems involved in the prediction of human behavior; survey of psychological assessment techniques. Prerequisite: Mth 425 or equivalent.

- Psy 432, 433, 434. **Personality.** 3 hours each term. (PSC)  
I. Personality structure and theory; II. Study and use of measures of personality including inventories, tests, and projective techniques; III. Disorders of personality, mental health. Prerequisite: Psy 201, 202, 203; Mth 425, 426 or equivalent.
- Psy 447. **Introduction to Industrial Psychology.** (g) 3 hours fall. (UO)  
Application of psychological principles to human problems in industrial situations. Emphasis on the understanding of individual needs and motivation; problems of satisfaction and morale; uses of group processes. Prerequisite: Psy 201, 202; or Soc 204, 205 and 3 hours in psychology.
- Psy 448. **Industrial Psychology.** (G) 3 hours winter. (UO)  
Problems of industrial motivation and morale; prevention of fatigue, monotony, and accidents; principles underlying job analysis and classification; use of psychological tests in the selection and placement of employees; interviews, questionnaires, aptitude scales, and ratings as psychological measures in personnel work; evaluation of service. Prerequisite: introductory courses in statistics and testing.
- Psy 450. **Abnormal Psychology.** (g) 3 hours spring. (UO)  
Various forms of unusual behavior, including anxiety states, hysteria, hypnotic phenomena, and psychoses. Normal motives and adjustment mechanisms considered in their exaggerations in the so-called neurotic person.
- Psy 460. **Developmental Psychology I: Infancy and Childhood.** (g)  
3 hours fall. (UO)  
See: Ed 460
- Psy 461. **Developmental Psychology II: Adolescence and Maturity.** (g)  
3 hours winter. (UO)  
See: Ed 461
- Psy 465. **Motivation.** (G) 2 hours fall. (UO)  
Review of changing conceptions of motivation, particularly as a result of clinical studies, experimental work on animal behavior, and the contributions of topological psychology.
- Psy 472, 473. **Individual Differences.** (g) 3 hours fall and winter. (OSU)  
Theories of personality; experimental evidence on individual differences; evaluation of differences; guiding and directing normal development. Prerequisite: Psy 371 or equivalent. Prerequisite for 473 or 474: Psy 472.
- Psy 492. **Psychology of Perception.** (g) 3 hours spring. (UO)  
Survey of fundamental concepts of vision, audition, somesthesia, etc. Psychophysiological factors and psychophysical methodology.
- Psy 507. **Seminar: Advanced Techniques of Counseling Alcoholics for Clergy.**  
2 hours spring. (UO)  
Limited to clergy with scholarships. Contact Mr. Robert J. Gridley.
- Psy 507. **Seminar: Creative Thinking for Leadership.** 3 hours spring. (UO)  
The nature of human creativity, techniques of assessment methods for promoting creative thinking in groups and organizations.
- Psy 507. **Seminar: Personal Adjustment and Counseling.** 3 hours winter. (UO)  
Designed to cut across professional lines and to afford a discussion of counseling problems common to psychologists, educators, social workers, public health nurses and ministers. Primary emphasis will be on the counseling interview.
- Psy 507. **Understanding and Counseling the Alcoholic.** 2 hours fall and winter. (UO)  
Limited to clergy with scholarships. Contact Mr. Robert J. Gridley.

- Psy 519. **Research Studies in Child Development.** 3 hours fa'l. (OCE)  
Survey and interpretation of current research studies and experimental programs concerned with the physical, emotional, intellectual and social development of children.
- Psy 520. **Psychology of Learning.** 3 hours spring. (OCE)  
(UO)  
Introduction to the major theories of learning current among psychologists doing research in the field. Experimentation and research underlying these theories applied to modern educational practices. Includes learning theory and practices at all age levels through adulthood.
- Psy 524, 525. **Individual Intelligence Testing.** 3 hours fall and winter. (UO)  
Supervised practice in the administration, scoring, and interpretation of intelligence tests, chiefly the Stanford-Binet, the Wechsler intelligence scale for children, and the Wechsler adult intelligence scale. Prerequisite: Psy 421.

## Recreation

(Related courses listed under Health, Physical Education)

- Rec 499. **School and Community Recreation Programs.** (G) 3 hours fall. (UO)  
Types of recreational activities considered in relation to sex, age and individual interest, needs, and capacities; leadership procedures.
- Rec 507. **Seminar: Recreation & Park Facilities.** 3 hours winter. (UO)
- Rec 552. **Principles and Problems of Recreation Supervision.** 3 hours spring. (UO)  
The purpose of supervision; principles and techniques of supervision in a modern program of recreation; staff relationships; departmental organization; policies, regulations, problems. Prerequisite: Rec 393, Rec 499; or consent of instructor.

## Religion

- R 201, 202, 203. **Great Religions of the World.** 3 hours each term. (UO)  
Study of Hinduism, Buddhism, Confucianism, Taoism, Islam, Judaism, and Christianity, according to their basic scriptures. Special attention to the origins, organization, and philosophy of these religions; analysis of their world views and conceptions of God, man, ethics, and human destiny.
- R 419. **Philosophy of Religion.** (g) 3 hours fall. (UO)  
Concepts of reality and human nature within a religious perspective. Fall: major ideas of Deity, patterns of reasoning concerning God as personal being, the problem of evil.
- R 423. **Contemporary Concepts of God.** (g) 3 hours winter. (UO)  
Study of contemporary religious thinking, based on selected readings from representative philosophers of religion such as Dewey, Wieman, Whitehead, Boodin, Royce, Brightman, Niebuhr, Tillich, Buber, Maritain, etc.

## Romance Languages

(Related courses listed under Germanic Languages and Russian)

### French

- RL 50, 51, 52. **First-Year French.** 4 hours each term. (PSC)  
An introduction to French, stressing hearing, speaking, reading, and writing. Exercises in elementary composition and grammar.

- RL 101, 102, 103. **Second-Year French.** 4 hours each term. (PSC)
- RL 311, 312, 313. **Survey of French Literature.** 3 hours each term. (PSC)  
French literature from the Middle Ages to the present; readings from representative authors. Prerequisite: Two years of College French or equivalent.
- RL 314, 315, 316. **Intermediate French Composition and Conversation.** 2 hours each term. (PSC)  
Exercises in pronunciation, comprehension, and composition. Ample opportunity for conversation. Prerequisite: Two years of college French or equivalent.

## Italian

- RL 70, 71, 72. **First-Year Italian.** 4 hours each term. (UO)  
Grammar, pronunciation, composition, and translation of modern authors.
- RL 104, 105, 106. **Second-Year Italian.** 4 hours each term. (UO)  
Study of selections from representative authors. Composition, pronunciation, grammar.

## Spanish

- RL 60, 61, 62. **First-Year Spanish.** 4 hours each term. (PSC)  
An introduction to Spanish, stressing hearing, speaking, reading and writing.
- RL 107, 108, 109. **Second-Year Spanish.** 4 hours each term. (PSC)
- RL 347, 348, 349. **Intermediate Spanish Composition and Conversation.** 2 hours any term. (PSC)  
Fundamentals of pronunciation. Extensive oral and written practice. Conducted in Spanish. Prerequisite: Two years of college Spanish or equivalent.

## Russian

(Related courses listed under Germanic Languages, Romance Languages)

- SL 50, 51, 52. **First-Year Russian.** 4 hours each term. (PSC)  
Elements of the Russian language, stressing hearing, speaking, reading, and writing.
- SL 101, 102, 103. **Second-Year Russian.** 4 hours each term. (PSC)

## Science

(Related courses listed under the individual Sciences and Mathematics)

- Sc 511. **Contemporary Developments in the Sciences and Mathematics.** 3 hours fall. (OCE)  
Review of recent literature on some selected areas in the field of the natural sciences and mathematics. Includes a brief examination of the aims, purposes, and organization of the field and an evaluation of research activities and the scientific manpower problem. Selected readings.

## Science Education

- SEd 441. **Health Education.** (G) (1st term) 3 hours fall. (OSU)  
Philosophy and principles of health education, organization and administra-

tion, and coordination of school health activities with various resources. First term major emphasis is placed on health services and healthful school living.

- SEd 481. **Alcohol Studies in School Curriculum.** (G) 3 hours winter. (OSU)  
Incorporation of scientific information about alcohol in school curriculum; physiological, psychological, sociological, and legal aspects of alcoholism. Prerequisite: 24 hours of upper division education.
- SEd 507. **Seminar: Physical Growth & Development.** 3 hours spring term. (OSU)

## Secretarial Science

(Related courses listed under Accounting, Business Administration, Marketing and Industrial Management)

- SS 111. **Briefhand.** 3 hours winter. (PSC)
- SS 111, 112, 113. **Stenography.** 3 hours each term. (PSC)  
Theory of shorthand; practical applications in sentence dictation. SS 121, 122, 123 must be taken concurrently unless the student has had the equivalent. Students with one year of shorthand are not permitted to take course SS 111 for credit.
- SS 121. **Typing.** 2 hours fall or winter. (PSC)  
Theory and practice of touch typing; rhythmical drills, dictation exercises; writing paragraphs; punctuation and mechanical arrangements of business correspondence, legal forms, tabulating, manifolding, speed practice. Students with one year or more of typing are not permitted to take SS 121 for credit.
- SS 122. **Typing.** 2 hours any term. (PSC)  
Theory and practice of touch typing; rhythmical drills, dictation exercises; writing paragraphs; punctuation and mechanical arrangements of business correspondence, legal forms, tabulating, manifolding, speed practice.
- SS 123. **Typing.** 2 hours spring. (PSC)  
Theory and practice of touch typing; rhythmical drills, dictation exercises; writing paragraphs; punctuation and mechanical arrangements of business correspondence, legal forms, tabulating, manifolding, speed practice.
- SS 211, 212, 213. **Applied Stenography.** 3 hours each term. (PSC)  
Advanced principles and phrases; dictation and transcripts covering vocabularies of representative businesses; legal forms; newspapers and magazine articles. Prerequisite: SS 113, 123 or equivalent.
- SS 215. **Business Machines.** 3 hours fall or spring. (PSC)  
Use and operation of various office equipment and machines.
- SS 321. **Technical Reporting.** 3 hours spring. (OSU)  
Advanced stenographic training in specialized business fields. Prerequisite: SS 123, 213.
- SS 411. **Secretarial Problems.** 3 hours fall. (OSU)  
Duties and problems of the secretary in business and professions; relation to employer and fellow employees; office supervision. Prerequisite: SS 421 or equivalent.
- SS 422. **Office Organization and Management.** 3 hours winter. (OSU)  
Scientific office management; organization; arrangement; operation; employment and training of office workers; efficiency problems; business ethics. Prerequisite: SS 313 or consent of instructor.

## Social Science

(Related courses listed under History, Political Science, Economics, Philosophy)

- SSc 492. **Ideologies of the Twentieth Century.** (g) 3 hours fall. (OCE)  
Capitalism, Communism, Socialism, and Fascism, considered as politico-economic systems. Totalitarian methods contrasted with democratic methods.
- SSc 511. **Contemporary Developments in the Social Sciences.** 3 hours winter. (OCE)  
A study of contemporary literature in the various social science areas.

## Social Work

(Related courses listed under Sociology and Psychology)

- SW 507. **Seminar: Personality of the Hard-to-Reach Individual I.** 3 hours fall and winter. (UO)  
The study of the "hard-to-reach" youth and adult in terms of personality structure, needs, interaction with others and with community agencies; designed to give social work practitioners increased understanding of such individuals. (This course is not applicable to a graduate degree in social work.)
- SW 507. **Seminar: Personality of the Hard-to-Reach Individual II: Case Studies.** 3 hours spring. (UO)  
Development of skill in diagnosis of the personality problems of "hard-to-reach" adults and children; principles of treatment. Students will be expected to submit case material for diagnostic study and treatment planning. Prerequisite: SW 507, Seminar: Personality of the Hard-to-Reach Individual I, or consent of the instructor. (This course is not applicable to a graduate degree in social work.)
- SW 511, 512, 513. **Social Case Work.** 3 hours each term. (UO)  
Generic concepts of case work practices in different agency settings; diagnoses and analysis of cases, treatment problems.
- SW 516. **Personality Development.** 2 hours fall. (UO)  
The growth of the individual with emphasis on emotional factors; the integration of psychiatric theory with case work; social factors that influence development; special lectures and case studies.
- SW 517. **Personality Development.** 2 hours winter. (UO)  
Emotional problems commonly met in social agencies; the role of psychiatrist and case worker in the study and treatment of the patient. Prerequisite: SW 516 or consent of instructor.
- SW 572. **Community Organization for Social Welfare.** 3 hours spring. (UO)  
Problems involved in bringing about an adjustment between social welfare needs and resources; understanding the social forces of the community; methods used by public and private agencies to meet these needs; interpretation of agency problems to the community.
- SW 580. **Introduction to Public Welfare.** 3 hours fall. (UO)  
History, philosophy and current theories of social welfare work; development of public and voluntary programs of social services.
- SW 581. **The Child and the State.** 3 hours spring. (UO)



SW 582. **Administration of Social Insurance.** 3 hours winter. (UO)

The social insurance movement in the United States and selected foreign countries. Present legislation; administrative problems in unemployment compensation and in insurance for the aged, survivors, disabled, and sick. Prerequisite: SW 580 or consent of instructor.

## Sociology

(Related courses listed under Social Work and Psychology)

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. Soc 204 and 205 are prerequisites to Soc 206. Open to freshmen.

Soc 308. **World Population and Social Structure.** 3 hours fall. (UO)

Introduction to the general field of population studies, providing within a sociological framework an analysis of historical, contemporary, and anticipated population conditions and trends, as these are related to social situations and the organization of society. Prerequisite: Soc 204, 205, 206 or Soc 307.

Soc 334, 335. **Social Psychology.** 3 hours winter and spring. (PSC)

Analysis of the psychological and sociological processes in personality formation and in various forms of group behavior. Particular attention to origin, function, ideologies, membership, and leadership. Prerequisite: Soc 204, 205 or Psy 201, 202.

Soc 338. **Marriage and the Family.** 3 hours any term. (PSC)

The growth and development of the family throughout its life cycle. The family and personality development, dating, courtship, mate selection, engagement, marital and family adjustment, family crisis. Prerequisite: junior standing or consent of instructor.

Soc 407. **Seminar: Social Welfare Resources and Organization** (Use of Social Agencies by Teachers, Nurses, and other Professionals). (G) 3 hours spring. (UO)

The various types of social welfare resources which teachers, nurses, and other professionals can use to help people with social and emotional problems, methods of organizing these resources for the meeting of human needs.

Soc 407. **Seminar: Penological Systems.** (G) 3 hours spring. (UO)

Soc 416, 417. **Criminology and Delinquency.** (G) 3 hours fall and winter. (UO)

The nature and extent of delinquency and crime as forms of deviant social behavior; contributing factors; current prevention and treatment programs. Prerequisite: Soc 204, 205; or Psy 201, 202; or Soc 307.

Soc 421. **Social Change.** (G) 3 hours winter. (UO)

Analysis of the processes, characteristics, and conditions of change in large social systems. Systematic examination of various theoretical problems and formulations. Prerequisite: 9 hours in sociology or consent of instructor.

Soc 431, 432. **Community Structure and Organization.** (G) 3 hours fall and winter. (UO)

Analysis of the human community. First term: origin and development of communities; world urbanization patterns; functional organization and spatial structure of cities. Second term: social structure of communities; social class; differential participation in informal and formally organized associations; leadership roles and influence patterns; community conflict.

Soc 438. **Collective Behavior.** (G) 3 hours spring. (UO)

A social-psychological study of the behavior of persons in such collective

contexts as crowds, mobs, and publics, i.e., in the less stable and predictable phases of group life. Fads, crazes, rumor, panics, riots, and mass hysteria analyzed in terms of social and psychological determinants and consequences. Prerequisite: Soc or Psy 334, 335 or equivalent.

Soc 440. **Group Dynamics.** (G) 3 hours winter. (UO)

Analysis of the dynamics of group interaction through readings and experimentation in the classroom setting.

## Speech

Sp 111, 112, 113. **Fundamentals of Speech.** 3 hours each term. (PSC)

Projects in extempore speaking. Emphasis on content and organization of the speech, but attention also to poise, effective delivery, and command of the language.

Sp 114. **Speech Development.** 3 hours fall. (PSC)

Speech projects designed to improve general speech personality and communication, and to develop better voice and diction.

Sp 225. **Public Speaking for Business and Professional Men and Women.**

2 hours fall. (UO)

A practical course in actual speaking. Poise on the floor; improvement of diction and voice; organization of speech materials and presentation in direct conversational style. Persuasion in speaking; sales talks. Study of motives that impel men to action and ways of reaching these motives.

Sp 231. **Parliamentary Procedure.** 3 hours winter. (OSU)

Rules of parliamentary procedure; practice in application; forming temporary and permanent organizations; preparation of constitutions and bylaws. Students serve as chairman and secretary and learn how to participate effectively in meetings.

Sp 315. **Costume Workshop.** 3 hours fall. (UO)

Instruction in the art and craft of stage costuming; practical experience in the design, construction, and maintenance of theatrical costumes.

Sp 322. **Discussion.** (Second Term) 3 hours spring. (PSC)

Theory of discussion as it applies to improved interpersonal relations and cooperative problem-solving. Practice in typical applications of discussion in community affairs, in business, and in teaching and other professions. Prerequisite: Sp 111.

Sp 351. **Technique of Acting: Voice.** 3 hours fall. (UO)

Problems in the use of voice in dramatic roles.

Sp 352. **Technique of Acting: Characterization.** 3 hours winter. (UO)

Problems in the analysis and presentation of characters.

Sp 353. **Advanced Acting.** 3 hours spring. (UO)

Advanced problems in acting technique; study, rehearsal, and performance. Prerequisite: Sp 251, Sp 351, 352; consent of instructor.

Sp 413. **Teaching Speech in the Elementary School.** 3 hours winter. (PSC)

Methods and materials. Instruction in speech practices and projects suitable for the elementary classroom. Attention to the needs of children with both normal and defective speech. Recommended for all prospective elementary teachers.

## Speech Correction

Sp 370. **Phonetics.** 3 hours fall. (PSC)

A study of sounds used in speech; determination of sounds; their symbolic

nature; their production; physical and psychological problems involved in their perception. No prerequisite.

Sp 371. **Speech Science.** 3 hours winter. (UO)

A study of the anatomy, psychology, and physics of speech.

Sp 481, 482, 483. **Speech Pathology.** (G) 3 hours any term. (UO)

Symptoms, causes, and treatment of speech abnormalities. Sp, 481: functional articulatory defects, delayed speech, emotional speech disorders; Sp 482: organic speech disorders, including deviations due to congenital malformation, injury, deafness, and neurological impairment; Sp 483: public school speech correction, specific techniques in the diagnosis and treatment of major speech problems. Prerequisite: Sp 370, Sp 371 or consent of instructor.

Fall: Sp 483

Winter: Sp 481

Spring: Sp 482, 483

Sp 484, 485, 486. **Clinical Speech Therapy.** (G) 2 hours fall or spring. (UO)

Supervised clinical work with speech-defective children and adults enrolled for counseling, testing, and treatment in the Speech and Hearing Clinic; group discussion of case histories and techniques. Prerequisite: Sp 481, 482 or consent of instructor.

Sp 487. **Audiology.** (G) 3 hours spring. (UO)

The auditory function, hearing impairment, and the education or re-education of persons with hearing loss. Anatomy of the ear, psycho-physics of hearing, physical attributes of speech sounds, types and causes of hearing loss, speech involvements of deafness.

Sp 507. **Seminar: Advanced Practicum in Clinical Procedures in Speech.**

9 hours each term. (UO)

Students will participate in all activities of speech clinic at the Crippled Children's Division, University of Oregon Medical School. Opportunity will be provided to work with the various diagnostic teams, including all the different medical and non-medical specialties, to observe treatment of many kinds of crippling disorders, and to engage in diagnosis and treatment of specific kinds of speech and language disorders under supervision. Course is designed to provide additional training for clinicians in the field, but other advanced students in speech may be accepted. Enrollment limited to 2 per term. Consent of instructor required.

Sp 507. **Seminar: Speech and Language Problems Associated with Mental Retardation.** 3 hours fall. (UO)

Course will deal with types of mental retardation, common causes, and effects of various kinds of retardation on the acquisition and development of speech and language in the child. Attention will be directed toward specific problems in speech and language which are due to mental retardation. Relationships between mental retardation, brain injury, cerebral palsy, deafness and other such problems will be studied. Evaluation procedures and aspects of differential diagnosis in mental retardation will be demonstrated with live cases. General and specific procedures for teaching speech and language to children with mental retardation will be studied and demonstrated. Course is designed specifically for teachers of the mentally retarded, remedial reading teachers, classroom teachers, and speech clinicians, but other qualified persons also may be admitted. Class is limited to fifteen. Consent of instructor required.

Sp 507. **Seminar: Auditory Disorders.** 3 hours winter. (UO)

Course will provide study of some of the current developments in audiology of both practical and theoretical importance. There will be a development and study of the concept of "auditory maturation", and its role in the learning of speech and language by the child. Several dimensions of the auditory response, beyond hearing acuity, will be included. This involves a study of individual differences to frequency and intensity changes, localization ability, threshold shifts, and the perception aspects of speech audiometry. The clin-

ical value of several new tests will be considered and, where possible, experience in their administration and interpretation will be given. The class is designed for students in speech and hearing who wish to advance their knowledge of the auditory function and its measurement. Consent of instructor required.

Sp 507. **Seminar: Practicum in Cerebral Palsy.** 3 hours spring. (UO)

A course designed for persons who have had considerable training and clinical experience in speech correction. Study of causes, methods of diagnosis, and speech therapy for the Cerebral Palsied. Course includes about twenty clock hours of supervised clinical practice with Cerebral Palsied patients. Consent of instructor required.

## Statistics

(Related courses listed under **Education and Mathematics**)

St 421, 422, 423. **Statistical Inference.** (G) 3 hours each term. (OSU)

Designed for prospective research workers and is taught as the technology of the scientific method. Prerequisite: senior standing; Mth 100 or equivalent.

## Writing

(Related courses listed under **English, Business Administration, Secretarial Science**)

Wr 111, 112, 113. **English Composition.** 3 hours each term. (PSC)

The principles and forms of composition, including the library research paper; effective expression of the student's ideas through impromptu and prepared essays on topics of some significance, with special attention to organization. Mastery of the basic mechanics of English expression is presupposed; students who have deficiencies in fundamental language skills or insufficient preparation for college-level work in written English may be required to register for 1 hour in Writing Laboratory in addition to Wr 111. Wr 111 is a prerequisite for Wr 112, and Wr 112 is a prerequisite for Wr 113.

Wr 214. **Business English.** 3 hours winter. (OSU)

Analysis and writing of common types of business letters. Prerequisite: Wr 113.

Wr 214. **Business English.** 3 hours fall and spring. (PSC)

Study of modern practices in business correspondence, primarily for students of business administration. Analysis and writing of the principal types of correspondence. Prerequisite: Wr 111, 112, 113.

Wr 324, 325, 326. **Short-Story Writing.** 3 hours each term. (UO)

For students interested in creative writing or in professional writing for magazines. Prerequisite: consent of instructor.

Wr 411. **English Composition for Teachers.** (g) 3 hours winter. (UO)

For students expecting to teach English in high school. Practice in writing and a review of the rules of composition. Recommended for satisfaction of the high-school teaching requirement in English. Prerequisite: Wr 111, 112, 113.

## Zoology

(Related courses listed under **Biology, General Science, Natural Science and other Science subjects**)

Z 541. **Heredity.** 3 hours winter. (OSU)

# General Extension Division

## (Division of Continuing Higher Education)

The General Extension Division (Division of Continuing Higher Education) is an agency of the Chancellor's Office, responsible for innovating, developing, and expediting adult educational and cultural programs and providing the management by which instructional and service offerings of the Oregon State System of Higher Education are extended.

The Division administers: 1. Offerings for credit, such as regular courses, correspondence study, workshops, institutes and telecourses. 2. Services of a noncredit nature, such as audio-visual activities and facilities, cultural activities, and other educational service projects. 3. Continuing-education opportunities for adults through noncredit courses, institute-conference programs, radio, television films and other media of communication of information.

The General Extension Division is responsible for establishing, staffing and maintaining departments for education services, regional offices, audio-visual, radio and television facilities to provide higher education for adults based on the unified program of the Oregon State System of Higher Education.

Continuation centers (extension centers) are located near campuses of the colleges and universities in the Oregon State System of Higher Education. The centers are: Portland, Monmouth-Salem, Corvallis, Eugene, Ashland, Klamath Falls, La Grande. In addition some General Extension Division classes are organized at various other locations throughout this state.

## Administration and Staff

ROY E. LIEUALLAN, Chancellor, Oregon State System of Education  
JAMES W. SHERBURNE, Dean, General Extension Division  
DANIEL W. FULLMER, Head of Office of Development and Evaluation  
PAUL E. WATSON, Director, Continuation Centers  
VIRON A. MOORE, Director, State-Wide Services  
RALPH W. STEETLE, Director, Department of Educational Media

## Portland Continuation Center

Working in liaison with other departments of the Division, Portland Center develops and offers evening and summer term programs for students of the Portland Metropolitan area and for others who wish to avail themselves of specific programs. A wide range of both credit and noncredit offerings is available through Portland Center.

The summer term program is designed to serve full-time and part-time students in all areas of credit—lower division, upper division and graduate. During both the academic year and the summer term, noncredit short courses, conferences, workshops and other special programs are provided, many of these in cooperation with the business, industrial and economic community.

## Administration and Staff

LEROY R. PIERSON, Head of Portland Center  
ROBERT J. GRIDLEY, Chairman of Special Programs  
HAROLD W. BERNARD, Coordinator of Counseling and Guidance

GEORGE DIEL, Coordinator of Public Affairs  
 JOHN E. GRENFELL, Coordinator of Student Personnel Services  
 CLARK SPURLOCK, Coordinator of Instructional Program (PSC)  
 GEORGE TIMMONS, Coordinator of Instructional Program  
 JOSEPH J. AZZARELLI (UO), Consultant, School Administration  
 ANDRIES DEINUM, Consultant, the Humanities  
 ROBERT H. ENGLISH, Consultant, Speech and Hearing  
 HUGH G. LOVELL, Consultant, Special Programs  
 JOAN MERRITT, Consultant, the Humanities  
 WAYNE OTTO (UO), Consultant, the Humanities  
 ROBERT SMITH, Consultant, Special Programs  
 CHARLES F. ZIEBARTH (UO), Consultant, Business Administration  
 NINA SUE GORDON, Counselor, Counseling Center for Adults  
 AILEEN MCNETT, Supervisor, Clerical Personnel  
 ROBERT W. WILKINSON, JR., Administrative Assistant  
 R. DUANE ANDREWS, Counseling and Guidance  
 ROBERT L. CASTEEL, Speech and Hearing  
 WILL DRUM (UO), Sociology and Social Work  
 ROBERT C. FREDRICKS, Counseling and Guidance  
 RUTH E. HOPSON, General Science  
 GRACE IRISH, Counseling and Guidance  
 WILLIAM E. KLINE, Counseling and Guidance (on leave)  
 JOHN A. SCHULZ, Counseling and Guidance  
 RUTH WINCHELL, General Science

## Other Continuation Centers\*

Salem-Monmouth, Howard J. Akers, Head  
 Corvallis, Harold P. Hoyt, Head  
 Eugene, Dorothy D. Smith, Head  
 Ashland, Charles A. Ivie, Head  
 La Grande, Roy L. Skeen, Head

## Department of State-Wide Services

Helping implement the objectives of the Division, the Department of State-wide Services provides telecourses, correspondence study courses, conferences and consultant services to business, industry, education and other activities. State-wide Services also functions as a management structure for the various services activities of the Division including the Business Office, Registrar's Office Library, Information Services, Duplicating and Mailing Services.

## Department of Educational Media

The Department of Educational Media, established and embodied in the General Extension Division in 1960, utilizes radio, television and other audio-visual instruments in the service of the people of the state. Radio station KOAC is received through western and central Oregon. Two non-commercial educational television stations, KOAC-TV and KOAP-TV, serve more than 70 per cent of the state's population. KOAP-FM recently was donated to the Oregon System of Higher Education by Westinghouse, Inc., and is now a part of the educational media complex.

\*Heads of these Continuation Centers also are regional representatives for their respective areas.

# Faculty

- MARTIN ACKER, Ph.D., Assistant Professor of Education, University of Oregon.
- MARIAN C. AIKIN, M.Sc., Assistant Professor of Family Life, Oregon State University.  
B.Sc. (1939), Nebraska; M.Sc. (1943), Iowa State.
- CHESTER BOYD AINSWORTH, Ed.D., Associate Professor of Education and Industrial Education, Oregon State University.  
B.S. (1942), John Brown University; M.S. (1947), Oklahoma State; Ed.D. (1956), Missouri.
- MARJORIE ALBERTSON, M.M., Assistant Professor of Music, Portland State College and General Extension Division.  
B.M. (1929), M.M. (1941), Idaho.
- NOURY S. AL-KHALEDY, M.A. Assistant Professor of Semitic Languages, Portland State College.  
A.B. (1941), Aleppo College; A.B. (1947), American University; B.L.L. (1950), Syrian University; M.A. (1958), Union Theological Seminary.
- HARRY T. ALLEN, J.D., Assistant Professor of Business Administration, Oregon State University.  
B.A. (1953), Washington and Jefferson College; B.S. (1953), Massachusetts Institute of Technology; J.D. (1956), Chicago.
- JOHN E. ALLEN, Ph.D., Professor of Geology, Portland State College.  
B.A. (1931), M.A. (1932), Oregon; Ph.D. (1944), California.
- DONALD LOUIS AMORT, M.S., Assistant Professor of Electrical Engineering, Oregon State University.  
B.S. (E. Eng.) (1954), Oregon State; M.S. (1960).
- CARL LEONARD ANDERSON, Dr.P.H., Professor; Chairman of Hygiene and Environmental Sanitation, Oregon State University.  
B.S. (1928), Michigan; M.S. (1932); Dr.P.H. (1934).
- FREEMAN B. ANDERSON, Ph.D., Assistant Professor of English, Portland State College.  
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