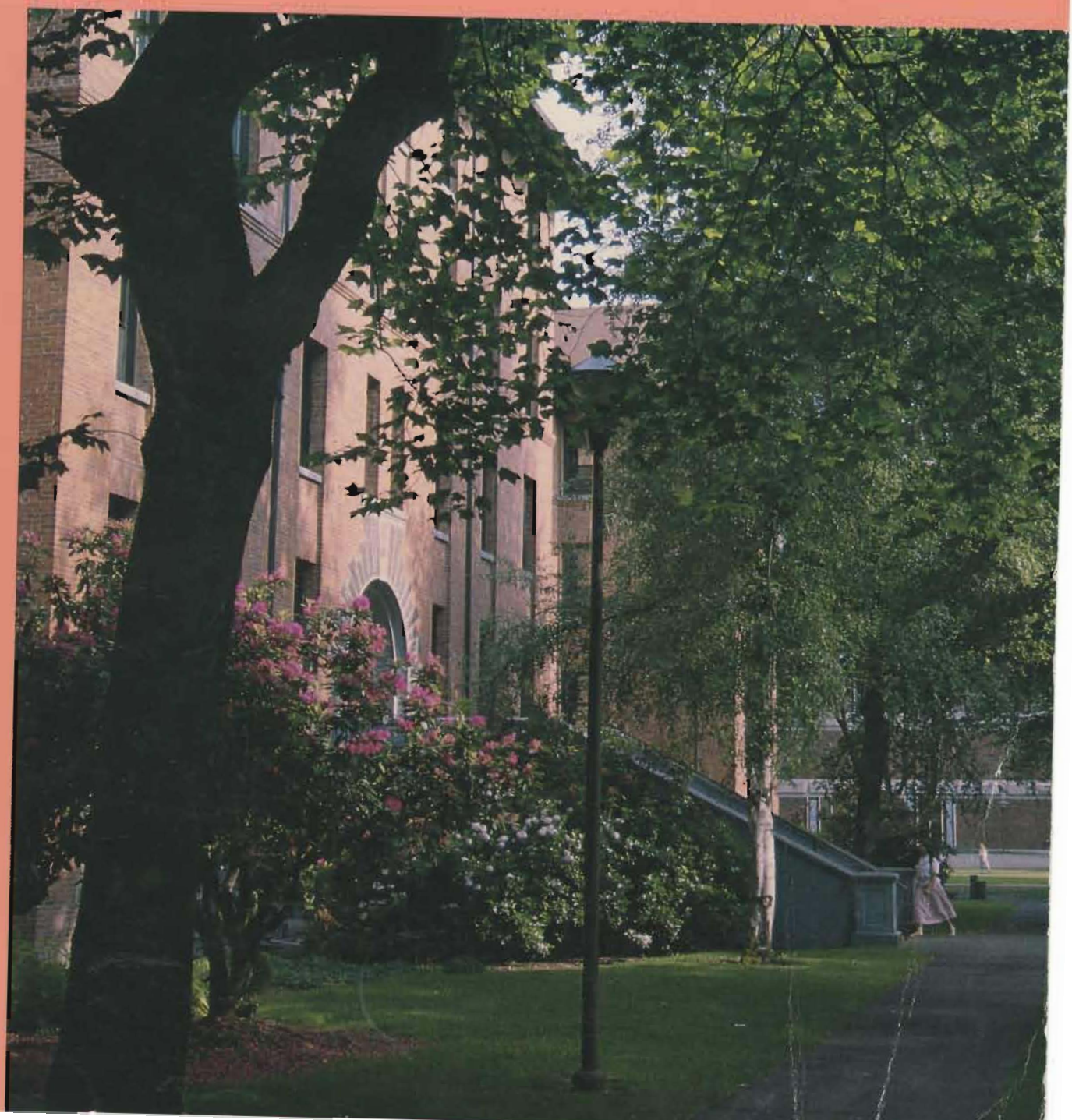
CATALOG

PACIFIC LUTHERAN UNIVERSITY

Tacoma, WA



The information contained herein reflects an accurate picture of Pacific Lutheran University at the time of publication. However, the university reserves the right to make necessary changes in procedures, policies, calendar, curriculum, and costs.

Listed in this catalog are course descriptions and summaries of degree requirements for majors, minors, and othe programs in the College of Arts and Sciences and the Schools of the Arts, Business Administration, Education, Nursing, and Physical Education. Detailed degree requirements, often including supplementary sample programs, are available in the offices of the individual schools and departments. Advising by university personnel inconsistent with published statements is not binding.

Pacific Lutheran University complies with the Family Education Rights and Privacy Act of 1974. Inquiries concerning the application of this act and published regulations to this university may be referred to the Executive Secretary to the Vice President and Dean for Student Life, Room 130, Hauge Administration Building, Pacific Lutheran University, telephone 535-7191, or the Family Education Rights and Privacy Office, Department of Education, 330 Independence Avenue S.W., Washington, D.C. 20201 (telephone 202/245-0233).

In keeping with its Statement of Objectives and in compliance with federal law, Pacific Lutheran University explicitly forbids and will not tolerate any conduct by employed personnel or by students that is culpable under the generic legal term, sexual harassment.

Sexual harassment in this context is understood as any sex-oriented or sex-related behavior, whether in action or in speech which is unwelcome to the person who is the object of such behavior. Tacit acceptance of such behavior does not imply proof that it was welcome to the recipient.

In an employment context, sexual harassment as here understood may also be culpable as legally prohibited sexual discrimination and hence subject to all relevant legal sanctions that pertain to such prohibited misconduct as well as to those sanctions that pertain specifically to sexual harassment.

Any form of reprisal, actual or by implication potential, whether academic or related to employment, is an aggravation of the prohibited behavior and will be construed as evidence of culpability.

Since individuals are not all equally sensitive to how others may perceive or interpret behavior that is sex-oriented or sex-related—even when no harassment is intended—anyone who finds such behavior offensive or unwelcome is herewith strongly encouraged so to inform the person responsible and to do so promptly, lest silence be mistakenly understood as consent.

Complaints regarding sexual harassment will be received, promptly investigated, and vigorously pursued to whatever final resolution may be appropriate. Such complaints may be made to the immediate supervisor of the alleged offender, or to a higher level supervisor, or to the director of personnel, or to an appropriate university officer. Complaints regarding sexual harassment may be made by persons other than the apparent recipient. To the extent possible, complaints will be dealt with confidentially and with a view to protecting both the complainant and the person who is accused but may be found innocent.

The purpose of this policy is to preserve for all the university's students and employees an academic and working environment that is as conducive as possible to achieving our personal and institutional goals with integrity and good will.

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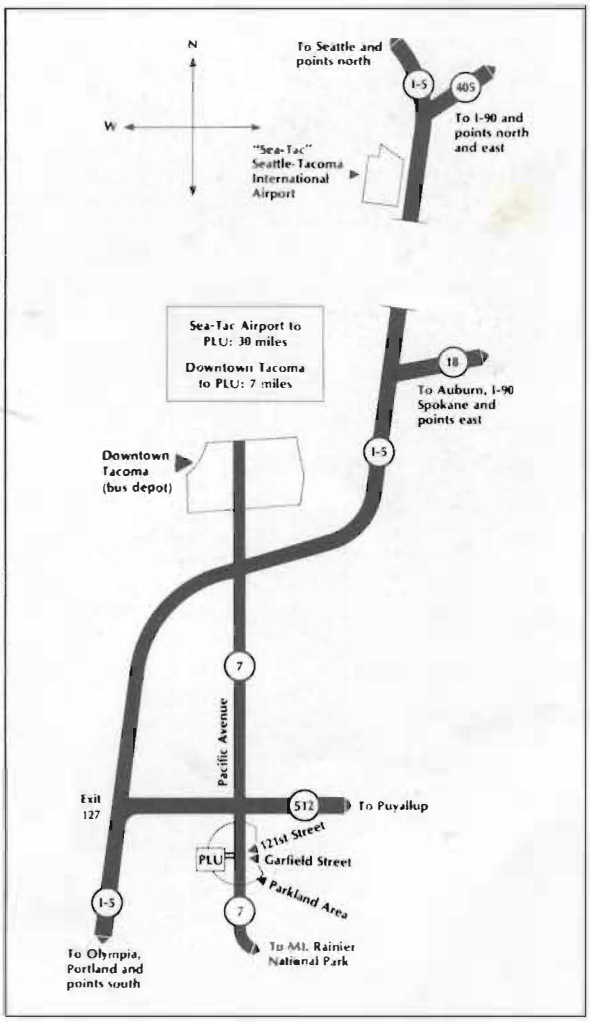
Pacific Lutheran University does not discriminate on the basis of sex, race, creed, color, national origin, age, or handicapped condition in the educational programs or activities which it operates, and is required by Title IX of the Education Amendments of 1972 and the regulations adopted pursuant thereto, by Title VI and Title VII of the Civil Rights Act of 1964, and by Section 504 of the Rehabilitation Act of 1973 not to discriminate in such manner. The requirements not to discriminate in educational programs and activities extends to employment therein and to admission thereto.

Inquiries concerning the application of said acts and published regulations to this university may be referred to:

1. The Director of Personnel, Room 107, Hauge Administration Building, Pacific Lutheran University, Telephone 535-7185, for matters relating to employment policies and practices, promotions, fringe benefits, training, and grievance procedures for personnel employed by the university.
2. The Deputy Provost, Room 104, Hauge Administration Building, Pacific Lutheran University, telephone 535-7125, for matters relating to student admissions, curriculum, and financial aid.
3. The Director of Counseling and Testing Services, Room 106, Ramstad Hall, Pacific Lutheran University, telephone 535-7206, for matters regarding administrative policies relating to students, student services, and the student administrative grievance procedure.
4. The Director of Counseling and Testing Services, Room 106, Ramstad Hall, Pacific Lutheran University, telephone 535-7206, for matters relating to the application of Section 504 of the Rehabilitation Act.
5. The Director of the Academic Advising and Assistance Center, Ramstad Hall, Pacific Lutheran University, telephone 535-7519, for matters relating to the academic grievance procedure.
6. Or the Assistant Secretary for Civil Rights, U.S. Department of Education, Switzer Building, 330 C Street S.W., Washington, D.C. 20202.



Objectives of the University

Pacific Lutheran University, born of the Reformation spirit, maintains the privilege of exploration and learning in all areas of the arts, sciences, and religion. The basic concern of Martin Luther was religious, but his rejection of church tradition as primary authority, and his own free search for religious truth, served in effect to liberate the modern mind in its quest for all truth. The total impact of Luther's stand has permanently shaped the modern world and helped provide the modern university with its basic methodology.

Pacific Lutheran University is a community of professing Christian scholars dedicated to a philosophy of liberal education. The major goals of the institution are to inculcate a respect for learning and truth, to free the mind from the confinements of ignorance and prejudice, to organize the powers of clear thought and expression, to preserve and extend knowledge, to help men and women achieve professional competence, and to establish lifelong habits of study, reflection, and learning. Through an emphasis on the liberating arts, the University seeks to develop creative, reflective, and responsible persons. At the same time, the acquisition of specialized information and technical skill is recognized as a condition of successful involvement in the modern world. The University seeks to develop the evaluative and spiritual capacities of the students and to acquaint them honestly with rival claims to the true and the good. It encourages the pursuit of rich and ennobling experiences and the development of significant personhood through an appreciation of humanity's intellectual, artistic, cultural, and natural surroundings. The University affirms its fundamental obligation to confront liberally educated men and women with the challenges of Christian faith and to instill in them a true sense of vocation.

By providing a rich variety of social experiences, Pacific Lutheran University seeks to develop in the student a joy in abundant living, a feeling for the welfare and personal integrity of others, good taste, and a sense of social propriety and adequacy. Distinguishing between personal Christian ethics and normal social controls, the University adopts only such rules as seem necessary for the welfare of the educational community.

The physical development of students is regarded as an integral part of their liberal education. Hence the University encourages participation in physical activities and respect for health and fitness.

Professing a concern for human nature in its entirety, the faculty of the University encourages wholesome development of Christian faith and life by providing opportunities for worship and meditation, offering systematic studies of religion, and encouraging free investigation and discussion of basic religious questions. The University believes the essence of Christianity to be personal faith in God as Creator and Redeemer, and it believes that such faith born of the Holy Spirit generates integrative power capable of guiding human beings to illuminating perspectives and worthy purposes. The University community confesses the faith that the ultimate meaning and purposes of human life are to be discovered in the person and work of Jesus Christ.

As an educational arm of the Church, Pacific Lutheran University provides a locus for the fruitful interplay of Christian faith and all of human learning and culture, and as such holds it a responsibility to discover, explore, and develop new frontiers. Believing that all truth is God's truth, the University, in achieving its educational and spiritual goals, maintains the right and indeed the obligation of faculty and students to engage in an unbiased search for truth in all realms.

PACIFIC LUTHERAN UNIVERSITY Directory

Tacoma, Washington 98447-0003 (206) 531-6900

The university is located at South 121st Street and Park Avenue in suburban Parkland. Office hours are from 8:00 a.m. to 5:00 p.m. Monday through Friday. Most offices are closed for chapel on Monday, Wednesday, and Friday from 10:00 to 10:30 a.m. during the school year, and on Fridays during June, July, and August all offices close at 12 noon. The university also observes all legal holidays.

The University Center maintains an information desk which is open daily until 10 p.m. (11 p.m. on Friday and Saturday).

Visitors are welcome at any time. Special arrangements for tours and appointments may be made through the admissions office or the university relations office.

FOR INFORMATION ABOUT:	CONTACT THE OFFICE OF:
General interests of the university, church relations, and community relations	**THE PRESIDENT**
Academic policies and programs, faculty appointments, curriculum development, academic advising and assistance, and foreign study	**THE PROVOST** *College of Arts and Sciences* *Division of Humanities* *Division of Natural Sciences* *Division of Social Sciences* *School of the Arts* *School of Business Administration* *School of Education* *School of Nursing* *School of Physical Education*
General information, admission of students, publications for prospective students, freshman class registration, and advanced placement	**THE DEAN OF ADMISSIONS**
Transcripts of records, schedules, registration, and transfer students	**THE REGISTRAR OR THE TRANSFER COORDINATOR**
Financial assistance, scholarships, and loans	**THE DIRECTOR OF FINANCIAL AID**
Financial management and administrative services	**THE VICE PRESIDENT-FINANCE AND OPERATIONS**
Fees and payment plans	**THE STUDENT ACCOUNTS COORDINATOR**
Campus parking, safety, and information	**THE DIRECTOR OF CAMPUS SAFETY AND INFORMATION**
Residence halls, counseling and testing, health services, minority affairs, foreign students, and extracurricular activities	**THE VICE PRESIDENT FOR STUDENT LIFE**
Gifts, bequests, grants, and the annual fund	**THE VICE PRESIDENT FOR DEVELOPMENT**
Work-study opportunities, student employment, and career options	**THE DIRECTOR OF CAREER PLANNING AND PLACEMENT**
Graduate programs and continuing education opportunities	**THE DEAN OF GRADUATE STUDIES AND CONTINUING EDUCATION**
Summer sessions	**THE DEAN OF SUMMER STUDIES**
Alumni activities	**THE DIRECTOR OF THE ALUMNI ASSOCIATION**
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Academic Calendar 1989-90

	SUMMER SESSION 1989
Monday, May 22	**Early term begins**
Friday, August 18	**Summer session closes; commencement**
	FALL SEMESTER 1989
Saturday, September 9 to Monday, September 11	**Orientation and registration**
Tuesday, September 12	**Classes begin, 8:00 a.m.**
	Opening convocation, 10:00 a.m.
Friday, October 27	**Mid-semester break**
Wednesday, November 22	**Thanksgiving recess begins, 12:50 p.m.**
Monday, November 27	**Thanksgiving recess ends, 8:00 a.m.**
Friday, December 15	**Classes end, 6:00 p.m.**
Saturday, December 16	**Mid-year commencement**
Monday, December 18 to Friday, December 22	**Final examinations**
Friday, December 22	**Semester ends after last exam**
	INTERIM 1990
Monday, January 8	**Begins**
Monday, January 15	**Martin Luther King, Jr., Birthday holiday**
Friday, February 2	**Ends**
	SPRING SEMESTER 1990
Tuesday, February 6	**Registration**
Wednesday, February 7	**Classes begin, 8:00 a.m.**
Monday, February 19	**Presidents' Day holiday**
Friday, March 16	**Mid-semester break**
Friday, April 6	**Easter recess begins, 6:00 p.m.**
Monday, April 16	**Easter recess ends, 4:00 p.m.**
Friday, May 18	**Classes end, 6:00 p.m.**
Monday, May 21 to Friday, May 25	**Final examinations**
Friday, May 25	**Semester ends after last exam**
Sunday, May 27	**Worship service and commencement**

Academic Calendar 1990-91

SUMMER SESSION 1990

Tuesday, May 29	**Early term begins**
Friday, August 24	**Summer session closes; commencement**

FALL SEMESTER 1990

Saturday, September 8 to Monday, September 10	**Orientation and registration**
Tuesday, September 11	**Classes begin, 8:00 a.m.**
	Opening convocation, 10:00 a.m.
Friday, October 26	**Mid-semester break**
Wednesday, November 21	**Thanksgiving recess begins, 12:50 p.m.**
Monday, November 26	**Thanksgiving recess ends, 8:00 a.m.**
Friday, December 14	**Classes end, 6:00 p.m.**
Saturday, December 15	**Mid-year commencement**
Monday, December 17 to Friday, December 21	**Final examinations**
Friday, December 21	**Semester ends after last exam**

INTERIM 1991

Monday, January 7	**Begins**
Monday, January 21	**Martin Luther King, Jr., Birthday holiday**
Friday, February 1	**Ends**

SPRING SEMESTER 1991

Tuesday, February 5	**Registration**
Wednesday, February 6	**Classes begin, 8:00 a.m.**
Monday, February 18	**Presidents' Day holiday**
Friday, March 22	**Easter recess begins, 6:00 p.m.**
Monday, April 1	**Easter recess ends, 4:00 p.m.**
Friday, May 17	**Classes end, 6:00 p.m.**
Monday, May 20 to Friday, May 24	**Final examinations**
Friday, May 24	**Semester ends after last exam**
Sunday, May 26	**Worship service and commencement**

General Information

HISTORY

Pacific Lutheran University was founded in 1890 by men and women of the Lutheran Church in the Northwest, and by the Reverend Bjug Harstad in particular. Their purpose was to establish an institution in which their people could be educated. Education was a venerated part of the Scandinavian and German traditions from which these pioneers came.

The institution opened as Pacific Lutheran Academy. Growing in stature, PLA became a junior college in 1921. Ten years later, it was organized into a three-year normal school which became a college of education in 1939.

After 1941, it expanded as Pacific Lutheran College until it was reorganized as a university in 1960, reflecting the growth of both its professional schools and liberal arts core.

ACCREDITATION

Pacific Lutheran University is fully accredited by the Northwest Association of Schools and Colleges as a four-year institution of higher education and by the National Council for the Accreditation of Teacher Education for the preparation of elementary and secondary teachers, principals, and guidance counselors with the master's degree as the highest degree approved. The university is also approved by the American Chemical Society. The School of Nursing is accredited by the National League for Nursing. The School of Business Administration is accredited by the American Assembly of Collegiate Schools of Business. The Social Work Program is accredited by the Council on Social Work Education at the baccalaureate level. The Department of Music is accredited by the National Association of Schools of Music. The Bachelor of Science degree in computer science has been accredited by the Computer Science Accreditation Commission of the Computing Sciences Accreditation Board, Inc. Any current or prospective student may, upon request directed to the president's office, review a copy of the documents pertaining to the university's various accreditations and approvals.

INSTITUTIONAL MEMBERSHIPS

The University is a member of:
American Association of Higher Education
American Council on Education
Association of American Colleges
Independent Colleges of Washington, Incorporated
Lutheran Educational Conference of North American
National Association of Summer Schools
Washington Friends of Higher Education
Western Association of Graduate Schools
Western Interstate Commission for Higher Education

GROUNDS

Located in suburban Parkland, PLU has a picturesque 126-acre campus, truly representative of the natural grandeur of the Pacific Northwest.

ENROLLMENT

3,223 full-time students
752 part-time students

FACULTY

222 full-time faculty
72 part-time faculty

STUDENT/FACULTY RATIO

16.2:1

ACADEMIC PROGRAM

In 1969 Pacific Lutheran University adopted the 4-1-4 calendar which consists of two fourteen-week semesters bridged by a four-week interim period.

Course credit is computed by hours. The majority of courses are offered for 4 hours. Each undergraduate degree candidate is expected to complete 128 hours with an overall grade point average of 2.00. Departments or schools may set higher grade point requirements.

Degree requirements are specifically stated in this catalog. Each student should become familiar with these requirements and prepare to meet them.

LIBRARY SERVICES

The Robert A.L. Mortvedt Library is the central multi-media learning resource center serving the entire university community. Its collections are housed and services provided in a modern functional building which has study spaces for 850 students and shelving for more than 400,000 books, periodicals, microfilm, and audio-visual materials. The library receives over 1,500 current magazines, journals, and newspapers.

In addition to its general collection of books and other materials, the library has a special collection devoted to the Scandinavian Immigrant Experience and contains the university and regional Lutheran church archives. Other special collections include the Curriculum Collection of the School of Education, the microfiche collection of college catalogs, maps, pamphlets, and national and trade bibliographies.

The library is open for service 110 hours during a typical week in a regular term. A staff of twenty-seven full and part-time librarians and assistants offer expert reference, information, and media services. The reference staff provides beginning and advanced library instruction for all students. In addition to standard reference service, the library staff also offers computerized bibliographic information service. As the result of the library's extensive collection of bibliographic tools, computer access to other collections, and electronic mail service, students and faculty have rapid access to materials which can be borrowed from other libraries.

COMPUTER CENTER

The Computer Center's offices are located in the southeast corner of the lower floor of Mortvedt Library. The facility houses a cluster 2 of DEC VAX 6200's computers. Two large academic user rooms provide access to the VAX system and to IBM-PCs. The user rooms are open seven days a week.

A variety of software programs are available for the VAX and IBM systems. Well known programing languages can be used on both types of hardware. The university has adopted standard PC software for word processing, spread sheets, data bases, and statistics.

There is a charge (billed monthly) for use of the university's computer systems.

The Computer Center offers a wide range of services, including free "how to" workshops. Information is available at the Computer Center regarding available, workshops, the current software standards, the current charging schedule, and the use of computer facilities.

The Computer Center's main offices are open from 8:00 a.m. until 5:00 p.m. during normal university operations.

The intentional, unauthorized entry into a computer system is a crime under the laws of the State of Washington. Computer security programs and devices are being used to manage and control access to programs and data. In the event of computer trespass, university officials are authorized access to all data and messages associated with the incident for use in its resolution.

WRITING CENTER

The Writing Center, located in Ramstad Hall, provides a place for students to meet with trained student readers to discuss their academic, personal, and professional writing. Student staff members ask leading questions that help writers to generate topics, develop a thesis, organize material, and clarify ideas. In an atmosphere that is comfortable and removed from the classroom setting, student readers and writers talk seriously about ideas and writing strategies. Most sessions are one-hour meetings, but drop-in students with brief essays or questions are welcome.

The Writing Center is open Monday through Friday from 9:00 a.m. until 5:00 p.m., and Sunday through Thursday from 7:00 p.m. until 9:00 p.m.

THE ELLIOTT PRESS

The Elliott Press is PLU's studio-laboratory for the publishing arts. With the Press' large collection of letterpress type and equipment, students design and produce printed texts using the hand-controlled techniques that flourish today in the lively art form known as "fine printing." In addition to its own publishing program, the Press houses a growing collection of innovative bookworks and is a working museum, where visitors may watch and try their hands at the technology pioneered by Gutenberg.

LATE AFTERNOON AND EVENING CLASSES

To provide for the professional growth and cultural enrichment of persons unable to take a full-time college course, the university conducts late-afternoon and evening classes. In addition to a wide variety of offerings in the arts and sciences, there are specialized and graduate courses for teachers, administrators, and persons in business and industry.

SUMMER SESSION

An extensive summer school curriculum, of the same quality as that offered during the regular academic year, is available to all qualified persons. In addition, summer session typically is a time when the faculty offer innovative, experimental courses which cover a broad range of contemporary issues and perspectives in many fields. The summer session consists of three discrete four-week terms, and a one-week interim session, and begins the last week of May. Many courses are taught in the evening, two nights per week for nine weeks, and Master of Business Administration courses are taught during two six-week terms, two nights per week. Designed for undergraduates and graduate students alike, the program serves teachers and administrators seeking credentials and special courses, freshmen desiring to initiate college study, and others desiring special studies offered by the schools and departments. Transient students who enroll for the summer session need only submit a letter of academic standing or give other evidence of being prepared for college work.

A complete *Summer Session Catalog*, outlining the curriculum as well as special institutes, workshops and seminars, is printed each spring and is available from the dean of the summer session at the university. Additional information may be obtained by calling 535-7143.

MIDDLE COLLEGE

PLU offers a special six-week summer program for high school juniors and seniors and for first-year college students. Called Middle College, the program is designed to ease the transition from high school to college by sharpening learning skills that are essential to successful completion of a college or university program.

Middle College has both an academic program and a counseling and testing component. All students are thoroughly tested and evaluated in private sessions with regard to their reading, writing, verbal, and mathematical skills. In addition, career counseling is provided. The aim of Middle College counseling is to assess each student's talents and interests in order to provide direction and goals for the college experience.

The academic program offers a chance to improve specific learning skills essential to college success. The classes, offered at several levels in several disciplines, are for Middle College students only, thereby allowing small class size and close contact between students and faculty. All students take a study skills course, which serves as a core of the program. In addition, students may select two or three courses from among those offered each year. Each student's program is individualized to promote maximum growth.

PROJECT ADVANCE

Each semester PLU offers Project Advance, a special enrichment program for high school juniors and seniors. Designed to complement high school studies, Project Advance allows students to earn one hour of university credit and to experience college life and study. The topic of the course is different each semester, and fall topics are chosen to coincide with the high school National Debate Topic. Project Advance classes meet once a week for six weeks in the late afternoon.

RETENTION OF FRESHMEN

The retention of students entering as freshmen has been monitored since 1972. Those data are presented in the following table:

Retention of Entering Freshmen

	To Sophomore Year	To Junior Year	To Senior Year
1972	70.1%	51.9%	46.1%
1973	74.7%	54.3%	48.7%
1974	74.0%	54.0%	49.8%
1975	71.2%	52.9%	50.8%
1976	69.3%	52.8%	47.5%
1977	74.7%	57.2%	52.4%
1978	74.2%	58.6%	56.4%
1979	74.8%	60.6%	55.4%
1980	78.6%	58.2%	54.1%
1981	71.1%	57.1%	52.7%
1982	77.6%	60.1%	54.6%
1983	75.7%	59.8%	58.2%
1984	78.5%	65.9%	58.8%
1985	81.5%	68.8%	67.3%
1986	80.6%	71.1%	
1987	81.7%		

Admission

Pacific Lutheran University welcomes applications from students who have demonstrated capacities for success at the baccalaureate level. Applicants who present academic records and personal qualities which our experience indicates will enable them to succeed at the university and benefit from the environment will be offered admission. Applicants for admission are evaluated without regard to sex, race, creed, color, age, national origin, or handicapped condition. Selection criteria include grade point average, class rank, transcript pattern, test scores, and recommendations.

In evaluating applications the dean of admissions interprets grade point averages and class rank in relation to the quality of the curriculum which the applicant has pursued in high school and in the light of recommendations published by the national Commission on Excellence in Education. For example, a standard high school program in preparation for college should include the following:

English: 4 years
* Mathematics: 3 years (algebra, 2 years, and geometry, 1 year)
* Foreign Language: 2 years
Social Studies: 2 years
Laboratory Sciences: 2 years
Electives: 3 years (selected from the areas listed above, as well as courses in computer science, speech, debate, typing, and music).

* Minimum Entrance Requirements:

1. Satisfactory completion of two years of college preparatory mathematics (exclusive of computer science) or an approved course at the baccalaureate level or demonstrate equivalent proficiency.
2. Satisfactory completion of two years of one foreign language in high school or one year at the baccalaureate level or demonstrate equivalent proficiency.

Students who have not satisfied one or both of these requirements may still be admitted but must make up the deficiency as an additional degree requirement.

Additional study of both mathematics and foreign language is advisable for certain areas in the arts and sciences and in some professional programs. Those who follow the above preparatory program will find most curricular offerings of the university open to them and may also qualify for advanced placement in some areas.

Students are admitted to either the fall or spring semester. Acceptance to the fall term carries permission to attend the previous summer sessions. Spring acceptance approves enrollment in the January interim. The following application deadlines are suggested: *Fall Semester-May 1; Spring Semester-December 15.*

ENTERING FRESHMEN

APPLICATION PROCEDURE

Students planning to enter as freshmen may submit application materials anytime after completion of the junior year of high school. Admission decisions are made beginning December 1 unless a request for Early Decision is received. Candidates are notified of their status as soon as their completed application has been received and evaluated. Credentials required are:

1. *Formal Application:* Submit the *Uniform Undergraduate Application for Admission to Four-Year Colleges and Universities in the State of Washington.* Available from high school counselors or the PLU Office of Admissions.
2. $35.00 *Application/Records Fee:* A $35 fee must accompany your application or be mailed separately. This non-refundable service fee does not apply to your account. Make checks or money orders payable to Pacific Lutheran University and mail to the PLU Office of Admissions.
3. *Transcript:* The transcript you submit must include all credits completed through your junior year of high school. If admission is offered, an acceptable final transcript which indicates satisfactory completion of the senior year and attainment of a diploma must be presented.
4. *Recommendations:* Two recommendations must be prepared by principals, counselors, pastors, or other qualified persons. The PLU Office of Admissions will supply the forms.
5. *Test Requirement:* All entering freshmen must submit scores from *either* the College Board, Scholastic Aptitude Test (SAT), *or* the American College Test Assessment (ACT) *or*, for Washington State residents, the Washington Pre-College Test (WPCT). Registration procedures and forms are available at high school counseling offices.

EARLY DECISION

High School students who have decided upon PLU as their first choice may be offered admission as early as October 1 of their senior year. Early Decision applications must be made by *November 15* of the senior year. SAT, ACT, or WPCT scores from the previous May or July are acceptable. Early Decision students are given first consideration in campus housing and financial aid. An Early Decision form is available from the Office of Admissions. If an Early Decision is unfavorable, a student may still be considered for regular admission.

EARLY ADMISSION

Qualified students interested in accelerating their formal education may begin work toward a degree after completion of the junior year or first semester of the senior year of high school. Exceptional students who wish to enroll before completing all required units in high school must have a letter submitted by a recognized school official which approves early college admission and gives assurance that a high school diploma will be issued after completion of specified college work. Only students highly recommended for Early Admission will be considered. Generally these students rank among the top students in their class and present high aptitude test scores.

ADVANCED PLACEMENT OPPORTUNITIES

1. *College Board Examinations:* Students interested in seeking advanced placement or credit toward graduation through the examination program of the College Board should direct inquiries for specific information to the department or school which offers the academic suject of their choice. General inquiries about the College Board program may be addressed to the Office of Admissions.
2. *Departmental Examinations:* A number of departments and schools offer placement examinations in order that students may be advised as to the level at which they may most advantageously pursue a given subject. Credit toward graduation may be given in certain cases, depending on the examination score and whether the subject matter was *not* part of the course work by which the high school diploma was earned. Again, inquiries for specific information should be directed to the department or school offering the particular subject.

TRANSFER STUDENTS

APPLICATION PROCEDURE

Students who began their higher education at other accredited colleges or universities are encouraged to apply for admission with advanced standing. Candidates must have good academic and personal standing at the institution last attended full-time. Although it does not guarantee admission, a grade point average of 2.25 in all college work attempted is required for regular admission. Test scores ***may*** be required for applicants who have limited college experience. Credentials required are:

1. *Formal Application:* Submit a Uniform Undergraduate Application with $35.00 non-refundable application/records fee.
2. *Transcripts:* Official transcripts from all previous collegiate institutions attended must be sent by those institutions directly to the PLU Office of Admissions. Official high school transcripts of credits are necessary if they are not listed on college transcripts.
3. *Clearance Form:* The office of the dean of students at your most recently attended (full-time) institution must complete a clearance form (provided by the PLU Office of Admissions).
4. *Recommendations:* Two recommendations must be prepared by instructors, counselors, pastors, or other qualified persons. The PLU Office of Admissions provides the forms.

EVALUATION OF CREDITS

1. The registrar evaluates all transfer records and creates an advising booklet *(Gold Book)* indicating completion of any core requirements and total hours accepted. Individual schools and departments determine which courses satisfy major requirements.
2. Generally, college-level courses carrying the grade of "C" or above apply toward graduation. "D" graded courses will be withheld until a student has successfully completed one semester's work at the university.

3. A community college student may transfer a maximum of 64 semester (96 quarter) hours of credit from the two-year institution.
4. To qualify as a degree candidate, a student must take the final 32 semester hours in residence.

UNACCREDITED EDUCATIONAL EXPERIENCES

1. Credits earned in unaccredited schools are not transferable at the time of admission. Evaluation and decision on such courses will be made after the student has been in attendance at the university one semester.
2. The university allows up to 20 semester hours of USAFI/Dante credit and up to 20 semester hours for military credit, providing the total of the two does not exceed 30 semester hours.
3. The university does not grant credit for college level GED tests.
4. For information on the College Level Examination Program (CLEP), refer to the section on Credit by Examination under Academic Procedures.

ACCELERATED UNDERGRADUATE REENTRY FOR ADULTS (AURA)

Qualified adults, 30 years of age or older, who have not been enrolled in a baccalaureate degree program within the last five years, may seek advanced placement at up to the junior level through the AURA Program. Those accepted into AURA are granted one year's provisional admission, during which time they must complete 12 credits at PLU (including Psychology 401) with a grade point average of 2.5 or higher. Credit awards for prior learning are based upon systematic assessment by a faculty panel of the adequacy and appropriateness of knowledge and skills demonstrated in a portfolio prepared by the student with staff assistance. Credit awards may not exceed 48 semester credits less acceptable college transfer credits.

For details of the AURA Program, contact the director, AURA Program, 535-7518.

FORMER STUDENTS

APPLICATION PROCEDURE

Full-time students who have not been in attendance for one semester or more may seek readmission by obtaining an application for re-entrance from the Office of Admissions unless they have been approved, at the time of last enrollment, for a leave of absence. Students who have been dropped for academic or disciplinary reasons must identify a faculty member willing to act as a sponsor and adviser if re-admitted. Re-entering students who have attended another college in the meantime must request that a transcript be sent from the institution directly to the dean of admissions.

FOREIGN STUDENTS

APPLICATION PROCEDURE

Foreign students who are qualified academically, financially, and in English proficiency are encouraged to join the university community. Information and application procedures may be obtained from the dean of admissions.

FINALIZING AN OFFER OF ADMISSION

1. *Medical Requirement:* Before actual enrollment each new student must submit a Health History Form complete with an accurate immunization record. This information must be acceptable to the PLU Health Services Office.
2. *Advance Payment:* A $200.00 advance payment is necessary in order to confirm an offer of admission. This payment *guarantees* a place in the student body, *reserves* housing on campus if requested, *holds* financial assistance which may have been awarded, and is required before early class registration. It is credited to the student's account and is applied toward expenses of the first semester. *Fall applicants offered admission before May 1 must submit the payment by May 1.* If circumstances necessitate cancellation of enrollment and the dean of admissions is *notified in writing before May 15,* the $200.00 will be refunded. The refund date for interim is December 15, and for spring semester, January 15.
3. *New Student Information Form:* This form includes the application for housing and must be completed by *all* students and returned *with* the advance payment.

Financial Aid

Recognizing that many students who want to attend Pacific Lutheran University would be unable to meet all expenses of enrollment from personal or family sources, the university attempts to provide financial assistance to all eligible students. Any student approved for enrollment or currently enrolled may request financial aid. Approximately 70% of the university's students receive help in the form of gift assistance (that is, scholarships, talent awards, or grants), low interest deferred loans, or employment. In many cases a financial aid award will be a combination of these forms of assistance.

The quantity and composition of an award is based upon demonstrated financial need, academic achievement, test scores, and other personal talents and interests. Need is determined from analysis of the Financial Aid Form (FAF), which is a statement of financial condition provided by the College Scholarship Service (CSS). Analysis of the Financial Aid Form determines an expected contribution for college expenses from the student and parent(s) or guardian(s). "Financial Need" is defined as the difference between total student expenses for an academic year and the expected student/family contribution and is a primary factor in determining eligibility for most available aid.

Financial assistance is available to all qualified students regardless of their sex, race, creed, color, age, national origin, or handicapped condition.

APPLICATION PROCEDURE:

FRESHMEN AND TRANSFERS

1. PRIORITY DATE: All materials must be in the Financial Aid Office by **March 1.**
2. Mail a Financial Aid Form (FAF) to the College Scholarship Service (CSS) by February 1.
3. Be offered admission by March 1.
4. Submit a PLU Financial Aid Application (applies only to transfer students and is available upon request).
5. Submit a Financial Aid Transcript from all prior institutions attended (transfers only).

CONTINUING STUDENTS

1. PRIORITY DATE: All materials must be in the Financial Aid Office by **April 1.**
2. Mail a Financial Aid Form (FAF) to the College Scholarship Service (CSS) by March 1.
3. Submit a PLU Financial Aid Application.

An application for financial aid can be completed at any time, but failure to meet the priority date may result in a denial of aid even though need is demonstrated. The Financial Aid Office will consider all applicants for any award for which they might be eligible. *Aid awards are for one year and most are renewable, provided reapplication is completed on time, financial need continues, and satisfactory academic progress is maintained. Aid is not automatically renewed each year.*

NOTIFICATION OF AWARD DECISIONS

1. Award decisions for freshmen and transfer students who meet the March 1 completion date will be made in March, and actual notification will be mailed April 1.
2. Financial aid decisions for continuing PLU students are made during April and May. Notifications are sent out beginning in May for students planning to attend the summer session and the first week in June for those planning to attend only during the regular academic periods of fall, interim, and spring.

VALIDATING THE AID OFFER

Aid offers must be validated by returning the signed Offer of Financial Aid and submitting the $200 advance payment required by the university. This should be done as soon as possible, but for freshmen and transfer students must be completed by May 1. Continuing students must pay the $200 advance payment by July 1 to hold their award. Applicants not returning their acceptance of an award by the reply date specified will have their awards cancelled. If an applicant later decides to reapply, the application will be reviewed with the group currently being processed.

Aid, with the exception of College Work-Study and Washington State Need Grants, is credited to the student's account when all paperwork has been completed. One-half of the award is disbursed each semester. Parents and students are responsible for the charges in excess of the award.

In some cases aid is awarded in excess of direct university charges to help with living expenses. This money will remain on the student's account unless requested by the student through the Business Office after classes have begun.

Under federal regulations, adjustments to an award package must be made if a student receives additional awards of aid from sources external to the university. In every case, however, the Financial Aid Office will attempt to allow the student to keep as much of the award package as possible. By treating aid received from external sources in this way, additional awards from the university's resources can be made to other qualified needy students.

RIGHTS AND RESPONSIBILITIES

The basic responsibility for financing an education at PLU rests with students and their families. In addition to expected contributions from parents or guardians, students are expected to assist by contributing form their savings and summer earnings. Financial assistance from the university is therefore supplementary to the efforts of a student's family. It is provided for students who demonstrate need.

Additional rights and responsibilities of financial aid recipients include:

1. Signing and returning *each* financial aid notice received.
2. Declining at any time any portion of an award.
3. Notifying the Financial Aid Office in case of a change in credit hours attempted; a change in marital status; a change in residence (off-campus or at home); or receipt of additional outside scholarships.
4. Providing a copy of their parents' income tax return (Form 1040) and/or a copy of their own individual income tax return if requested.

ACADEMIC REQUIREMENTS/SATISFACTORY PROGRESS

The policy of the Financial Aid Office is to allow students to continue receiving financial assistance as long as they are in good standing at the university. To do otherwise could cause a severe hardship on students who must devote their efforts to achieving satisfactory grades. However, no institutional grants will be awarded to students with cumulative grade point averages below 2.00.

To be given priority for most types of financial aid, an applicant must be enrolled as a full-time student. For federal financial aid programs, a full-time student is defined as any person enrolled for a minimum of twelve credit hours or more per semester. *Adjustments in an award may be made during the year if an aid recipient has not enrolled for a sufficient number of credit hours. However, each financial aid recipient must maintain satisfactory academic progress in the course of study he or she is pursuing in order to continue to receive financial assistance awarded by the PLU Financial Aid Office. The following minimum requirements are expected of each financial aid recipient:* To make satisfactory progress toward a degree, an undergraduate sudent must complete a minimum of 24 semester hours of credit each academic year. An academic year is defined as the fall semester, the interim term, and the spring semester. As part of their undergraduate program, students are required to complete two interim terms (8 hours from courses numbered 300-320); junior and senior transfer students need to complete only one interim term (4 hours from courses numbered 300-320). Graduate students are required to complete 16 semester hours of credit each academic year.

For full-time undergraduate students receiving financial aid, the maximum number of credit hours that may be attempted is 175 and the maximum time-frame for completing a baccalaureate degree is *five* years. Even if a student changes his or her major or academic program, only 175 credit hours may be taken qualifying for financial aid, and the maximum time-frame of five years for receiving a degree is enforced. Some financial aid programs (e.g., Washington State Need Grants) allow aid to be awarded a maximum of four academic years. The maximum number of full-time graduate credit hours that may be attempted is 48, and the maximum time-frame to complete a graduate degree is *three* years.

Provisions to accommodate non-traditional, part-time students have also been established. Undergraduate students who qualify for these provisions must complete a minimum of 12 credit hours each academic year and achieve a degree within a maximum time-frame of *ten* years (the maximum number of credits allowable is 350). Graduate students who qualify for these provisions must complete a minimum of 8 credit hours each academic year and achieve a degree within a maximum time-frame of *seven* years (the maximum number of credits allowable is 56).

The Registrar's Office evaluates the transcripts of credits submitted by transfer students and determines which credits are acceptable toward a degree at Pacific Lutheran University. Notification of the number of credits yet to be earned and of the time-frame in which financial aid may be awarded is communicated to students during their first term of enrollment. Thesame procedure applies to all continuing students who have never previously received financial assistance.

The following grades do not indicate successful completion of academic credit applicable toward a degree: E grades, I (Incomplete), W (Withdrawal), EW (Unofficial Withdrawal, recorded by the registrar), F (Failure). Any courses in which such grades are received are, however, included in the maximum number of credits that may be attempted (175) and are considered to be within the maximum time-frame allowable for achieving a degree (five years).

All credits *earned by examination,* which are accepted as applicable toward a degree, will be included in the limitation on credits which can be attempted while eligible for financial aid.

Courses that are *repeated* are also counted in the limitation on credits which can be attempted. Once a course has been completed successfully, the credit hours earned are counted toward the minimum number of hours which can be taken under financial aid eligibility. If a course is successfully completed more than once, it is counted only once toward a student's degree requirements and toward the minimum number of hours which can be taken under financial aid eligibility.

The university's curriculum includes very few non-credit courses or courses whose credit hours are not applicable to a degree, but if any such courses are taken by financial aid recipients, the hours will be included in the limitation on credits which may be attempted and will be considered with the time-frame allowable for achieving a degree.

In the event that a student fails to meet the criteria for satisfactory progress during a particular semester, he or she will be placed on academic and financial aid probation. Failure to regain satisfactory academic status will result in the cancellation of financial aid.

Once "unsatisfactory progress" has been determined, students receive official notification. Terminated students may apply for reinstatement by submitting a letter of petition to the Registrar's Office and securing a faculty sponsor. The petition and sponsorship letters are submitted to the Faculty Committee on Admission and Retention of Students for action.

Students who are placed on financial aid probation may petition for reinstatement of their financial aid in one of two ways: (1) They may complete one semester of full-time enrollment using their own financial resources, or (2) they may submit an appeal to the Faculty Committee on Admission and Retention of Students documenting the unusual circumstances which have made it impossible to make satisfactory progress during the semester in question. Summer sessions may also be used as terms during which a student on financial aid probation may regain satisfactory academic status; however, students enrolling in summer sessions for this purpose must use their own financial resources and are ineligible for financial aid.

TYPES OF AID

UNIVERSITY GIFT ASSISTANCE

UNIVERSITY SCHOLARSHIPS are granted on the basis of academic achievement and financial need. To be considered, a *freshman* applicant must have a 3.30 secondary school grade point average. Scholastic ability must also be reflected in test scores from the Scholastic Aptitude Test (SAT), or the American College Test (ACT), or the Washington Pre-College Test (WPCT). *Transfer* and *continuing* students must have a 3.0 cumulative grade point average to be qualified for first-time or renewal awards. PLU is a sponsor of *National Merit Scholarships.* Students who earn semi-finalist standing are encouraged to contact the Financial Aid Office for information concerning a PLU Merit Scholarship.

PRESIDENT'S SCHOLARSHIPS ranging from $1,000 to $1,500 annually are awarded to entering freshmen in recognition of *outstanding* academic achievement in high school and in anticipation of superior performance at PLU. To be a candidate, a student must have an exceptional high school grade average, usually 3.75 or higher, present high test scores, and receive an offer of admission by April 1. Use of a grade prediction equation to determine a predicted end of freshman year grade average is also a qualifying factor. *Financial need is not a determining factor* and no application is required. Usually forty (40) students are selected as President's Scholars without consideration of financial need. Renewal for a total of eight semesters is automatic provided that a 3.3 grade point average is maintained.

ALUMNI MERIT AWARDS of $1,000 to $1,200 are given to exceptional students who are sons and daughters of PLU alumni/ae. To be considered, entering freshmen must have a cumulative high school grade point average of 3.5 or higher. Non-freshmen and renewal candidates must have a minimum collegiate grade point average of 3.3 to be eligible. *Financial need is not a determining factor* and completion of a special application is recommended. Prospective freshmen must also be offered admission by April 1 to be considered.

FACULTY MERIT AWARDS of $1,000 annually are granted to twenty-four (24) students who have completed 45 semester hours or more at PLU and are not receiving any other merit award. No separate application is required. Faculty will recommend students to a selection committee who will select recipients on the basis of scholastic achievement, special talents, and unusual service to the university.

PROVOST'S MERIT AWARDS ranging from $1,000 to $1,200 are granted to twenty (20) outstanding transfer students each year. To be considered a student must have a 3.6 grade point average in at least 45 semester hours of college level courses and receive an offer of admission by April 1. Preference will be given to students who will complete an associate degree at an accredited community college (or a comparable academic experience at an accredited four-year institution) before enrolling at PLU. A 3.30 grade point average earned at PLU is required for renewal. No application is necessary.

TALENT AWARDS are granted to students with financial need who have exceptional ability in the fields of forensics, drama, art, music, or athletics. The candidate must make arrangements with the school or department concerned for an audition and/or a personal interview. In some cases a tape or film will be satisfactory. A recommendation from a faculty member should be on file before the application priority date (see application procedure) for a student to be considered for a Talent Award.

UNIVERSITY GRANTS are awarded in combination with loans and employment to students with financial need who do not qualify for scholarship assistance. *Foreign Student Grants* are restricted to those foreign students who have provided their own resources for at least one year of attendance. Grants usually amount to less than one-third of the cost of attendance.

MINISTER'S DEPENDENT GRANTS are available to unmarried, dependent children of a *regularly ordained, active* minister or missionary of a Christian church. The minister's principal employment and primary source of income must be a result of church work. The annual grant is $500, and financial need is not a determining factor. If a FAF is submitted no special MDG application is required. June 1 is the deadline for requesting this grant. Requests received thereafter will be honored only as budgeted funds permit.

ALUMNI DEPENDENT GRANTS of $200 are given to full-time students whose parent(s) attended PLU (PLC) for two semesters or more. To be eligible the alumni dependent must be a full-time student (12 credit hours per semester) and complete an application in the Financial Aid Office. December 1 is the deadline for requesting this grant. Requests received thereafter will be honored only as budgeted funds permit.

RESTRICTED FUNDS: In addition to its own scholarship funds, the university has at its disposal the following restricted funds, generally awarded to those students who complete the regular application and who have finished their freshman year:

The Ackerley Communications Merit Award
Aid Association for Lutherans Scholarships
Alpac (Pepsi-Cola 7 Up)
Alumni Scholarship Fund
American Lutheran Church-North Pacific District Scholarship
American Lutheran Church-Scholarship and Grant Program for Minority Students
Florence Spinner Anderson Memorial Scholarship
Ruth Anenson Scholarship
Mary Jane Aram Scholarship Fund
Award of Excellence (Pacific Coca-Cola Bottling Co.)
Marguerite and Wilmer Baer Scholarship
Don F. Bayer Memorial Scholarship
B.E.R.G. Minority Scholarship
Paul M. Bellamy Music Scholarship
Binder Memorial Scholarship
Luther & Dillie Quale Boe Education Scholarship
Jorunn Breiland Scholarship Fund
Dr. and Mrs. W.B. Burns Fund
Burzlaff Memorial Scholarship
Henrietta Button Nursing Scholarship Fund
Carl Dalk Memorial Scholarship Fund
Cheney Foundation Educational Scholarships
Chevron Merit Awards
Irene O. Creso Merit Award
Ida A. Davis Fund
Doolittle Memorial Scholarship
Leif Erikson Scholarship
Faculty Memorial Scholarship Fund
Faith Lutheran Church of Portland Scholarship Fund
First Interstate Bank Scholarship
Henry Foss Scholarship (for Norwegian students)
L.C. Foss Memorial Scholarship
Fuchs Foundation Scholarship
John M. Gilbertson Foundation Scholarship
Haas Foundation
Olaf Halvorsen Scholarship
W.H. Hardtke Seminary Student Scholarship Fund
Walter A. Heath Charitable Trust
Walter A. Heath Charitable Trust (Nursing)
Suzanne Ingram Memorial Scholarship Fund
Terry Irwin Scholarship
Ole M. Jennestad Memorial Scholarship
Judge Bertil E. Johnson Scholarship
Johnson/Larson Scholarship
Philip G. and Alice L. Kayser Scholarship Fund
Rev. Karl Kilian Memorial Fund
William Kilworth Foundation Scholarship Fund
Melvin Kleweno Memorial Scholarship
Jimmy Knudsen Memorial Scholarship
Ebba Larson Nursing Scholarship
Ludvig and Clara Larson Scholarship
Louise and Guy Leesman Memorial Scholarship
Mr. and Mrs. W. Hilding Lindberg Endowed Scholarship
Lutheran Brotherhood Legal Reserve Life Insurance Co. Scholarship
Lutheran Brotherhood Scholarship
Joe Marchinek Memorial Scholarship Fund
Mathematics Scholarship
Military Order of the Purple Heart Award
Lila Moe Scholarship
Lillian C. Morris Memorial Scholarship
Murray-Danielson Management Award
Gladys Mortvedt Voluntary Service Award
Richard P. Neils Memorial Fund
Mr. and Mrs. Gus. H. Nieman Memorial Scholarship
Margaret Nistad Memorial Scholarship
Roger Paetel Memorial Scholarship
Blanche Pflaum Scholarship
PLU Women's Club Scholarship
PLUS Business Scholarship
Nora J. Ponder Scholarship Fund
Portland Area Alumni Scholarship
Puget Sound Bank Scholarship
Recreational Equipment, Inc. (REI)
Kathryn Reese Memorial Scholarship
Dr. Walter and Joan Redman Schwindt Scholarship
Charlotte & Lucian Rice Endowed Scholarship
Frank Russell Company Endowed Scholarship
Security Pacific Bank Washington Minority Scholarship
Siqueland Youth Scholarship (North Pacific District Luther League)
Skinner Foundation Scholarship
James R. Slater Endowed Scholarship
Smith Endowment Scholarship Fund
Dora Stangland Memorial Scholarship
Emma Storaasli Award
Edvin and Ida Tingelstad Memorial Scholarship
Evelyn S. Torvend Scholarship
Ellen Valle Memorial Scholarship
Hopper Memorial
Randall Yoakum Endowed Scholarship
Robert E. Olson Memorial
Hedvig Arthur Memorial
Donald A. Brunner Memorial
Mark Salzman Memorial
Louis and Leona Lamp Scholarship
Gordon Pearson Memorial
David Ulleland Memorial Scholarship
Wade/Hinderlie Scholarship Fund
Ina H. Wake Memorial Scholarship
Washington Mutual Savings Bank "Great Teachers" Minority Merit Award
Washington State Automobile Dealers Association Scholarship
Celestene Yoder Memorial Scholarship

GOVERNMENTAL GRANTS

THE PELL GRANT PROGRAM is a Federal program designed to provide the "foundation" for a financial aid package. It is intended for students with high financial need. When completing the Financial Aid Form (FAF) applicants should indicate that the information is to be used for determining their eligibility for the Pell Grant by checking the appropriate box. If the Student Aid Report (SAR) you receive indicates eligibility, all three copies should be sent to the Financial Aid Office.

SUPPLEMENTAL EDUCATIONAL OPPORTUNITY GRANTS (SEOG) are available to students who have exceptional financial need. Grants range from $200 to $2,000 per year. The SEOG must be matched with at least an equivalent amount of other kinds of aid (grant, loan, or employment). Eligibility is determined by federal guidelines.

WASHINGTON STATE NEED GRANTS are available to eligible residents of the State of Washington who attend PLU. These grants are intended for students with high need. On the basis of guidelines established by the Higher Education Coordinating Board, students with specified need as computed from the Financial Aid Form are submitted to the State for consideration. Present procedure does does not require a separate application.

ARMY ROTC SCHOLARSHIPS are available (three-year or two-year) for students in all disciplines and are not based on need. Scholarships pay up to $7,000 for tuition, books, fees, and supplies, and include a $100/month stipend (up to $1,000 per school year). Weekly classes are held on campus.

STUDENT EMPLOYMENT

There are employment opportunities on campus and in the community that can help students meet college expenses. Priority for placement is given to those students who have demonstrated financial need and have been awarded a work-study eligibility. Over 900 students work on campus each year. The university's annual student payroll exceeds $1,740,000. The average on-campus job approximates eleven hours per week, and produces around $1,528 during an academic year.

All student placements for on-campus and off-campus jobs are handled by the Career Services Office. Actual hring of students is done at the beginning of the school year and at other times as vacancies occur.

The Federal College Work-Study Program offers only on-campus employment. To participate, students must be eligible for work-study.

The State Work-Study Program offers only off-campus work opportunities with profit-making and non-profit employers. Positions must be related to students' academic interests. To participate, students must be eligible for work-study.

LOANS

Many students invest in their future by borrowing educational funds. Low interest, deferred loans make it possible to pay some of the cost of education at a later time. Loans are often included with gift assistance and work to form a financial aid package.

There are three major sources of loans at PLU:

PERKINS LOAN (formerly NATIONAL DIRECT STUDENT LOAN-NDSL)—Eligibility is determined by the PLU Financial Aid Office from the Financial Aid Form and is based on *need*. Most loans average $1,000 annually, but cannot exceed $3,000 for the first two years of school, nor an aggregate of $6,000 for an undergraduate degree. No interest accrues and no payments on principal are necessary until six months after a recipient ceases to be a half-time student enrolled in an eligible institution. Simple interest is 5% during the repayment period. Up to 100% cancellation is available for teaching the handicapped or in certain low income areas. Repayment may be deferred because of further full-time study or service in the armed forces, VISTA, or the Peace Corps. Exit interviews are required by the Business Office upon leaving PLU or transcripts, grades, and diploma are withheld.

NURSING STUDENT LOAN (NSL)—A federal loan program limited to students with need who are accepted for enrollment or are enrolled in the School of Nursing (usually not before the sophomore year). The NSL has provisions similar to the Perkins Loan. Up to $2,500 is available, dependent on federal funding. Loans average $500. Repayment begins one year after graduation. Partial or full cancellation is possible under certain conditions.

STAFFORD STUDENT LOAN (formerly Guaranteed Student Loan, GSL)—Under this program, students may borrow from banks, credit unions, and savings and loan associations. A separate application procedure is required and forms are available from the PLU Financial Aid Office.

The maximums which a student may borrow are:

Undergraduate	$2,625-$4,000
Graduate	$7,500

Repayment of principal is deferred until six months after a recipient ceases to be a half-time student enrolled in an eligible institution. The interest rate is 8%; interest is paid by the federal government while the recipient is attending school.

PLUS LOAN—This is a non-need based loan for parents of dependent undergraduate students. Payments are not deferred but begin within 60 days after the loan is disbursed. Not all states offer this loan. Out of state students or parents should check with their nearest college or state higher education authorities to determine if it is operational. If it is, an application must be obtained within the parent's state of residence. PLU's Financial Aid Office has available only the Washington State version.

The interest rate is variable but cannot exceed 12%, and the amount of the loan cannot exceed the student's cost of attendance minus other financial assistance (including a Guaranteed Student Loan).

If the state or lending institution of the student or parent does not participate in the PLUS program, it is possible to borrow through United Student Aid Funds (USAF). The maximum annual amount which a parent may borrow is $4,000.

SUPPLEMENTAL LOANS FOR STUDENTS (SLS)—This non-need based loan program is designed for an independent undergraduate or graduate student. Students borrowing under SLS who are enrolled full-time defer principal payments but begin interest payments sixty (60) days after disbursement of the loan. At the lender's option, full-time students may make no interest payments while they are in school and have the oustanding interest added to the loan principal when they leave school. Loans have a variable interest rate. The variable rate cannot exceed 12%. The maximum amount of money that may be borrowed is $4,000 annually with a cumulative limit of $20,000.

PREP LOAN— The Private Resource Education Program has no pre-established loan limits. The amount of money that may be borrowed is determined by individual needs, credit capacity, and the cost of the school attended. Citizens, nationals, and permanent legal residents of the United States may take out a PREP loan to cover the costs of their own education or that of an immediate family member. Loans have a variable interest rate. Flexible terms are offered. While the student is in school, no principal payments are required; however, during this period, the borrower makes quarterly or semi-annual interest payments of 2% per year of the loan balance. The borrower begins repaying the loan principal and accrued interest nine months after the student leaves school.

Short term loans are available from various restricted PLU loan funds which include:

Alumni Association Loan Fund
American Lutheran Church Women Loan Fund
Anton Andersen Loan Fund
John S. Baker Loan Fund
J.P. Carlstrom Memorial Loan Fund
Delta Kappa Gamma Student Loan Fund
Lily C. Ekern Fund
Matie Huth Loan Fund
Gerhard Kirkebo Memorial Loan Fund
Jeanette Olson-Diana Paul-Miriam Stoa Memorial Student Loan Fund
J.P. Pflueger Student Loan Fund
O.J. Stuen Alumni Loan Fund
O.A. Tinglestad Loan Fund
Women's Club of Tacoma Revolving Loan Fund
Verne Graham Loan Fund

VETERANS AFFAIRS AND VOCATIONAL REHABILITATION

Pacific Lutheran University has been approved by the State Approving Agency as one of the qualified institutions which veterans may attend and receive benefits. Veterans, widows, and children of deceased veterans who wish to inquire about their eligibility for benefits should contact the Regional Office of the Veterans Administration, Federal Building, 915 Second Avenue, Seattle, Washington 98174.

Students should gain admission to the university before making application for benefits. Students are encouraged to register at the university's Veterans Affairs Office before each term to insure continuous receipt of benefits.

Costs

TUITION

Pacific Lutheran University bases its tuition on a **Cost Containment Plan** (CCP) which provides for a maximum of 35 credit hours for the 1989-90 academic year at a cost of $9360.00. This can be broken down by terms as follows: Full-time students (those taking 12 or more hours in a regular fall or spring semester) will be charged $4350.00 for 12-16 hours plus $265.00 for each hour in excess of 16. Interim full-time students (those taking 4-5 hours) will be charged $1270.00 plus $265.00 for each hour in excess of 5. These charges (for those who stay within the blanket range of 12-16 hours for fall and spring and 4-5 hours for interim) if totalled by term equal $9970.00. To reduce this total to the CCP maximum rate of $9360.00 for up to 35 hours, an adjustment will be applied to the student's account. This adjustment is called the CCP Spring Discount.

CCP Spring Discount is an adjustment which allows for any combination of regular hours during the academic year up to 35 hours, for a maximum charge of $9360.00. This adjustment (if when applicable) will show on the account at the spring semester pre-billing in late November. Students who do not take interim generally will not receive the CCP Spring Discount. Students participating in a Study Abroad Program during the academic year are not eligible for the CCP Spring Discount.

Example #1		**Fall**		**Interim**		**Spring**
Credit Hours 35		13		5		17
CCP Tuition Rate		$4350		$1270		$4350
Excess Hours Rate		-0-		-0-		$ 265
CCP SP Discount		-0-		-0-		[-$ 875]
TOTAL: $9360	-	$4350	+	$1270	+	$3740

Example #2		**Fall**		**Interim**		**Spring**
Credit Hours 35		17		-0-		18
CCP Tuition Rate		$4350		-0-		$4350
Excess Hours Rate		$ 265		-0-		$ 530
CCP SP Discount		-0-		-0-		[-$ 135]
TOTAL: $9360	-	$4615	+	$-0-	+	$4745

Example #3		**Fall**		**Interim**		**Spring**
Credit Hours 35		16		4		15
CCP Tuition Rate		$4350		$1270		$4350
Excess Hours Rate		-0-		-0-		-0-
CCP SP Discount		-0-		-0-		[-$ 610]
TOTAL: $9360	-	$4350	+	$1270	+	$3740

Graduate Students will be charged at the rate of $297.00 per credit hour and are not eligible for the **Cost Containment Plan** or the CCP Spring Discount. Graduate students are those who hold an undergraduate degree.

Part-time Students (1-11 credit hours per semester) will be charged at the rate of $297 per credit hour and are not eligible for the Cost Containment Plan or the CCP Spring Discount adjustments.

Special Course Fees: A few specialized courses, e.g., Physical Education, Art and Private Music Lessons, require the payment of a special course fee in addition to the tuition charge.

ROOM AND BOARD

The University requires that all single, full-time (12 or more semester hours) students room and board on campus unless the student is living at home with parents or legal guardians, is 21 years of age or older during the current semester, or is of senior status (90 semester hours). All exceptions to this policy must be addressed to the Residential Life Office regarding room and the Food Service regarding board.

Food Service is offering three board plans for fall 1989 and spring 1990.

Plan #1 is 20 meals per week (breakfast, lunch and dinner 6 days and brunch and dinner on Sunday) at a cost of $820 per semester.

Plan #2 is any 15 meals per week (the student chooses which meals) at a cost of $785 per semester.

Plan #3 is any 10 meals per week (the student chooses which meals) at a cost of $655 per semester.

During interim 1990 (in January), only Plan #1 will be offered at a cost of $130. It is the students' responsibility to notify the Food Service Office by late November if they are not going to be on campus during interim. These students should then deduct the $130 board cost from the examples below.

ROOM AND BOARD COST

PLAN #1		PLAN #2		PLAN #3	
Fall Room	$965	Fall Room	$965	Fall Room	$965
Fall Board	$820	Fall Board	$785	Fall Board	$655
Interim Board	$130	Interim Board	$130	Interim Board	$130
Spring Room	$865	Spring Room	$865	Spring Room	$865
Spring Board	$820	Spring Board	$785	Spring Board	$655
TOTAL:	$3600	TOTAL:	$3530	TOTAL:	$3270

Meals are not provided during Thanksgiving, Christmas, and, Easter vacations.

Commuter students are encouraged to eat meals on campus and may select from several options, including those listed above. Lunches only (**Meal Plan #4**) may be selected at a cost of $270.00 or any five meals per week (**Meal Plan #5**) may be selected at a cost of $320.00

Single rooms are limited and cost an additional $85 or $125 per semester. Students moving on campus for spring only pay the fall room rate of $965.

A limited amount of family student housing is available. The two- and three-bedroom units cost approximately $175 per month. A damage deposit of $100 must accompany a reservation for family student housing. Applications may be obtained from the PLU Residential Life Office (Harstad 112).

ADVANCE PAYMENT

New students pay a $200 advance payment in order to confirm their offer of admission. This payment is refundable until May 15 for fall; December 15 for interim; January 15 for spring. Requests for a refund must be made in writing to the Admissions Office. All returning students who wish to reserve a room for the following year or students who are receiving financial aid must also make a $200 advance payment. The advance payment will be applied to the semester's costs. For returning students, the advance payment is refundable until July 1. Notification must be in writing to the Residential Life Office in order to receive this refund.

OTHER SPECIAL FEES

• Student Parking - Permit Required	No Charge
• Student Health and Accident Insurance (premium varies by coverage and is optional)	Approx. $220 (full year)
• Credit by Examination (Department Exam)	$74.25 per credit hour
• Educational Placement Fee (School of Education graduates)	$25

• Miscellaneous fees include computer usage, Health Center charges, library fines, and parking fines.

RIGHTS AND RESPONSIBILITIES

Upon registration, the student and his or her parents or legal guardian, as the case may be, agree to accept the responsibility and legal obligation to pay all tuition costs, room and board fees, and other special fees incurred or to be incurred for the student's education. The university, in turn, agrees to make available to the student certain educational programs and the use of certain university facilities, as applicable and as described in this catalog. A failure to pay all university bills shall release the university of any obligation to continue to provide the applicable educational benefits and services, to include statements of honorable dismissal, grade reports, transcript of records, diplomas, or pre-registrations. The student shall also be denied admittance to classes and the use of university facilities. Under certain circumstances student paychecks may be applied to unpaid balances.

All accounts 60 days delinquent may be turned over to a collection agency.

FINANCIAL AID

Scholarships, grants, talent awards, and loans awarded by the PLU Financial Aid Office and outside aid (from fraternal organizations, high schools, churches, etc.) sent directly to PLU, are credited to the student's account in the following manner: Half of all awards larger than $100 are credited to each semester. For example, a $700 scholarship will result in $350 being credited toward fall and $350 for spring semester. Awards of $100 or less will be applied to one semester only. Outside aid is not applied to the student's account until the money has been received. Because financial aid is equally divided between the fall and spring semesters, the cost to the student is generally higher for the interim/spring semester (estimate: $790.00) is the student registers for an interim course and lives on campus.

Students are required to sign for the PERKINS (National Direct Student Loans) and Nursing Student Loans in the Business Office at the beginning of each semester. It is the student's responsibility to inform the Financial Aid Office of any changes in financial status. Additional funds or benefits from any source (such as free or partial room and board) that are received or promised, before or after a student is awarded aid from the university, must be reported. By law, the Financial Aid Office is required to make adjustments to prevent or correct overawards.

Guaranteed student loans obtained through banks and other lending institutions will be applied in total when received after the proper endorsement of the check by the student at the Business Office. Checks not endorsed within 30 days of arrival will be returned to the lending institution as defined by federal regulations.

Students who secure part-time employment as part of their financial aid (work study) receive monthly paychecks. These paychecks may be picked up at the cashier's window of the Business Office on payday and may be applied to unpaid student account balances.

PAYMENTS

Mail payments with statement copy or coupon to PLU, Box 1356, Tacoma, WA 98401, or deliver payments to the PLU Business Office in the Hauge Administration Building, Room 110.

Checks should be made payable to Pacific Lutheran University. The student's name and account number should be included with all payments. VISA and MasterCard bank cards are accepted. Indicate card type, account number, and expiration date if transaction is done by mail. Please do not mail cash. A discount rate, which is periodically adjusted, will be charged against Canadian funds.

PAYMENT OPTIONS

1. Payment Before Term Begins
2. PLU Budget Plan
3. Annual Installment Plan

1. PAYMENT BEFORE TERM BEGINS

Early registrants will be sent a pre-billing of tuition, room, board and special fee costs less financial aid.

For students who select this option, payment in full is due by September 12 for fall, January 8 for interim and February 7 for spring.

Early payments are encouraged, and those who pay early may qualify for LUTE BUCKS (coupon redeemable at the PLU Bookstore). LUTE Buck participants need to pay in full by July 31 for fall and by December 29 for spring.

Accounts not on an approved payment plan will be assessed 1.5% MONTHLY LATE CHARGE for previously billed unpaid charges.

Financial clearance (payment in full or an approved payment plan) is necessary for ID card validation. **Registration is not finalized until tuition and fees are paid. Unpaid balances are subject to late charges if not paid by published deadlines. Contact the Business Office for current charges if a complete statement has not been received. Any currently enrolled student at Pacific**

Lutheran University whose prior owing balance is paid in full and who has an acceptable credit history with the Business Office can apply for payment options #2 and #3.

2. PLU BUDGET PLAN

This plan allows for paying selected educational expenses on a monthly installment basis without interest. Selected educational expenses are estimated for the entire academic year and paid in equal installments as follows:

a. Full Year Budget Plan (11 payments) - June 15 through April 15. The plan ends in April so those starting the plan after June must make up any missed payments, plus pay late fees.
b. Half Year Budget Plan - June 15 through November 15 (summer and fall); November 15 through April 15 (interim and spring).

A Budget Plan Agreement may be obtained from the PLU Student Accounts Office, but is not finalized until approved and signed by a Student Accounts Office representative. The Budget Plan requires that all prior student account balances be paid in full.

To figure estimated monthly payments, use the formula below:

Yearly tuition, room, board and special fees, minus allowable financial aid*, minus the estimated Guaranteed Student Loan amount. Divide the remaining amount by 11 months. This is the amount to be submitted with the application.

** Allowable financial aid credits do not include Work Study awards or Washington State Need Grants.*

Those applying for this monthly payment option after June will be charged a $15.00 per month late fee and must pay the back payments at the time of application. If, during the academic year, actual costs vary from the original estimate, it is the student's responsibility to inform the Student Accounts Office of any changes so that the Budget Plan can be revised to incorporate these changes. A reduction in overall cost may require a revision of in the financial aid award. The Business Office must be informed if a student receives a revised award notice from the Financial Aid Office.

Payments on the Budget Plan received after the 20th of the month will be assessed a $15.00 late fee. Failure to make payments as agreed will result in removal from the Budget Plan. If that should happen, payment in full becomes due immediately. Failure to comply could result in cancellation of class registration for the respective term and will hinder pre-registration for the next term. Grade reports, transcripts of records, and diplomas may be withheld by the university until the account is paid in full.

3. ANNUAL INSTALLMENT PLAN (AIP)

The Annual Installment Plan allows for payment of charges for the academic year (fall, interim and spring) over eight (8) months beginning on September 15 and ending on April 15. This plan replaces the Semester Installment Plan (SIP) and has a 1% per month finance charge on the current balance. This plan functions like a revolving charge account. As a result, monthly payments will vary as the charges and credits vary. Each monthly statement will reflect the minimum payment amount due. Larger payments will reduce finance charges.

Previous balances and summer charges cannot be included in this plan and must be paid off before a student is eligible for this plan. Those taking summer courses are encouraged to use the Budget Plan if an extended payment option is necessary.

Those who register for classes or sign up for campus housing or board plans after August 25 will need to contact Student Accounts for the September 15th minimum payment due.

Financial aid is applied to the student's account at the time of billing unless the aid is an estimate. Perkins loans are an estimate until the loan papers have been signed at the beginning of each semester. Pell Grants are an estimate until the award has been validated by the Financial Aid Office. Guaranteed Student Loans and Alaska Student loans are an estimate until the check has been signed onto the student account. This estimated aid is used to reduce a current balance for calculating payments and finance charges, but does not show on a statement as a credit until the aid is actual.

Outside scholarships, Supplemental Student Loans and Parent Plus Loans will not reduce the balance until they have been received by the university or endorsed by the student. Washington State Need Grants and work study paychecks can be applied to the student's account as a payment, but cannot be used to reduce the balance due until they have been receipted to the account.

Monthly payments for the AIP are calculated as follows:

1) The September 15th minimum payment is one-fourth (1/4) of the current balance as of August 25th. (No interest is charged this month).
2) The October 15th minimum payment is one-third (1/3) of the current balance (plus interest) as of September 29th.
3) The November 15th minimum payment is one half (1/2) of the current balance (plus interest) as of October 27th.
4) The December 15th minimum payment is the remaining balance (plus interest) as of November 27th.
5) The January 15th minimum payment is one-fourth (1/4) of the current balance as of December 20th and includes interim/spring charges. January interest will not be calculated on interim and spring charges, but will be charged on any remaining fall charges.
6) The February 15th minimum payment is one-third (1/3) of the current balance (plus interest) as of January 26th.
7) The March 15th minimum payment is one-half (1/2) of the current balance (plus interest) as of February 23rd.
8) The April 15th minimum payment is the remaining balance (plus interest) as of March 26th.

After April 15th this plan ends and all accounts revert to open account status with the requisite 1.5% monthly late fee charged to all previously billed, unpaid charges. Failure to make the minimum monthly payments as designated could result in removal from the plan and cause the balance of the account to become due in full immediately, and could jeopardize future registration.

REFUNDS

If a student officially drops a single class or completely withdraws from the term during the first two weeks of the fall or spring semester, a full tuition refund will be given. The Advance Payment is not refunded. A 10% per day charge will be assessed for complete withdrawals during the third and fourth week. No refunds are available after the fourth week for complete withdrawals or after the second week of the term for dropping individual courses.

In the event of a withdrawal from interim during the first week, a full tuition refund will be given. No refund is available after the first week.

Residence hall and board refunds will adhere to the terms of the Residential Life Contract.

Students who completely withdraw from the university will be refunded the semester room charge as follows:

First two weeks of semester	80% refund
Third week of semester	70% refund
Fourth week of semester	60% refund
Fifth week of semester	50% refund
Sixth week of semester	NO REFUND

A pro-rata board refund will be made for necessary withdrawal from the university. Board refunds may be considered for meals missed due to working, but will not be made for any university trips, such as choir, band, orchestra, athletics, and so forth.

Student requests for withdrawals for medical reasons are considered on an individual basis by the Vice President for Student Life. Such requests require documentation from a physician or the director of the Health Service.

Notice of withdrawal must be made **in writing** to the registrar of Pacific Lutheran University, and received before the deadlines given above. Oral requests are not acceptable.

Student Life

The quality of life cultivated and fostered within the university is an essential component of the academic community. The environment produced is conducive to a life of vigorous and creative scholarship. It also recognizes that liberal education is for the total person and that a complementary relationship exists between students' intellectual development and the satisfaction of their other individual needs. Interaction with persons of differing life styles, application of classroom knowledge to personal goals and aspirations, and co-curricular experiences are all valuable and vital components of education at PLU. In a time when there is a need for meaningful community, the campus facilitates genuine relationships among members of the university from diverse religious, racial, and cultural backgrounds. All of the services and facilities provided are intended to complement the academic program. The services provided reflect changing student needs, and the opportunities for student participation include virtually all aspects of the university. Individual attention is given to students' concerns, including a variety of specific services outlined below.

CAMPUS MINISTRY

Pacific Lutheran University by its very nature is a place for the interaction between studies and the Christian faith. Opportunities for the mutual celebration of that faith on campus are rich and diverse.

Chapel worship is held Monday, Wednesday, and Friday mornings during each semester for all who wish to participate. The University Congregation meets in regular worship and celebrates the Lord's Supper each Sunday. Pastoral services of the university pastors are available to all students who desire them.

Several denominations and religious groups have organizations on campus, and there are numerous student-initiated Bible study and fellowship groups. The Campus Ministry Council, an elected student and faculty committee, coordinates these activities in a spirit of openness and mutual respect.

RESPONSIBILITIES OF COMMUNITY LIFE

Within any community certain regulations are necessary. Pacific Lutheran University adopts only those standards believed to be reasonably necessary and admits students with the expectation that they will comply with those standards. All members of the university community are expected to respect the rights and integrity of others. Conduct which is detrimental to students, faculty, staff, or the university, or which violates local, state, or federal laws, may be grounds for sanctions or for dismissal. *The university prohibits the possession or consumption of alcoholic beverages on campus and limits the hours when students may have visitors of the opposite sex in their residence hall rooms.* The *Student Handbook* contains the *Code of Conduct* for all students.

ORIENTATION

Students are introduced to university life during a three-day orientation before the beginning of the fall semester. In addition, shorter orientation sessions are held before the interim term in January and before the spring semester.

ACCESSIBILITY

The university complies with Section 504 of the Rehabilitation Act and provides reasonable accommodations to students with handicaps and/or disabilities. Coordination of services is handled by the Counseling and Testing Services. The Student Needs Advocacy Panel provides an avenue for student concerns.

RESIDENTIAL LIFE

Residential living is an integral part of the educational process at PLU. **The university requires that all single full-time (12 or more semester hours) students room and board on campus unless the student is living at home with parent(s) or legal guardian(s), is 21 years of age or older during the current semester, or has senior status (90 semester hours). All exceptions to this policy must be requested from the Residential Life Office regarding room and the Food Service regarding board.**

As a residential campus, Pacific Lutheran University offers students a valuable experience in community living. The university recognizes the importance of non-classroom activities in providing an education. The aim of residential living is to help students grow personally, socially, culturally, and religiously.

Campus residence halls are small. They are organized into communities in which each individual counts as a person. New knowledge shared with friends in the residence halls takes on a very personal meaning. Men and women of many backgrounds and cultures live on campus; therefore, students in residence have a unique opportunity to broaden their cultural horizons.

The university cares about the quality of life on campus. The attractive and comfortable residence halls enrich the quality of life and enhance the learning process. The university offers students high-quality housing opportunities including student leadership experiences, formal and informal programs, and peer associations. The student governing bodies are strong and actively participate in campus life.

A selection of modern, attractive halls, each with its own traditions and unique advantages, offer students the opportunity to establish a comfortable living pattern. All halls include informal lounges, study rooms, recreation areas, and common kitchen and laundry facilities.

Most of the halls are co-educational. Although they are housed in separate wings, men and women in co-ed halls share lounge and recreation facilities and common residence government, and participate jointly in all hall activities. One all-men's hall and one all-women's hall are available for those who desire this type of living experience.

Further information regarding residence halls can be obtained from the Residential Life Office.

In addition to housing for single students, the university maintains a limited number of apartments on campus for family student housing. Two and three-bedroom units are available. Application for these apartments can be made through the Residential Life Office.

ACTIVITIES

PLU annually registers over 50 academic and non-academic organizations, clubs, societies, and interest groups, which testifies to the diversity of campus co-curricular life. Social action, religious, and political organizations; interest and sporting clubs; and service, professional, and academic societies are among the options from which to choose. A complete listing of recognized clubs and their officers is maintained in the University Center.

Student government is an integral part of student activities at PLU. By virtue of enrollment at PLU students are part of the associated students. Senators from each residence hall and from off campus are elected to govern ASPLU in conjunction with elected executive officers. They oversee an extensive committee program that involves hundreds of students in planning programs and representing student opinion on various university boards and committees.

ADULT STUDENT PROGRAMS

Adult Student Programs provides assistance to students over 25. Information for accessibility to student support services such as personal and career counseling, orientation, special facilities, and health care programs can be obtained from the office. Adult Student Programs is located on the lower level of the University Center (MICA Office).

MINORITY STUDENT PROGRAMS

Minority Student Programs coordinates services that seek to provide for the academic and social needs of students of color. Supportive services include academic and personal counseling, pre-admissions advising, scholarship and financial aid assistance, book fund, faculty mentors, and cultural programs.

INTERNATIONAL STUDENT PROGRAMS

International Student Programs provides for the various needs of foreign students. Support services include orientation to the U.S. and PLU, the Host Family Program, a liaison with immigration offices, counseling, and advising the International Student Organization, L.I.F.E.

PROGRAM FOR COMMUTING STUDENTS

Over one-half of all PLU students commute to the campus. Every effort is made to assure they enjoy the same university experiences as those in residence. First-year students make a special effort to participate in the orientation program. The student government (ASPLU) sponsors a committee to assist those who do not reside on campus and welcomes students desiring to participate. Special facilities include mailboxes and a

day lounge located on the lower level of the University Center for all full-time commuters. Off-campus students are encouraged to participate in the varied and frequent activities available to all students.

ENVIRONS

The university's geographical setting affords students a wide variety of both recreational and cultural entertainment options.

Recreationally, the grandeur of the Pacific Northwest encourages participation in hiking, camping, climbing, skiing, boating, and swimming.

The most conspicuous natural monument in the area is Mt. Rainier. In addition to Rainier, the distinctive realms of the Cascade and Olympic mountain ranges and forests of Douglas Fir complete one of the most naturally tranquil environments in the United States.

Students can also enjoy the aesthetic offerings of nearby Seattle and Tacoma. These city centers host a variety of performing and recording arts and provide dozens of galleries and museums as well as unique shopping and dining experiences.

STUDENT SERVICES

Health Services is staffed with two nurse practitioners, a registered nurse, and a part-time health educator. A physician is available for consultation and referral. Services available include outpatient health care, alcohol/drug referral, laboratory tests, contraception/pregnancy counseling, and health education. All students may use the Health Services.

Health and Accident Insurance is available to all students on a voluntary basis. The Health Service strongly urges all students to have medical insurance. The Group Accident and Sickness Medical Expense Plan provides 24 hours a day, 12 months a year, anywhere in the world. This plan is available throughout the year. A brochure outlining the program is available from the Business Office and the Health Services.

Counseling and Testing Services assist students in coping with developmental issues. Trained and experienced psychologists, counselors, and a consulting psychiatrist offer individual counseling. Periodically, group counseling is also provided. A variety of interest inventories and psychological tests are available to assist students with career planning, educational adjustment, and personal problems. Coordination of services to students with disabilities is also available. Student grievances, except academic, are addressed through this office.

Food Service, owned and operated by Pacific Lutheran University, is available to all students, faculty, staff, and their guests. Students living on campus are required to take their meals in one of two cafeterias. No deductions are made for students eating fewer meals than previously contracted unless a conflict exists due to work. In case of a conflict, a student must contact the Food Service Office in the University Center to obtain approval for a deduction.

Residential students are offered 3 meal options: (1) Breakfast, Lunch, and Dinner 7 days a week; (2) Breakfast, Lunch, and Dinner, Monday through Friday; (3) Lunch and Dinner 7 days a week.

Students living off-campus are encouraged to select one of the meal plans offered. Students may sign up for either plan at the Food Service Office.

Students with special dietary requirements, specifically approved in writing by a physician, can in most cases be accommodated by contacting the Food Service Registered Dieticians. This service is provided at no extra cost.

The Food Service operates two coffee shops. One is located on lower campus in Columbia Center, and the other is located in the University Center. A discounted meal card is available at the Business Office and the University Center Coffee Shop, and is designed to be used in either coffee shop. Only the coffee shop in Columbia Center is open during vacation periods.

Visitors may eat in any of the facilities.

Scheduling Services for meeting rooms are maintained in the University Center. All university activities must be scheduled through this office. Scheduling student activities is a joint responsibility of the requesting group, scheduling coordinator, and director of the University Center.

PLU Bookstore is owned and operated by Pacific Lutheran University for the benefit of students, faculty, and staff. The bookstore sells textbooks and supplies that are required or suggested by faculty members for their courses. Additional reading matter, supplies, gift items, greeting cards, clothing, film processing, toiletries, and other convenience items are also available.

Career Services' goal is to provide a program of career development and life planning. Students are assisted in integrating their personal values and aptitudes with career choices through individual counseling, workshops, residence hall presentations, and a computerized career guidance program. The office staff assists students and alumni in developing job search techniques by providing instructional videos, company literature, an extensive career library of opportunities in specific majors, industry directories, and employment forecasts. Additionally, the office coordinates a schedule of recruiters from industry, business, government, and graduate schools.

Career Services coordinates and promotes all part-time and full-time employment opportunities for students. This consists of financial assistance programs such as work study, campus and community opportunities, updated listings of local jobs, and nation-wide internships and summer employment opportunities. Specially selected forums throughout the year also bring students and employers together, in order to help students to find work that is both financially and personally rewarding.

GRIEVANCE PROCEDURES

Policies and procedures at the university are intended to maintain an orderly educational environment conducive to student learning and development. In order to fulfill institutional responsibility and at the same time follow procedures that are fair, consistent, and protective of each person's rights, appropriate grievance procedures have been established. If a student has reason to believe that an academic or administrative action is unjust, capricious, or discriminatory, these procedures are available for the student to seek redress.

In situations involving alleged grievances against faculty or academic administrators, the procedures of the "Academic Grievance Procedure" shall be followed. The grievance officer to contact is the director of the academic advising and assistance center or the associate dean for special academic programs.

In situations involving alleged grievances against administrative staff or other non-faculty university employees, the procedures of the "Student Administrative Grievance Procedure" shall be followed. The office to contact is Counseling and Testing Services.

Copies of each grievance procedure are available for review at the office of the respective grievance officers.

Advising

The university expects that all students, at one time or another, will need assistance in planning academic programs consistent with their needs and goals. To help students make their initial adjustment to the academic load at PLU and to provide occasional counsel throughout their academic careers, the university has established a network of faculty advisers and an Academic Advising and Assistance Center.

FACULTY ADVISERS

All students in degree programs have faculty advisers whose overall responsibility is to guide academic progress. In their work with individual students, advisers have the assistance of personnel in a number of student services offices: the Academic Advising and Assistance Center, the Career Services Office, Counseling and Health Services, the Minority Student Programs Office, the Campus Ministry, the international student adviser, and residence hall directors and resident assistants.

General Advisers: At the time of entry, each student is assigned a general adviser on the basis of matching student and adviser interests. Students who wish to explore the general curriculum before deciding on an interest area are assigned to *interest* advisers.

During the first semester, an advising file for each student is sent to the adviser, and a *Gold Book*, the student's official record of academic progress, is issued to the student.

Major Advisers: Upon formal declaration of a major, students are assigned major advisers to replace their general advisers. Major advisers guide students' progress toward their chosen degree goals.

Since their academic needs and interests may shift or change during four years of college, students are allowed to change advisers as may be appropriate or necessary, using a simple adviser change form. Students and advisers are expected to meet regularly, though the actual number of meetings will vary according to individual needs. Minimally, three meetings are required during the freshman year and one each year thereafter, though all students are encouraged to meet with their advisers as often as seems necessary or useful.

ACADEMIC ADVISING AND ASSISTANCE CENTER

The Academic Advising and Assistance Center provides a number of academic resources for students:

1. *tutoring* by trained upper-division skills counselors is available for most lower-division courses;
2. *study skills* are taught either on a one-to-one basis or in non-credit mini-courses;
3. *group help sessions* in several subject areas are scheduled on a daily or weekly basis each semester;
4. *academic counseling* by AAAC administrators and skill counselors assures responsive and personal assistance with academic problems.

Students may also find up-to-date information on PLU policies, procedures, and programs in the AAAC. The office is open Monday through Thursday from 9:00 a.m. until 10:00 p.m., Friday from 9:00 a.m. until 5:00 p.m., and Sunday from 2:00 until 10:00 p.m.

Academic Structure

COLLEGE OF ARTS AND SCIENCES

Division of Humanities

English
Languages
Philosophy
Religion

Division of Natural Sciences

Biology
Chemistry
Earth Sciences
Mathematics and Computer Science
Physics and Engineering

Division of Social Sciences

Anthropology
Economics
History
Political Science
Psychology
Social Work and Marriage and Family Therapy
Sociology

SCHOOL OF THE ARTS

Art
Communication Arts
Music

SCHOOL OF BUSINESS ADMINISTRATION

SCHOOL OF EDUCATION

SCHOOL OF NURSING

SCHOOL OF PHYSICAL EDUCATION

OFFICE OF GRADUATE AND CONTINUING STUDIES

DEGREES OFFERED

Bachelor's Degrees

Bachelor of Arts
Bachelor of Science
Bachelor of Arts in Education
Bachelor of Arts in Physical Education
Bachelor of Arts in Recreation
Bachelor of Business Administration
Bachelor of Fine Arts
Bachelor of Music
Bachelor of Music Education
Bachelor of Musical Arts
Bachelor of Science in Nursing
Bachelor of Science in Physical Education

Master's Degrees

Master of Arts in Computer Applications
Master of Arts in Education
Master of Arts in Music
Master of Arts in Social Sciences
Master of Business Administration
Master of Science in Computer Science
Master of Science in Nursing

MAJORS AVAILABLE

BACHELOR OF ARTS (B.A.)

Anthropology
Art
Biology
Chemistry
Classics
Communication Arts
  (Broadcasting, Interpersonal Communication, Journalism, Theater)
Computer Science
Earth Sciences
Economics
English
French
German
History
Honors
Legal Studies
Mathematics
Music
Norwegian
Philosophy
Physics
Political Science
Psychology
Religion
Scandinavian Area Studies
Social Work
Sociology
Spanish

BACHELOR OF SCIENCE (B.S.)

Biology
Chemistry
Computer Engineering
Computer Science
Earth Sciences (Geology Specialty)
Engineering Physics
Engineering Science (3-2)
Mathematics
Physics

BACHELOR OF ARTS IN EDUCATION (B.A.E.)

Concentrations in:

Anthropology
Art
Biology
Chemistry
Chinese
Computer Science
Drama
Earth Sciences
Economics
English
French
German
Health
History
Journalism
Language Arts
Latin
Mathematics
Music
Norwegian
Physical Education
Physics
Political Science
Psychology
Science
Social Studies
Sociology
Spanish
Special Education
Speech

BACHELOR OF ARTS IN PHYSICAL EDUCATION (B.A.P.E.)

Physical Education

BACHELOR OF ARTS IN RECREATION (B.A.Rec.)

Concentrations in:

Administration
Programming
Therapeutics

BACHELOR OF BUSINESS ADMINISTRATION (B.B.A.)

Concentrations in:

Accounting
Finance
Human Resource Management
International Business
Management Information Systems
Marketing
Operations Management

BACHELOR OF FINE ARTS (B.F.A.)

Art
Communication Arts
  (Broadcasting, Theater)

BACHELOR OF MUSIC (B.M.)

Piano Performance
Organ Performance
Vocal Performance
Instrumental Performance
Theory and Composition
Church Music

BACHELOR OF MUSIC EDUCATION (B.M.E.)

K-12 Choral
K-12 Instrumental (Band Emphasis)
K-12 Instrumental (Orchestra Emphasis)

BACHELOR OF MUSICAL ARTS (B.M.A.)

Music

BACHELOR OF SCIENCE IN NURSING (B.S.N.)

Nursing

BACHELOR OF SCIENCE IN PHYSICAL EDUCATION (B.S.P.E.)

Concentrations in:

Exercise Science
Pre-therapy

COMPLEMENTARY MAJOR

Global Studies

MINORS AVAILABLE

Anthropology
Art
Biology
Business Administration
Chemistry
Chinese
Communication Arts
  Interpersonal Communication
  Theater
  Dance
Computer Science
Earth Sciences
Economics
Education
  Reading
  Learning Resource Specialist
  Special Education
Electrical Engineering
English
  Literature
  Publishing and Printing Arts
  Writing
French
German
Global Studies
Greek
History
Information Science
Latin
Legal Studies
Mathematics
Norwegian
Philosophy
Physical Education
  Aquatics
  Coaching
  Dance
  Exercise Science
  Health
Physics
Political Science
Psychology
Public Affairs
Religion
Sociology
Spanish
Statistics

Academic Procedures

REGISTRATION

The normal course load for full-time students is 13 to 17 hours per semester, including physical education. A normal student load during the interim is four hours with a maximum of five hours. The minimum semester load for a full-time student is twelve hours.

Students registering full-time (12 hours or more) must be formally admitted to the university by the admissions office. Refer to the Admission section of this catalog for application procedures.

Only a student with a "B" (3.00) average or higher may register for more than 17 hours per semester without the consent of the provost. A student engaged in much outside work for self-support may be restricted to a reduced academic load.

In the spring semester, students who plan to return in the fall are encouraged to pre-register. Students must register for each new semester on the designated days and are not officially enrolled until their registration has been cleared by the Business Office.

COURSE NUMBERINGS

100-200 Lower Division Courses: Open to freshmen and sophomores* unless otherwise restricted.

300-320 Interim Courses

321-499 Upper Division Courses: Generally open to juniors and seniors unless otherwise specified. Also open to graduate students, and may be considered part of a graduate program provided they are not specific requirements in preparation for graduate study.

500-599 Graduate Courses: Normally open to graduate students only. If, during the last semester of the senior year, a candidate for a baccalaureate degree finds it possible to complete all degree requirements with a registration of fewer than 16 semester hours of undergraduate credit, registration for graduate credit is permissible. However, the total registration for undergraduate requirements and elective graduate credit shall not exceed 16 semester hours during the semester. A memorandum stating that all baccalaureate requirements are being met during the current semester must be signed by the appropriate department chair or school dean and presented to the dean of graduate studies at the time of such registration. This registration does not apply toward a higher degree unless it is later approved by the student's adviser and/or advisory committee.

*Upon approval of their adviser and course instructors, lower division students may be assigned to upper division courses if prerequisites have been met.

COURSE OFFERINGS

Most listed courses are offered every year. A system of alternating upper division courses is practiced in some departments, thereby assuring a broader curriculum. The university reserves the right to modify specific course requirements, to discontinue classes in which the registration is regarded as insufficient, and to withdraw courses.

EXPLANATION OF SYMBOLS

Most courses have the value of 4 semester hours. Parenthetical numbers immediately after the course descriptions indicate the semester hour credit given.

Other symbols are explained as follows:

I — Course offered first semester
II — Course offered second semester
I,II — Course offered first and second semester in sequence
I II — Course offered either semester
S — Course offered in the summer
a/y — Course offered in alternate years
a/s — Course offered in alternate summers
G — Course may be used in graduate programs

EARLY REGISTRATION PROGRAM FOR FRESHMEN

Well in advance of arrival on campus for the first semester, all accepted freshmen are sent registration materials. Most students have the opportunity to work personally with an adviser as they plan their schedules. A limited number of students register by mail, and their course selections are verified by a counselor.

Early registration for new freshmen occurs during June or January, depending on whether students begin in the fall or spring semester. Early registration is coordinated by the Office of Admissions.

COURSE SELECTIONS FOR FRESHMEN

Students should be thoroughly acquainted with all registration materials, including the current catalog and special information sent by the Admissions Office. It is important also to study the requirements of all academic programs in which one may eventually declare a major.

First semester freshmen are advised to plan a class schedule that does not exceed 16 credit hours. A normal first semester schedule will include three courses of 4 credit hours each, plus one or two of the following: physical education activity course (1 credit hour), music ensemble (1 credit hour), or a choice from among several 2 credit hour courses. (NOTE: Unless otherwise stated in the catalog or class schedule, most courses are valued at 4 credit hours.)

In order to insure appropriate academic progress, freshmen should plan to take an interim course in January and to complete a total of 32-35 semester hours during their first year. The following will illustrate several first-year credit hour loads:

	Fall	*Interim*	*Spring*	*TOTAL*
(1)	13	4	15	32
(2)	14	5	14	33
(3)	15	4	15	34
(4)	15	5	15	35

The number of credit hours taken may vary from year to year, usually within a range of 30 to 34. However, in order to complete the 128 hours required for graduation within four years, an *average* of 32 credit hours a year is necessary.

1. *PLU does not have particular courses which are required of all freshmen.* General university requirements, including a core curriculum (Core I or Core II), must be completed before graduation. The English writing requirement must be fulfilled before the senior year.
2. *Students are responsible for selecting their courses.* Counselors and faculty advisers are always available to assist with planning and to make suggestions.
3. *Students who are sure of their major should be careful to include those courses which insure completion of that major within four years.* Some departments or schools have prerequisite courses which must be taken before entering upon the major program itself.
4. *Students who are undecided about their major course of study should take the opportunity to explore options.* A good way to begin is to take some courses that meet general university or core requirements while selecting several others for exploration of special interests.

CHANGES IN REGISTRATION

Students may add or drop a class with full refund during the first two weeks after a class has begun. Necessary forms are available at the Registrar's Office.

Students may officially withdraw from a class after the first two weeks by obtaining the instructor's signature on the drop/add form. The grade of W will appear on a student's grade report and transcript.

Students may also completely withdraw for medical reasons. Written evidence from a physician must support a medical withdrawal. The grade of WM will appear on a student's grade report and transcript.

An unofficial withdrawal from a course will be recorded as EW. No student may withdraw during final examination week. In courses that are completed before the normal ending date of a term, no student may withdraw after the final examination has been administered.

CREDIT RESTRICTIONS

Credit is not allowed for a mathematics or a foreign language course listed as a prerequisite when taken after the higher-level

course. For example, a student who has completed Spanish 201 cannot later receive credit for Spanish 102.

WITHDRAWAL FROM THE TERM

Students wishing to withdraw from the term must obtain a withdrawal form from the Office of the Registrar. IT IS ALWAYS TO THE STUDENT'S ADVANTAGE TO WITHDRAW OFFICIALLY. Students withdrawing for a specified period of time (for example, one semester to one year) may obtain a leave of absence form. Students are entitled to honorable dismissal from the university if their record of conduct is satisfactory and if all financial obligations have been satisfied.

THE GRADING SYSTEM

Students are graded according to the following designations:

A+ = 4.00 grade points per hour, credit given
A = 4.00 grade points per hour, credit given
A- = 3.67 grade points per hour, credit given
B+ = 3.33 grade points per hour, credit given
B = 3.00 grade points per hour, credit given
B- = 2.67 grade points per hour, credit given
C+ = 2.33 grade points per hour, credit given
C = 2.00 grade points per hour, credit given
C- = 1.67 grade points per hour, credit given
D+ = 1.33 grade points per hour, credit given
D = 1.00 grade point per hour, credit given
D- = 0.67 grade point per hour, credit given
E = 0.00 grade points per hour, no credit given

The grades listed below are not used in calculating grade point averages. No grade points are earned under these designations.

H —credit given (honors); used only for courses unique to interim
P —credit given (Passing)
F —no credit given (Failure)*
I —no credit given (Incomplete)
IP —no credit given (In Progress; applicable only to certain courses whose work extends beyond a regular term)
AU —no credit given (Audit)
W —no credit given (Withdrawal)
WM —no credit given (Withdrawal/Medical)

* A failure in a 300-320 interim course is not recorded on the transcript nor is the registration recorded.

Incomplete (I) grades indicate that students have been unable to complete their work because of circumstances beyond their control. To receive credit an Incomplete must be converted to a passing grade WITHIN THE FIRST SIX WEEKS OF THE FOLLOWING SEMESTER. Incomplete grades which are not converted by removal are changed to the grade indicated by the instructor when the Incomplete is submitted.

Medical Withdrawal (WM) is given when a course is not completed due to medical cause. The WM does not affect the grade point average.

In Progress (IP) signifies progress in a course which normally runs more than one semester to completion. In Progress carries no credit until replaced by a permanent grade.

Any course may be repeated by an undergraduate student. The higher of the two grades earned is used in computing the cumulative grade point average, but credit toward graduation is allowed only once.

Registrar's notations:

NG = No grade submitted by instructor
EW = Unofficial withdrawal, recorded by the registrar (equivalent to an E in calculation of the grade point average)

INTERIM GRADING SYSTEM

The instructor of a 300-320 interim course will indicate in the catalog description which of two grading systems will be used:

1. Honors (H)—for exceptional work; Pass (P); Fail, no credit—the registration will not be recorded. (H and P do not affect the grade point average.)
2. The regular letter grades: A,B,C,D,E. (Such grades contribute to the grade point average.) Students in a "regular letter-grade" course may use one of their two pass-fail options.

PASS-FAIL OPTION FOR UNDERGRADUATE STUDENTS

The pass-fail option permits students to explore subject areas outside their known abilities and to add a broader range of courses without being forced to compete with majors who are specializing in those areas of study.

1. The pass-fail option is limited to 8 credit hours.
2. Not more than one course (4 credit hours) may be taken pass-fail in fulfillment of general university or core requirements, or of the foreign language requirement of the College of Arts and Sciences and of the School of Physical Education.
3. The pass-fail option may *not* be applied to a course taken in fulfillment of a student's major or minor program, *except* for a first course in the major or minor field that is taken before the student's declaration of a major or minor program.
4. To exercise the pass-fail option, students must file their intention with the Registrar's Office no later than the last day of the eighth week. In courses that meet less than the full length of the semester, the pass-fail agreement must be filed by the mid-point of the course.
5. In the pass-fail option, only grades of A+ through C- will be regarded as "pass"; grades of D+ through E will be regarded as "fail." Pass-fail grades do not affect the grade point average.

EXCLUSIVE PASS-FAIL COURSES

Departments or schools may offer courses in which only pass-fail grades are given. These courses should pursue goals primarily concerned with appreciations, value commitments, creative achievements, or the like. Decisions to offer exclusive pass-fail courses are reported to the provost and this fact is made known to students before they register for these courses.

Exclusive pass-fail courses may not be used to meet major or university requirements unless they have been approved as such by the faculty. Taking exclusive pass-fail courses in no way affects the student's personal pass-fail option.

CLASS ATTENDANCE

The university assumes that all registered students have freely accepted personal responsibility for regular class attendance. Course grades reflect the quality of students' academic performance as a whole, which normally includes regular participation in the total class experience and is evaluated accordingly. Absences may lead to a reduction of a student's final grade. In the event of unavoidable absence, students are encouraged as a matter of courtesy, as well as in their own best interest, to inform the instructor. Assignment of make-up work, if any, is at the discretion of the instructor.

ACADEMIC HONESTY

Both the value and the success of any academic activity, as well as of the entire academic enterprise, have depended for centuries on the fundamental principle of absolute honesty. The university, therefore, expects all its faculty and students to honor this principle scrupulously.

Since academic dishonesty is a serious breach of the universally recognized code of academic ethics, it is every faculty member's obligation to impose appropriate sanctions for any demonstrable instance of such misconduct on the part of a student.

ACADEMIC PROBATION

Most students make normal academic progress; however, some may from time to time be notified that they must improve their grades. The following terms are used at PLU to describe such students. Advisers make regular contact with academically marginal students, and monitor their progress closely.

Admission with Probation. Each year PLU admits a few students on probation. These students, who do not meet all or part of admission requirements, are screened carefully and notified of their special status. These students must limit first semester loads to 14 credit hours, including study skills, and are assigned to probationary advisers.

Mid-term Warnings. Warning grade reports are sent to any students who are doing "D" or "E" work at mid-semester. Advisers are sent copies of the grade reports and contact advisees who receive them. No transcript notation is made of this action.

Academic Warning. Students whose last semester grade point average is below 2.0, but whose cumulative grade point average is above 2.0, are sent notice of academic warning. No transcript notation is made.

Academic Probation. Students, including first-term freshman students, are placed on academic probation with transcript notation if their cumulative grade point average falls below 2.0 or if they receive two successive semester grade point averages below 2.0. Such students are required to meet with the director of advising in the first ten days of their probationary semester to draw up an agreement specifying actions they will take to improve their academic performance. Compliance with that agreement is monitored by the student's assigned adviser or an appointed probationary adviser. Failure to draw up the agreement or to comply with its terms may result in denial of continued probation or dismissal from the university. In the case of first-term freshman students with no previous college-level credits, the probation notation will be removed from the transcript if the subsequent semester's cumulative grade point average is above 2.0.

Continued Probation. Probationary students whose probationary semester grade point average is above 2.0, but whose cumulative grade point average remains below 2.0, may be granted an additional semester of probation at the discretion of the Committee on Admission and Retention of Students.

Academic Dismissal. The enrollment of a probationary student who fails to earn a cumulative grade point average of 2.0 at the end

of a probationary semester is terminated. A terminated student may apply for reinstatement by securing a faculty sponsor and submitting a letter of petition to the registrar. The petition and letter of sponsorship are acted upon by the Faculty Committee on Admission and Retention of Students. A student whose petition for reinstatement has been denied may apply for readmission after one semester has elapsed unless informed otherwise.

Second Academic Dismissal. The enrollment of a student who fails to earn a cumulative grade point average of 2.0 after reinstatement with a faculty sponsor is terminated. A student dismissed for the second time may not be reinstated for at least one semester, and only if new evidence is presented that the student will probably succeed.

ELIGIBILITY FOR STUDENT ACTIVITIES

Any regularly enrolled, full-time student (twelve hours) is eligible for participation in university activities. Limitations on a student's activities based upon academic performance may be set by individual schools, departments, or organizations. A student on academic probation is not eligible for interscholastic competition and may also be advised to curtail participation in extracurricular activities.

CLASSIFICATION OF STUDENTS

Freshmen: students who have met entrance requirements.

Sophomores: students who have satisfactorily completed 30 hours.

Juniors: regular students who have fulfilled lower division requirements and have satisfactorily completed 60 hours.

Seniors: regular students who have satisfactorily completed 90 hours.

Graduates: students who have met entrance requirements and have been accepted into the Division of Graduate Studies.

Non-Degree Undergraduates: undergraduate students who are attending part-time but are not officially admitted to a degree program.

Non-Degree Graduates: graduate students who are attending part-time but are not officially admitted to a degree program.

HONORS

Honors at Entrance: These honors are conferred at Opening Convocation on the most highly qualified entering freshmen. Certificates are mailed in early May to high schools for presentation to recipients. The granting of Honors at Entrance recognizes outstanding high school schievement and anticipates superior performance at the university level. These awards have no monetary value.

Graduation Honors: Degrees with honors of *cum laude, magna cum laude,* and *summa cum laude* are granted. A student must earn an average of 3.40 for *cum laude,* 3.70 for *magna cum laude,* and 3.90 for *summa cum laude.* Physical education activities are not included in the determining of honors.

Honor Societies: Election to the Arete Society is a special recognition of a student's commitment to the liberal arts together with a record of high achievement in relevant course work. This academic honors society was organized in 1969 by Phi Beta Kappa members of the faculty. The society's fundamental purpose is to encourage and recognize excellent scholarship in the liberal arts. Elections for the society take place each spring. Both juniors and seniors are eligible for election, although the qualifications for election as a junior are more stringent. The faculty fellows of the society conduct the election after careful review of academic transcripts according to the following criteria. Students must:

- attain a high grade point average (for seniors, normally above 3.70; for juniors, normally above 3.90);
- complete 110 credit hours in liberal studies;
- demonstrate the equivalent of two years of college work in foreign language; and
- complete one year of college mathematics (including statistics or computer science) or have taken an equivalent amount of high school math and college science.

To be eligible for election, students must have completed a minimum of three semesters in residence at the university.

The university has chapters of a number of national honor societies on campus, including the following:

Alpha Psi Omega (Drama)
Beta Gamma Sigma (Business Administration)
Mu Phi Epsilon (Music)
Pi Kappa Delta (Forensics)
Omicron Delta Epsilon (Economics)

Undergraduate Fellowships: A limited number of Undergraduate Fellowships are awarded annually to outstanding senior students with a view to encouraging recipients to consider college teaching as a career. An undergraduate fellow is given a variety of opportunities to sample the professional life and work of a faculty member in his or her major discipline. A tuition credit accompanies the appointment.

Individualized Major for Special Honors: Supervised by a faculty committee, this program offers junior and senior students (with a grade point average of 3.30 or above) the opportunity to develop and complete a personally-designed, interdisciplinary, liberal arts major. Approval of a faculty sponsor and the Faculty Honors Council are required. The plan of study must include a clear topical rationale, an integrating final project, and significant work beyond regular courses, e.g., comprehensive examinations, independent study projects, interdisciplinary senior thesis. Successful completion of an approved study plan warrants the B.A. degree with Special Honors.

CREDIT BY EXAMINATION

Students are permitted, within limits, to obtain credit by examination in lieu of regular enrollment and class attendance. No more than 30 semester hours may be counted toward graduation, whether from the College Level Examination Program or any other examination. Exceptions to this rule for certain groups of students or programs may be made, subject to recommendation by the Educational Policies Committee and approval by the faculty. Credit by examination is open to formally admitted, regular status students only and does not count toward the residency requirement for graduation.

Arrangement for departmental credit examinations must be made by students with respective departmental chairs or deans. Evidence of approval and of payment of the fee should be presented by a student to the instructor who administers the examination. The instructor should attach a copy of the receipt to the grade sheet when submitting a grade for the examination.

CLEP general examinations are given elective credit only. The variousschools, divisions, and departments determine the specific CLEP subject examinations which may fulfill requirements for majors, programs, or general university requirements in their respective academic areas. These examinations are subject to recommendations by the Educational Policies Committee and approval by the faculty.

The minimum passing level for CLEP examinations taken at Pacific Lutheran University is the fiftieth percentile.

CLEP credits granted by other universities, colleges, and community colleges, which are earned before entrance, are honored by Pacific Lutheran University. The application of those credits toward majors, programs, and general university requirements is consistent with school, divisional, and department policies and standards.

The university does not grant credit forcollege level GED tests.

INFORMAL STUDY

To encourage liberal learning of all kinds, over and beyond enrollment in courses leading toward formal degrees, the university offers a variety of opportunities for informal study:

Guest of University Status: Teachers and officials of other institutions, visiting scholars and artists, and other professional persons who wish to use university facilities for independent study may apply to the provost for cards designating them as Guests of the University. Such persons, in their use of facilities, will defer to the needs of students and faculty members.

Auditing Courses: To audit a course is to enroll, with the permission of the instructor, on a non-credit basis. An auditor is encouraged to participate fully in class activities but is not held accountable for examinations or other written work and does not receive a grade. If the instructor approves, the course may be entered upon the transcript as "Audit." With the approval of the instructor or the department, the student may gain credit for an audited course by passing an examination set by the instructor or the department. Audit fees are the same as credit fees.

Visiting Classes: Members of the academic community are encouraged to visit classes which interest them. No fee is charged for the privilege. Because regularly enrolled students must be given first consideration, persons desiring to visit classes are required to ask permission of the instructor. Visitors are guests of the classes and must conduct themselves accordingly.

JUNIOR REVIEW

All students who have accumulated 70 semester hours toward graduation must complete a junior review before they may register for a subsequent term. The review includes progress reports on general university, major, and minor requirements, and a plan for the completion of any remaining requirements. Forms are available at school or department offices.

GRADUATION

Students expecting to fulfill degree requirements WITHIN THE ACADEMIC YEAR (including August) arerequired to file application for graduation with the Office of the Registrar by October 3.

There are four degree-completion dates (end of fall semester, interim, spring semester, and second summer session). Degrees are formally conferred at December, May, and August commencements. Students with interim degree dates are expected to take part in the December commencement. The actual date of graduation will be recorded on the permanent records.

Students who plan to transfer back to Pacific Lutheran University for a degree (math, physics, engineering programs) must apply for graduation before or during the first semester of their junior year so that deficiencies may be met before they leave campus.

Attendance at commencement exercises is expected unless the candidate is excused by the provost.

SECOND BACCALAUREATE DEGREE

A student may be awarded two *different* bachelor's degrees simultaneously, provided that at least 28 *additional* hours are earned for the second degree. A total of 156 acceptable hours are required for two simultaneous baccalaureate degrees.

GENERAL UNIVERSITY REQUIREMENTS

The university is committed, in principle as well as historically, to providing a strong liberal arts base for all its baccalaureate degree programs. Accordingly, in addition to fulfilling certain specified requirements, all undergradute students must satisfactorily complete a core curriculum.

SPECIFIED REQUIREMENTS

1. **WRITING** (4 hours): English 101 or an equivalent prose writing course. Students should fulfill this requirement early, preferably in their first or second semester.
2. **PHYSICAL EDUCATION** (4 hours): Four 1-hour activity courses, including PE 100. One hour of credit may be earned through approved sports participation. All activities are graded on the basis of A, Pass, or Fail.
3. **INTERIM** (8 hours): Only courses numbered 300-320 satisfy this requirement. Junior and senior transfer students need to complete only 4 hours from 300-320 interim courses.
4. The completion of a minimum of 128 semester hours with a grade point average of 2.00 (2.50 in the Schools of Business Administration and Education).
5. The completion of a minimum of 40 semester hours from courses numbered 321 or above. Courses from two-year institutions are not considered upper division regardless of subject matter parallels. At least 20 of the minimum 40 semester hours of upper division work must be taken at PLU.
6. The final 32 semester hours of a student's program must be completed in residence at PLU. (Special programs such as 3-1, 3-2, and interim exchange study are excluded from this limitation.)
7. The completion of a major as detailed by each school or department. At least 8 semester hours must be taken in residence.
8. The completion of all courses counted toward a major or a minor with grades of C- or higher and with a cumulative grade point average of 2.0 or higher in those courses. Departments, divisions, or schools may set higher grade requirements.

LIMITATIONS—ALL BACCALAUREATE DEGREES

1. Not more than 40 hours earned in one department may be applied to the B.A., B.S., B.A.P.E., B.A.Rec., or B.S.P.E. degrees. Interim courses are excepted.
2. Non-music majors may count toward graduation requirements not more than 8 semester hours in music ensembles.
3. A maximum of 24 hours in accredited correspondence or extension studies may be credited toward degree requirements, contingent on approval by the registrar.
4. A maximum of 64 hours will be accepted by transfer from an accredited community college. All community college courses are transferred as lower division credit.
5. No more than eight 1-hour physical education activity courses may be counted toward graduation.

FOREIGN LANGUAGE REQUIREMENT

All candidates for B.A., B.S., B.A.P.E., B.A.Rec., or B.S.P.E. degrees must complete one of three options involving a foreign language or specified alternative. See under College of Arts and Sciences.

INTERDISCIPLINARY READING AND WRITING AT PLU

Pacific Lutheran University is a community of scholars, a community of readers and writers. Reading informs the intellect and liberates the imagination. Writing pervades our academic lives as teachers and students, both as a way of communicating what we learn and as a means of shaping thought and ideas.

Our emphasis on literacy begins with courses designed to fulfill the university writing requirement, courses in which students learn to use various kinds of academic and personal writing, to read different kinds of texts more effectively, and to organize the powers of clear thought and expression.

The university's commitment to excellent writing is reflected in The Writing Center, where trained student consultants from a variety of disciplines help students of varying abilities by reading and responding to papers still in draft.

All faculty members share the responsibility for improving the literacy of their students. Faculty in every department and school make writing an essential part of their courses and show students how to ask questions appropriate to the kinds of reading done in their fields. Students write both formal papers and reports and informal notes and essays in order to master the content and methods of the various disciplines. They are encouraged to prepare important papers in multiple drafts.

Because errors are a distraction and a symptom of carelessness in all disciplines, students in all courses are expected to observe the conventions of formal English in their finished work. But literacy is more than correctness. At Pacific Lutheran University reading and writing are part of the process of liberal education.

CORE CURRICULUM: ALTERNATIVES

CORE I (DISTRIBUTIVE CORE)

ARTS/LITERATURE (8 hours)—4 hours from each line:
1. Art, Music, or Communication Arts—Any combination of four semester hours from Art, Music, or Communication Arts, with the following exceptions:
   a. Only theater/drama credits may be used from the Department of Communication Arts: 151, 160, 162, 241, 250, 358, 359, 363, 364, 458.
   b. Teaching methods courses may not be used.
2. Literature—Any literature course from English or Languages. (English courses in writing, language, and publishing do not fulfill this requirement.)

NATURAL SCIENCES/MATHEMATICS (8 hours)—4 hours from each of two lines:
1. Chemistry, Physics, Engineering, and Natural Sciences.
2. Biology, Earth Sciences, and Natural Sciences.
3. Mathematics (except 91 and 99) and Computer Science.

PHILOSOPHY (4 hours)—Any Philosophy course except 100, 121, and 233. (However, 226, 323, 325, 326, and 328 count toward fulfillment of this requirement only when paired with 225; 341, 342, and 343 count only when taken in addition to 225 or 233.)

RELIGIOUS STUDIES (8 hours)—4 hours from each of two lines:
1. Biblical Studies—Any of the following: 111, 211, 212, 330, 331, 332, 333.
2. Christian Thought, History, and Experience—Any of the following: 121, 221, 222, 223, 224, 225, 226, 360, 361, 362, 363, 364, 365, 366, 367, 369.
3. Integrative and Comparative Religious Studies—Any of the following: 131, 132, 133, 231, 390, 391, 392, 393. (Additional courses that relate religion to other topics or disciplines and are approved to meet this requirement will be listed in the time schedule.)

Junior and senior transfer students need to complete only 4 hours (one course from lines 1 or 2).

SOCIAL SCIENCES (8 hours)—4 hours from each line:
1. Anthropology, History, and Political Science.
2. Economics, Psychology (except 110 and 111), Social Work, and Sociology.

TOTAL: 36 hours, 9 courses.

See course descriptions for information about which Core I requirements a given Core II course may fulfill. ▶

CORE II (INTEGRATED STUDIES PROGRAM)

A coherent program of interdisciplinary courses that explores a central theme—THE DYNAMICS OF CHANGE.
1. SEQUENCE I—THE IDEA OF PROGRESS (2 courses, 8 hours; normally taken in the freshmen year).
   INTG 111 Nature and Supernature
   INTG 112 From Finite to Infinite
2. TWO OF THREE 200-LEVEL SEQUENCES (2 courses each, 4 total; 16 hours)
   SEQUENCE II—HUMAN RESPONSIBILITY (Courses in the 220s)
   INTG 221 The Experience of War
   INTG 222 Prospects for War and Peace
   INTG 223 The Emergence of Mind and Morality
   INTG 224 The Brain, Consciousness, and Transcendence
   SEQUENCE III—WORD AND WORLD (Courses in the 230s)
   INTG 231 Creating Gender
   INTG 232 Experiencing Gender
   INTG 233 Imaging the Self
   INTG 234 Imaging the World
   SEQUENCE IV—TECHNOLOGY AND THE ENVIRONMENT (Courses in the 240s)
   INTG 241 Energy, Resources, and Pollution
   INTG 242 Population, Hunger, and Poverty
   INTG 243 Technology and Computers
   INTG 244 Computers and Models
   INTG 245 The Development of Third World Underdevelopment
   INTG 246 Cases in Third World Development
3. CONCLUDING SEMINAR: INTG 351 (1 course, 4 hours)
4. FRESHMAN SEMINAR: INTG 110 (2 hours) (elective)

TOTAL: 28 hours, 7 courses

For course descriptions and further details, see the Integrated Studies Program section of this catalog. A brochure is available from the Office of Admissions or the program coordinator in the Special Academic Programs Office.

Core I *requirements* may be met by certain Core II *courses* and/or *sequences* upon written authorization by the Integrated Studies Program coordinator:

Arts/Literature
1. INTG 233-234 together
2. INTG 112, 233-234 together

Natural Sciences/Mathematics
1. or 3. INTG 233-234 together
1. INTG 241-242 together
2. INTG 223, 241-242 together
3. INTG 243-244 together

Philosophy
INTG 111, 223, 224, 221-222 together

Religious Studies
2 or 3. INTG 111, 221-222 together, 241-242 together
3. INTG 233-234 together, 245-246 together

Social Sciences
1. INTG 112, 221-222 together, 241-242 together, 243-244 together, 245-246 together
2. INTG 224, 241-242 together

Anthropology

Anthropology as a discipline tries to bring all of the world's people into human focus. Though anthropology does look at "stones and bones," it also examines the politics, medicine, kinship, arts, and religion of peoples and cultures in various places and times. This makes the study of anthropology a complex task, for it requires an understanding of many disciplines, from geology and biology to art and psychology.

Regardless of the specific area that is studied, the essence of anthropology is the observation of different peoples and cultures—studying them as they really are instead of how people think they are or should be. It is through this detailed study of all people that we gain the full picture of what it really means to be human.

Anthropology is composed of four fields. Cultural or social anthropology studies living human cultures in order to create a cross-cultural understanding of human behavior. Archaeology has the same goal, but uses data from the physical remains of the past cultures to reach it.

Anthropology

Linguistic anthropology studies human language to discover what it can tell about the human past and behaviors in the present. Physical anthropology studies the emergence and subsequent biological adaptations of humanity as a species.

FACULTY

Klein, *Chair;* **Brusco, Guldin, Huelsbeck.**

BACHELOR OF ARTS MAJOR: 34 semester hours, including 101, 102, 103, 480, 490, and one course from those numbered 330 to 345, one course from those numbered 350 to 392, and 8 additional hours.

MINOR: 18 semester hours, including 102, 101 or 103, 490, one course from those numbered 330 to 345, and one course from those numbered 350 to 480.

COURSE OFFERINGS

101 EXPLORING ANTHROPOLOGY: MONKEYS, APES, AND HUMANS

Introduction to physical anthropology with a special focus on human evolution, the fossil evidence for human development, the role of culture in human evolution, and a comparison with the development and social life of the non-human primates. (4)

102 EXPLORING ANTHROPOLOGY: CULTURE AND SOCIETY

Introduction to social-cultural anthropology and cultural linguistics, concentrating on the exploration of the infinite variety of human endeavor in all aspects of culture and all types of societies; from tool-making to language, religion, politics, law, warfare, family kinship and art; from hunters and gatherers to industrialists. (4)

103 EXPLORING ANTHROPOLOGY: ARCHAEOLOGY AND PREHISTORY

Introduction to the ideas and practice of archaeology, used to examine the sweep of human prehistory from the earliest stone tools to the development of agriculture and metallurgy and to enrich our understanding of extinct societies. Local archaeological sites will be examined. (4)

104 EXPLORING ANTHROPOLOGY: LANGUAGE AND SYMBOLS

Introduction to anthropological linguistics and symbolism. An overview of the nature of human languages, including the origin of language; sound systems, structure and meaning; language acquisition; the social context of speaking; language change; nonverbal communication; and sex differences in language use. Exploration of the wider issues of symbolic communication: how symbols order the world and how transactions in meaning can be seen as forms of social action. (4)

210 GLOBAL PERSPECTIVES: THE WORLD IN CHANGE

A survey of global issues affecting the human condition in a rapidly changing and increasingly interdependent world: modernization and development; economic change and international trade; diminishing resources; war and revolution; peace and justice; and cultural diversity. These issues are examined in a multidisciplinary light using case studies drawn from non-Western and Western nations. Emphasis on the development of a global perspective which recognizes human commonalities as well as diversity in perceptions, values, and priorities. (Cross-referenced with HIST 210 and POLS 210) (4)

220 PEOPLES OF THE WORLD

An exploration of the world's cultures through anthropological films, novels, and eye-witness accounts. Case studies chosen from Africa, Native America, Asia, the Pacific, and Euro-America provide an insider's view of ways of life different from our own. (2)

230 PEOPLES OF THE NORTHWEST COAST

A survey of the ways of life of the native peoples of coastal Washington, British Columbia, and Southeastern Alaska from European contact to contemporary times. Of special interest are the traditional methods of fishing, arts, potlatches, status systems, and wealth and their impact on the modern life of the region. (2)

240 PEOPLES OF EUROPE

A survey of contemporary social life and customs in Europe, from city-dwellers to peasants, examining the broad historical, political, ethnic, economic, and religious patterns that tie European cultures together. (2)

270 JEWISH CULTURES

A survey of Eastern European Jewish cultures of the past and present in a variety of settings including Poland, New York, and Tacoma. Jewish ethnicity and indentity related to questions of assimilation, Jew/Gentile relations, and nationalism with a focus on the Jewish communities of Eastern Europe, the U.S.A., and Israel. Emphasis on religion, history, literature, music, and humor as reflections of basic Jewish cultural themes. Films and guest speakers complement class lectures and discussion. (2)

330 CULTURES AND PEOPLES OF NATIVE NORTH AMERICA

A comparative study of Native North American cultures from their arrival on the continent through today. Stress on traditional societies, their history under colonization and their emergence as vital contemporary societies. Examination of U.S. and Canadian laws, policies, and conflicts, including land and fishing claims, issues of sovereignty, and religious rights. (4)

332 PREHISTORY OF NORTH AMERICA

An archaeological reconstruction of economic, social, political, and religious life in North America from the time the first settlers entered the continent during the Ice Ages to the Mound Builders of later times and ultimately to the first contact with European settlers. (4)

334 THE ANTHROPOLOGY OF CONTEMPORARY AMERICA

An investigation of American social patterns and problems designed to give insights from a cross-cultural perspective; exploration of American solutions of common human problems; education, religion, politics, family and concepts of justice; a determination of what is unique about the "American Way." (4)

336 PEOPLES OF LATIN AMERICA

Millions of Americans have never been north of the equator. Who are these "other" Americans? This survey course familiarizes the student with a broad range of Latin American peoples and problems. What remains of the great Inca empire? What is life like in the Amazonian rain forests and in the high Andes? Case studies and films as a basis for discussion of themes ranging from visions of the supernatural to problems of economic development. (4)

340 CULTURES AND PEOPLES OF ASIA

Survey of South, Southeast and East Asia with an emphasis on the cultural patterns (social, religious, kinship, political, and economic) of the region; concentration on the civilization centers of India and China and their effect on surrounding peoples; the role of Asian peoples in a contemporary setting. (4)

345 CHINESE CULTURE AND SOCIETY

An immersion into the Chinese world-view, culture and society—geared to exposing the student to the way of life for one-quarter of humanity; Chinese culture, both traditional and contemporary, including folk religion, family life, human relations, politics, social structure; Confucianism and Communism; the People's Republic, Hong Kong, Taiwan, and the Overseas Chinese. (4)

350 WOMEN AND MEN IN WORLD CULTURES

An overview of the variation of sex roles and behaviors throughout the world; evolution of sex roles; theories of matriarchy, patriarchy, mother goddesses, innate inequalities; impact of European patterns in the world; marriage patterns from polygyny to polyandry; egalitarianism to feminism. (4)

354 GEOGRAPHY AND WORLD CULTURES: PEOPLE, PLACES AND PROSPECTS

Explorations of how societies in North America and around the world have adapted to their varied human and physical environments. Cases drawn from widely different environments — from the desert to temperate woodlands to the arctic to urban neighborhoods. Global patterns of variation in life styles and social opportunities will be stressed and used for projections of future world patterns. Knowledge of locations and map reading will be emphasized. Prerequisite: 102 or consent of instructor. (4)

355 TECHNOLOGY IN CULTURE

A study of the use and meaning of technology, crafts, and artifacts in the world's cultures. Investigation of technology in the context of culture, including the symbolic and artistic world of traditional technologies. Exploration of how cultures create the worlds they inhabit and change their social and natural worlds through time. Students will be encouraged to work with a specific technique or technological aspect of a culture. (4)

360 ETHNIC GROUPS

An examination of the nature of ethnic groups in America and abroad; the varying bases of ethnicity (culture, religion, tribe, "race," etc.); problems of group identity and boundary maintenance; ethnic symbols; ethnic politics; ethnic neighborhoods; and ethnic humor. (4)

365 ARTIFACTS AND ARCHAEOLOGY
Laboratory interpretation of archaeological materials. Techniques used in interpreting past human technology and ecology. Replication of the steps of manufacture, use, and discard of tools; analytical procedures for ceramic, bone, stone, and metal artifacts; analysis of debris from food processing activities; the use of computers to analyze cultural data. (4)

370 THE FIRST CIVILIZATIONS
The origins of agriculture, writing, cities, and the state in many parts of the world, comparing and contrasting the great civilizations of antiquity, including Mesopotamia, Egypt, India, Asia, Mesoamerica, and South America. (4)

375 LAW, POLITICS, AND REVOLUTION
A study of politics and law through the political structures and processes of traditional and contemporary societies; concepts of leadership, factionalism and feuds, power, authority, revolution, and other reactions to colonization; law and conflict resolution; conflicts of national and local level legal systems. Examples from around the world: Burma, Pakistan, the Pacific, Africa, Latin America, and Native America. (4)

380 SICKNESS, MADNESS, AND HEALTH
A cross-cultural examination of systems of curing practices and cultural views of physical and mental illness and health; prevention and healing; the role of religious views; nature and skills of curers; definitions of disease; variation in diseases between classes and ethnic groups; impact of modern medical and psychological practitioners. (4)

385 MARRIAGE, FAMILY, AND KINSHIP
The idea of family has a wide range of meanings and expressions cross-culturally, but everywhere it serves as a fundamental organizing principle and rationale for the allocation of valued resources, including power and status within domestic groups, and personal and social identities. Special attention to the expression of individual strategies and interests in various domestic contexts. Other topics include: the ways in which religion, myth, magic and folklore serve to articulate and control domestic life; how changing systems of production affect marriage and domestic forms; how class and gender systems intertwine with kinship, domestic forms, and the meaning of "family." (4)

392 GODS, MAGIC, AND MORALS
The anthropology of religion; a survey of humanity's concepts of and relationships to the supernatural; examination of the varying personal and group functions that religions fulfill; exploration of rituals, beliefs, and systems of morality in religions both "primitive" and historical; origins of religion; science "versus" religion; the nature of reality. (Cross-referenced with REL 392) (4)

465 ARCHAEOLOGY: THE FIELD EXPERIENCE
A field class involving the excavation of a historic or prehistoric archaeological site, with emphasis on basic excavation skills and record keeping, field mapping, drafting, and photography. The laboratory covers artifact processing and preliminary analysis. Prerequisite: 101, 102, or 103, or consent of instructor. (4)

480 ANTHROPOLOGICAL INQUIRY
An historic and thematic study of the theoretical foundations of sociocultural anthropology; research methods; how theory and methods are used to establish anthropological knowledge. Required of majors in their junior or senior year. a/y (4)

490 SEMINAR IN ANTHROPOLOGY
Selected topic in contemporary anthropology to be investigated through student research and consultation. Required of majors and minors in their junior or senior year. Prerequisite for other students: departmental consent. a/y (2)

491 INDEPENDENT STUDY: UNDERGRADUATE READINGS
Reading in specific areas or issues of anthropology under supervision of a faculty member. Prerequisite: departmental consent. (1-4)

492 INDEPENDENT STUDY: UNDERGRADUATE FIELDWORK
Study of specific areas or issues in anthropology through in-field methods of analysis and research supported by appropriate reading under supervision of a faculty member. Prerequisite: 490 and departmental consent. (1-4)

501 GRADUATE WORKSHOPS
Graduate workshops in special fields or areas for varying periods of time. (1-4)

590 GRADUATE SEMINAR
Selected topics as announced. Prerequisite: consent of the instructor. (1-4)

591 DIRECTED STUDY (1-4)

595 GRADUATE READINGS
Independent study card required. (4)

598 RESEARCH PROJECT (4)

599 THESIS (4)

Art

In this time of rapidly changing concepts and an almost daily emergence of new media, emphasis must be placed on a variety of experiences and creative flexibility for the artist and the designer. Students with professional concerns must be prepared to meet the modern world with both technical skills and the capacity for innovation. The department's program therefore stresses individualized development in the use of mind and hand. A highly professional faculty, well-equipped studios, and a comprehensive curriculum offer diverse opportunities for study in the visual arts.

Students may choose among a generalized program leading to a Bachelor of Arts degree; a more specialized program for the Bachelor of Fine Arts, in which each candidate develops some area of competence; or a degree program in art education for teaching on several levels.

Recent graduates are employed in a variety of fields. Several have become established as painters, printmakers, or sculptors; some are successful studio potters; others have gone into commercial photography or film animation—even the production of feature films. The television industry employs still others. A number are working in the design field as graphic designers, illustrators, package designers, or art directors in firms around the country, in New York, Chicago, Los Angeles, and Seattle. Alumni have been involved in museum work and serve on the faculties of various educational institutions, including elementary, secondary, community college, and university levels.

Some students go directly from the university into their field of interest. Others find it desirable and appropriate to attend a graduate school.

Art

Many alumni have been accepted into prestigious graduate programs, both in this country and abroad.

The various fields of art are competitive and demanding in terms of commitment and effort. Nonetheless, there is always a place for those who are extremely skillful or highly imaginative or, ideally, both. The department's program stresses both, attempting to help each student reach that ideal. Instructional resources, when coupled with dedicated and energetic students, have resulted in an unusually high percentage of graduates being able to satisfy their vocational objectives.

FACULTY

R.L. Brown, *Chair;* **Cox, Geller, Gold, Keyes, Kittleson, Roskos, Schwidder, Tomsic. Artists-in-Residence: Frehse, Torrens.**

The department has sought to minimize prerequisites, enabling students to elect courses relating to their interests as early as possible, but majors are urged to follow course sequences closely. It is recommended that students interested in majoring in art declare their major early to insure proper advising. Transfer students' status shall be determined at their time of entrance.

The department reserves the right to retain, exhibit, and reproduce student work submitted for credit in any of its courses or programs, including the B.F.A. candidacy exhibition.

A use or materials fee is required in certain courses.

BACHELOR OF ARTS MAJOR: Minimum of 32 semester hours, including 160, 250, 230 or 350, 365, 370, and the art history sequence (180, 181, 380); 110 and 116 or courses in teaching methods may not be applied to the major. A maximum of 40 hours may be applied toward the degree. Candidates are registered in the College of Arts and Sciences and must satisfy general university requirements, including a core curriculum (Core I or Core II), and the foreign language/alternative requirement.

BACHELOR OF FINE ARTS MAJOR: A minimum of 60 semester hours, including 160, 150 or 250; the art history sequence (180, 280, 380); 8 hours in 2-dimensional media, 8 hours in 3-dimensional media, and 4 hours in art history or theory (381, 386, 390, or as approved by the department faculty); requirements and electives in area of emphasis; and 499 (B.F.A. candidacy seminar). 110, 116, or courses in teaching methods may not be included. Candidates are registered in the School of the Arts and must satisfy general university requirements, including a core curriculum (Core I or Core II).

B.F.A. in 2-Dimensional Media
Areas of emphasis: a minimum of three courses required in one area
Drawing/Painting:
- 160 Drawing
- 260 Intermediate Drawing
- 360 Life Drawing (R)
- 365 Painting I
- 465 Painting II (R)

Printmaking:
- 370 Printmaking I
- 470 Printmaking II (R)

Film Arts:
- 226 Black and White Photography
- 326 Color Photography
- 328 Moving Images
- 426 Projects in Photography

Independent Study (may be applied to any area):
- 490 Special Projects (R)
- 492 Studio Projects (R)

(R)-may be repeated for credit

B.F.A. in 3-Dimensional Media
Areas of emphasis: a minimum of three courses required in one area
Ceramics:
- 230 Ceramics I
- 330 Ceramics II
- 430 Ceramics III (R)

Sculpture:
- 250 Sculpture I
- 350 Sculpture II (R)

Crafts:
- 238 Stained Glass I
- 255 Jewelry I
- 338 Stained Glass II (R)
- 335 Fibers (R)
- 355 Jewelry II (R)

Independent Study (may be applied to any area):
- 490 Special Projects (R)
- 492 Studio Projects (R)

(R)-may be repeated for credit

B.F.A. in Design
Required basic sequence:
- 196 Design I: Fundamentals
- 296 Design II: Concepts
- 381 Twentieth Century Design and Architecture
- 396 Design: Graphics I
- 491 Design: Workshop

Elective courses:
- 150 Three-Dimensional Design
- 395 Design: Environments
- 398 Drawing: Illustration (R)
- 496 Design: Graphics II

Supporting courses in art may be chosen in accord with individual interests. Supporting courses from other departments and schools may also be elected (for example, Business Administration 370 or 472 and Communication Arts 374 or 380). Applicable courses will be recommended by advisers.

BACHELOR OF ARTS IN EDUCATION: See School of Education.

The Publishing and Printing Arts minor is cross-referenced with the Department of English. See the description of that minor under English.

MINOR IN STUDIO ART: 20 semester hours, including 380, 4 hours in 2-dimensional media, 4 hours in 3-dimensional media, and 8 hours of studio art electives drawn from upper division courses. Courses in teaching methods (341, 440) may not be applied to the minor.

MINOR IN ART HISTORY: 24 semester hours, including 180 and 181, 12 hours in art history/theory electives, and 4 hours in studio electives. Non-concentration courses (110 and 116), practical design courses (150, 196, 296, 395, 396, 398, 491, 496), and courses in teaching methods (341, 440) may not be applied to the minor.

COURSE OFFERINGS

STUDIO

150 **THREE-DIMENSIONAL DESIGN**
160 **DRAWING**
196 **DESIGN I: FUNDAMENTALS**
226 **BLACK AND WHITE PHOTOGRAPHY**
230 **CERAMICS I**
238 **STAINED GLASS I**
250 **SCULPTURE I**
255 **JEWELRY I**
260 **INTERMEDIATE DRAWING**
296 **DESIGN II: CONCEPTS**
326 **COLOR PHOTOGRAPHY**
328 **FILM MAKING**
330 **CERAMICS II**
335 **FIBERS**
338 **STAINED GLASS II**
341 **ELEMENTARY ART EDUCATION**
350 **SCULPTURE II**
355 **JEWELRY II**
360 **LIFE DRAWING**
365 **PAINTING I**
370 **PRINTMAKING I**
395 **DESIGN: ENVIRONMENTS**
396 **DESIGN: GRAPHICS I**
398 **DRAWING: ILLUSTRATION**

426 PROJECTS IN PHOTOGRAPHY
430 CERAMICS III
465 PAINTING II
470 PRINTMAKING II
490 SPECIAL PROJECTS/INDEPENDENT STUDY
491 DESIGN: WORKSHOP
492 STUDIO PROJECTS/INDEPENDENT STUDY
496 DESIGN: GRAPHICS II
499 B.F.A. CANDIDACY SEMINAR

HISTORY AND THEORY

110 INTRODUCTION TO ART
116 DESIGN IN THE CONTEMPORARY WORLD
180 HISTORY OF WESTERN ART I
181 HISTORY OF WESTERN ART II
380 CONTEMPORARY ART
381 TWENTIETH CENTURY DESIGN AND ARCHITECTURE
386 IMAGERY AND SYMBOLISM
390 STUDIES IN ART HISTORY
440 SEMINAR IN ART EDUCATION
497 RESEARCH IN ART HISTORY—THEORY

110 INTRODUCTION TO ART
Art in the modern world seen in relation to history; a search for meaning in an age of science, industrialization, and nationalism. Not intended for majors. (4)

116 DESIGN IN THE CONTEMPORARY WORLD
An examination of contemporary design with a focus on trends in advertising, fashion, automotive, product and interior design. Includes a section on color theory and perception and the basic elements of design. Requires no artistic/design background and is not intended for art majors. (4)

150 THREE-DIMENSIONAL DESIGN
An introduction to the concept of three-dimensional forms and their use in structures; emphasis on use of design elements including planes, masses, volumes, and textures. Various materials used in problem solutions. (4)

160 DRAWING
A course dealing with the basic techniques and media of drawing. (4)

180 HISTORY OF WESTERN ART I
A survey tracing the development of Western art and architecture from prehistory to the end of the Middle Ages. (4)

181 HISTORY OF WESTERN ART II
A survey of Western art and architecture from the Renaissance to the mid-20th century. (4)

196 DESIGN I: FUNDAMENTALS
An introduction to design through the study of basic techniques, color theory, and composition. (4)

226 BLACK AND WHITE PHOTOGRAPHY
A studio class in photography as an art form. Primary concentration in basic camera and darkroom techniques. Students produce a portfolio of prints with an emphasis on creative expression and experimentation. (4)

230 CERAMICS I
Ceramic materials and techniques including hand-built and wheel-thrown methods, clay and glaze formation. Includes a survey of ceramic art. (4)

238, 338 STAINED GLASS I, II
A survey of glassworking techniques and materials. Integrates historical styles, their origins and evolution, with contemporary types and new technology. 238 must be taken before 338. 338 may be taken twice. (4,4)

250, 350 SCULPTURE I, II
Concentration on a particular medium of sculpture including metals, wood, or synthetics; special sections emphasizing work from the human form as well as opportunity for mold making and casting. 250 must be taken before 350; 350 may be taken twice. (4,4)

255, 355 JEWELRY I, II
A study of form and technique in the design and execution of jewelry objects. Includes stone setting, fabrication, and casting. 255 must be taken before 355; 355 may be taken twice. (4,4)

260 INTERMEDIATE DRAWING
Drawing taken beyond the basics of 160. Expansion of media forms, and solutions to compositional problems. Possibility of pursuing special individual interests, with permission. Prerequisite: 160 or consent of instructor. (4)

296 DESIGN II: CONCEPTS
An investigation of the process of creative problem solving in a methodical and organized manner. Includes projects in a variety of design areas. Prerequisite: 196 or consent of instructor. (4)

326 COLOR PHOTOGRAPHY
Exploration of the issues of both painters and photographers. Students learn to make color prints and process color negatives. Includes a historical survey of color photography as well as perspectives of contemporary artists. Prerequisite: 226 or consent of instructor. (4)

328 MOVING IMAGES
A studio course in film making and videography as art forms. Study of materials and techniques in film and video media and production of student films and/or videotapes. Experimental techniques using computer and electronic imaging systems may be explored. Survey of classic and experimental films and tapes. (4)

330, 430 CERAMICS II, III
Techniques in ceramic construction and experiments in glaze formation. 330 must be taken before 430; 430 may be taken twice. Prerequisite: 230. (4, 4)

335 FIBERS
Exploration and development of fiber structures and soft art forms with non-loom and loom techniques. May be repeated for credit. (4)

338 STAINED GLASS II
(See 238)

341 ELEMENTARY ART EDUCATION
A study of creative growth and development; art as studio project; history and therapy in the classroom. (2)

350 SCULPTURE II
(See 250)

355 JEWELRY II
(See 255)

360 LIFE DRAWING
An exploration of human form in drawing media. May be repeated for credit. Prerequisite: 160 or consent of instructor. (4)

365, 465 PAINTING I, II
Media and techniques of painting in oil or acrylics. 365 must be taken before 465; 465 may be taken twice. Prerequisite: 160. (4, 4)

370, 470 PRINTMAKING I, II
Methods and media of fine art printmaking; both hand and photo processes involving lithographic, intaglio and screen printing. 370 must be taken before 470; 470 may be taken twice. Prerequisite: 160 or consent of instructor. (4, 4)

380 CONTEMPORARY ART
The development of art from 1945 to the present, with a brief look at European and American antecedents as they apply to contemporary directions. Includes a substantial section on aesthetics and art theory. (4)

381 TWENTIETH-CENTURY DESIGN AND ARCHITECTURE
A study of twentieth century developments in architecture and related fields as well as certain design areas. (4)

386 IMAGERY AND SYMBOLISM
A survey of symbolic, pictorial, and plastic expressions in Western tradition from the perspective of their philosophical and theological implications, with particular emphasis on the development of the Christian cultus. (4)

390 STUDIES IN ART HISTORY
A selected area of inquiry, such as a history of American art, Asian art, the work of Picasso, or similar topics. May be repeated for credit. (4)

395 DESIGN: ENVIRONMENTS
An investigation into various types of environments with particular emphasis on residential. Included will be a brief history of furniture and design styles; approaches to planning and procedures; and an introduction to technical drawing and model building. Prerequisite: 196 or consent of instructor. (4)

396, 496 DESIGN: GRAPHICS I, II
Design and execution of printed materials; emphasis on technical procedures and problems in mass communication. 496 explores advanced techniques with multiple color, typography, and other complex problems. 396 must be taken before 496. Prerequisite: 160 and 296 or consent of instructor. (4, 4)

398 DRAWING: ILLUSTRATION
Advanced projects in drawing/illustration. Exposure to new concepts and techniques adaptable to fine art and commercial applications. Prerequisites: 160 and 196. May be repeated once. (4)

426 PROJECTS IN PHOTOGRAPHY
A studio/seminar course designed for students who want to continue working in black and white or color. Among the topics are basic view camera techniques, non-silver processes, zone systems and Cibachrome printing. Prerequisite: 226 or 326 or consent of instructor. (4)

430 CERAMICS III
(See 330)

440 SEMINAR IN ART EDUCATION
A study of instruction in the secondary school including appropriate media and curriculum development. a/y (2)

465 PAINTING II
(See 365)

470 PRINTMAKING II
(See 370)

490 SPECIAL PROJECTS/INDEPENDENT STUDY
Exploration of the possibilities of selected studio areas, including experimental techniques. Emphasis on development of individual styles, media approaches, and problem solutions. May be repeated for credit. Prerequisites: junior status, minimum of two courses at 200 level or above in affected medium with minimum 2.5 GPA, consent of instructor and department chair. (2 or 4)

491 DESIGN: WORKSHOP
A tutorial course which may deal with any of several aspects of the design field with particular emphasis on practical experience and building a portfolio. (2)

492 STUDIO PROJECTS/INDEPENDENT STUDY
A tutorial program for students of exceptional talent. In-depth individual investigation of a particular medium or set of technical problems. Only one project per semester may be undertaken. May be repeated for credit. Prerequisites: declared major in art, senior status, consent of instructor, written proposal, program approval by department faculty. Students meeting the above requirements but with less than a 3.0 GPA in the major may be required to present additional evidence of eligibility. (1-4)

496 DESIGN: GRAPHICS II
(See 396)

497 RESEARCH IN ART HISTORY-THEORY
A tutorial course for major students with research into a particular aspect of art history or theory. May be repeated for credit. Prerequisites: senior status, consent of instructor, and program approval by department faculty. (1-4)

499 B.F.A. CANDIDACY SEMINAR
A course designed to help the graduating senior ;make the transition into the professional world or to prepare for graduate school. Topics may include professional interests *(e.g.,* portfolio development, exhibition design) as well as business-related concerns *(e.g.,* tax information, marketing). A major portion of the seminar will involve preparation for the B.F.A. exhibition, participation in which is the final requirement for the degree. Students have primary responsibility for design of the exhibition, but are expected to work closely with their major advisers. Must be taken in the student's final semester. Prerequisites: declared major in art, senior status, reasonable expectation of completion of all departmental and university requirements for graduation. (4)

School of The Arts

The School of the Arts of Pacific Lutheran University is a community of artists dedicated:

to provide energies and facilities for the focused refinement of creative activity;

to operate in the vanguard of artistic understanding and to assume an additive rather than imitative position relative to that understanding;

to pursue study of both the historical and theoretical aspects of our creative legacy;

to recognize change in artistic criteria without devaluating the traditional concepts of discipline, craftsmanship, and academic professionalism;

to foster activity free from the caprice of the marketplace but, by virtue of its substance, not aloof from nor incompatible with practical concerns;

to animate and "humanize" the academic climate of Pacific Lutheran University via the creative presence by sponsoring a rich and varied program of events in the arts;

and to provide the students of Pacific Lutheran University an opportunity to experience first hand the unique "chemistry" of the creative process.

FACULTY

Moe, *Dean:* faculty members of the Departments of Art, Communication Arts, and Music.

Degrees offered by the School of the Arts include the B.F.A. (Bachelor of Fine Arts) in art and communication arts; the B.M. (Bachelor of Music), the B.M.A. (Bachelor of Musical Arts); the B.M.E. (Bachelor of Music Education); M.A. (Master of Arts) in Music. Students may also earn the B.A. (Bachelor of Arts), but this degree is awarded through the College of Arts and Sciences. Candidates for all degrees must meet general university requirements and the specific requirements of the Departments of Art, Communication Arts, or Music.

For details about the B.A.E. (Bachelor of Arts in Education) in art, communication arts, or music, see the School of Education.

For course offerings, degree requirements, and programs in the School of the Arts, see:

ART
COMMUNICATION ARTS
MUSIC

Biology

The Department of Biology is dedicated to a teaching process, not merely to delivery of facts. Facts form the foundation of science, but to be a science student requires more than accumulating facts. The biology faculty stresses gathering information, processing new information in the context of that already available, retrieving appropriate information, and interpreting observations.

To learn science is more than to learn about science: it is to learn how to ask questions, how to develop strategies which might be employed to obtain answers, and how to recognize and evaluate answers which emerge. The department is therefore dedicated to encouraging students to learn science in the only way that it can be effectively made a part of their thinking: to independently question it, probe it, try it out, experiment with it, experience it.

Members of the department faculty are trained across the total spectrum of modern biology, from population biology through molecular biology, and have professional teaching and research expertise with a full range of organisms: viruses, bacteria, fungi, plants, and animals. The diversity of courses in the curriculum provides broad coverage of contemporary biology and allows flexible planning. Each biology major completes a three-course sequence in the principles of biology. Planning with a faculty adviser, the student chooses upper division biology courses to meet individual needs and career objectives. Extensive facilities are available, including: herbarium, invertebrate and vertebrate museums, greenhouse, research microscopy room, growth chambers, containment facilities for recombinant DNA research, darkroom, walk-in cold room for low-temperature experiments, electronic instrument room, various research laboratories, a field station located in Manchester State Park, and a boat equipped for studies of Puget Sound. Students are invited to use these facilities for independent study and are encouraged to participate in ongoing faculty research.

Career avenues for biology majors are numerous. Faculty members are committed to helping students investigate career opportunities and pursue careers which most clearly match their interests and abilities. The department maintains a comprehensive career information file, as well as a file devoted to graduate training in the biological sciences.

FACULTY

Carlson, *Chair;* **Alexander, Boarman, Crayton, Gee, Hansen, J. Jensen, Kerk, Knudsen, Lerum, Main, D.J. Martin, Matthias, McGinnis, Zweifel.**

BACHELOR OF ARTS or BACHELOR OF SCIENCE MAJOR: The major in biology is designed to be flexible in meeting the needs and special interests of students. Several options for major programs are available. In each plan the student must take the principles of biology sequence (161, 162, 323). Completion of this sequence is required before upper division biology courses can be taken. Courses not designed for biology majors (111, 112, 201, 205, 206) cannot be used to satisfy major requirements unless those courses are taken before completion of Biology 161; under no circumstances can more than 8 hours from courses designed for non-majors be counted toward completion of major requirements. Interim courses (300-320) cannot be counted toward the major. At least 12 hours in biology must be earned in residence at PLU. Each student must consult with a biology adviser to discuss selection of electives appropriate for educational and career goals. Basic requirements under each plan for the major are listed below.

Plan I—Bachelor of Arts: 32 semester hours in biology, including 161, 162, and 323, plus 19 additional hours. Required supporting courses: Chemistry 105 or Chemistry 115 and Math 140. Recommended supporting courses: Physics 125 (with laboratory 135) and Physics 126 (with laboratory 136).

Plan II—Bachelor of Arts—Comprehensive: 36 semester hours in biology, including 161, 162, and 323, plus 23 additional hours. Required supporting courses: Chemistry 115, Chemistry 116, and Math 140. Recommended supporting courses: Chemistry 331 (with laboratory 333); Physics 125 (with laboratory 135) and Physics 126 (with laboratory 136).

Plan III—Bachelor of Arts—Chemistry Emphasis: 28 semester hours in biology, including 161, 162, and 323, plus 15 additional hours. Required supporting courses: Chemistry 115, Chemistry 116, Chemistry 331 (with laboratory 333), Chemistry 332 (with laboratory 334), and either Chemistry 321 or Chemistry 403; Math 140. Recommended supporting courses: Physics 125 (with laboratory 135) and Physics 126 (with laboratory 136).

Plan IV—Bachelor of Science: 40 semester hours in biology, including 161, 162, and 323, plus 27 additional hours. Required supporting courses: Chemistry 115, Chemistry 116, and Chemistry 331 (with laboratory 333); Math 151; Physics 125 (with laboratory 135) and Physics 126 (with laboratory 136), or Physics 153 (with laboratory 163) and Physics 154 (with laboratory 164).

Plan V—Bachelor of Science—Research Emphasis: 40 semester hours in biology, including 161, 162, 323, and 495, plus 25 additional hours. Required supporting courses: Chemistry 115, Chemistry 116, Chemistry 331 (with laboratory 333), and Chemistry 332 (with laboratory 334); Math 151; Physics 125 (with laboratory 135) and Physics 126 (with laboratory 136), or Physics 153 (with laboratory 163) and Physics 154 (with laboratory 164).

BACHELOR OF ARTS IN EDUCATION: Students interested in this degree develop their biology program through the Biology Department in conjunction with the School of Education. Such students should have a biology adviser. See the School of Education section of the catalog for recommended biology courses and other pertinent information.

MINOR: At least 20 semester hours selected from any biology courses except those numbered 300-320 (interim courses). A grade of C or higher must be earned in each course. Prerequisites must be met unless written permission is granted in advance by the instructor. Applicability of non-PLU biology credits will be determined by the department chair. At least eight credit hours in biology must be earned in residence at PLU. Consult the department chair for assignment of a minor adviser.

B

Biology

COURSE OFFERINGS

111 BIOLOGY AND THE MODERN WORLD
An introduction to biology, designed primarily for non-biology majors. Fundamental concepts chosen from all areas of modern biology including the environment, population, human anatomy and physiology, genetics, evolution and biological controls. Lectures, laboratories, and discussion. I II (4)

112 HUMANISTIC BOTANY
An introduction to the basic principles of biology with an emphasis on plants and their impact on people. Topics included are: basic plant structure and function; poisonous plants; medicinal plants; food plants; propagation of house plants; home care of plants; plant identification. Includes laboratory. II (4).

161 PRINCIPLES OF BIOLOGY I: CELL BIOLOGY
Cellular and molecular levels of biological organization; cell ultrastructure and physiology, Mendelian and molecular genetics, energy transduction. Required of all biology majors. Includes laboratory and a one hour faculty seminar on current topics in biology. Co-registration in chemistry (104 or 115) recommended. I (5)

162 PRINCIPLES OF BIOLOGY II: ORGANISMAL BIOLOGY
An introduction to animal and plant tissues, anatomy, and physiology, with special emphasis on flowering plants and vertebrates as model systems, plus an introduction to animal and plant development. Includes laboratory. Prerequisite: 161. II (4).

201 INTRODUCTORY MICROBIOLOGY
The growth, control, physiology, isolation, and identification of microorganisms, especially those which affect human beings. Includes laboratory. Prerequisite: CHEM 105 or consent of instructor. I (4).

205, 206 HUMAN ANATOMY AND PHYSIOLOGY
First semester: matter, cells and tissues; nervous, endocrine, skeletal, and muscular systems. Laboratory includes cat dissection and experiments in muscle physiology and reflexes. Second semester: circulatory, respiratory, digestive, excretory, and reproductive systems; metabolism, temperature regulation, and stress. Laboratory includes cat dissection, physiology experiments, and study of developing organisms. 205(I) prerequisite to 206 (II). (4,4)

323 PRINCIPLES OF BIOLOGY III: ECOLOGY, EVOLUTION AND DIVERSITY
Evolution, ecology, behavior, and a systematic survey of life on earth. Includes laboratory. Prerequisite: 162 or consent of department chair. I (4).

324 NATURAL HISTORY OF VERTEBRATES
Classification, natural history, and economic importance of vertebrates with the exception of birds. Field trips and laboratory. Prerequisite: 323. a/y 1991-92 I (4)

326 ANIMAL BEHAVIOR
Description, classification, cause, function, and development of the behavior of animals. Lectures emphasize an ethological approach to the study of behavior focusing on comparisons among species, as well as physiological, ecological, and evolutionary aspects of behavior. Laboratory is not rigidly scheduled and will consist of a behavioral investigation of the students' choosing. Prerequisite: 323 or consent of instructor. II (4)

327 ORNITHOLOGY
The study of birds with emphasis on local species; designed for students with hobby interests as well as for advanced biology students. Field trips. Includes laboratory. Prerequisite: 323 or consent of instructor. II (2)

328 MICROBIOLOGY
The structure, physiology, genetics, metabolism, and ecology of microorganisms. Includes laboratory. Prerequisite: 323 or consent of instructor; one semester organic chemistry recommended. II (4)

331 GENETICS
Basic concepts including consideration of molecular basis of gene expression, recombination, genetic variability, and consideration of cytogenetics and population genetics. Includes laboratory. Prerequisite: 323 II (4)

340 PLANT DIVERSITY AND DISTRIBUTION
A systematic introduction to plant diversity. Interaction between plants, theories of vegetational distribution. Emphasis on higher plant taxonomy. Includes laboratory and field trips. Prerequisite: 323. II (4)

346 CELLULAR PHYSIOLOGY
Deals with how cells are functionally organized; enzyme kinetics and regulatory mechanisms, biochemistry of macromolecules, energy metabolism, membrane structure and function, ultrastructure, cancer cells as model systems. Prerequisites: 323 and one semester of organic chemistry or consent of instructor. II (4).

347 CELLULAR PHYSIOLOGY LABORATORY
A laboratory experience in techniques and types of instrumentation often encountered in biochemical and cellular research including animal cell culture, cell fractionation, use of radiotracers, biochemical assays, membrane phenomena, spectrophotometry, respirometry. May be elected only by students with a serious interest for this type of training; not required with 346. Corequisite/prerequisite: 346 or CHEM 403 and consent of instructor. II (1).

359 PLANT ANATOMY AND PHYSIOLOGY
Higher plant structure and function from germination to senescense, including basic anatomy, seed germination, water relations, respiration, mineral nutrition, photosynthesis, growth regulators, and reproduction. Includes laboratory. Prerequisites: 323 and one semester of organic chemistry. I (4)

361 COMPARATIVE ANATOMY OF THE VERTEBRATES
After a history of the vertebrate body (the evolutionary story of the vertebrates is better known than any other animal group) and an introduction to embryology, the structural and functional anatomy of the vertebrates is presented. Includes laboratory dissections following a systems approach. Mammals are featured plus some observational and comparative study with a human cadaver is included. Knowledge of vertebrate structure is of practical value to workers in many fields of biology. Prerequisite: 323. II (4)

385 IMMUNOLOGY
Immunology is the study of the biological properties which enable an organism to respond to changes within itself when the changes represent the presence of foreign substances, either from the external environment or self-induced. Consideration of the biology and chemistry of immune response: the specificity of the organism's immune reactions, the types and roles of lymphatic cells, chemical and functional characteristics of immunoglobulins and complement, genetic control of the immune response, hypersensitivity reactions, and immunodeficiency diseases. Practical ramifications include methods of immunochemical analysis and clinical applications Prerequisites: 328, 346, or CHEM 403. I (2)

403 DEVELOPMENTAL BIOLOGY
The development of multicellular organisms, emphasizing the molecular bases for development. Major topics include interaction of egg and sperm to initiate the developmental program, the origin of cell differences in early development, genetic control of development, cellular differentiation, morphogenetic processes, and how rules for cell behavior govern the formation of specific patterns in developing organisms. Laboratory includes cellular and molecular experimental problems. Prerequisite: 323. I (4)

407 MOLECULAR BIOLOGY
An introduction to molecular biology, emphasizing the central role of DNA in eukaryotic cells. Topics include: foundations (DNA structure as genetic storehouse, central dogma of molecular biology, recombinant DNA technology); function (regulation of gene expression, genome organization and rearrangement); frontiers (cancer, development, evolution, genetic engineering — methodology, applications, trends, implications). Laboratory features an introduction to basic recombinant DNA techniques. Prerequisite: 323. I (4)

411 HISTOLOGY
Microscopic study of normal cells, tissues, organs, and organ systems of vertebrates. The emphasis is mammalian. This study is both structurally and physiologically oriented. Prerequisite: 323. I (4)

424 ECOLOGY
Organisms in relation to their environment, including organismal adaptations, population growth and interactions, and ecosystem structure and function. Prerequisite: 323. I(4)

425 BIOLOGICAL OCEANOGRAPHY
The ocean as environment for plant and animal life; an introduction to the structure, dynamics, and history of marine ecosystems. Lab, field trips, and term project in addition to lecture. Prerequisite: 323. II (4)

426 FIELD METHODS IN ECOLOGY
Sampling techniques and analysis of natural ecosystems. Independent project required. Prerequisites: 323 and 424 or consent of instructor. II (2)

441 MAMMALIAN PHYSIOLOGY
Functions of principal mammalian organ systems emphasizing control mechanisms and homeostatic relationships. Human-oriented laboratory includes work in circulation, cardiography, psychophysiology, temperature regulation, and other areas. Students are required to design and execute a major experiment of their own. Prerequisites: 323 and CHEM 331. Anatomy and biochemistry recommended. I (4)

475 EVOLUTION
Evolution as a process: sources of variation; forces overcoming genetic inertia in populations; speciation. Evolution of genetic systems and of life in relation to ecological theory and earth history. Lecture and discussion. Term paper and mini-seminar required. Prerequisite: 323. I a/y 1990-91 (4)

490 SEMINAR
Selected topics in biology based on literature and/or original research. Open to junior and senior biology majors. (1)

491, 492 INDEPENDENT STUDY
Investigations or research in areas of special interest not covered by regular courses. Open to qualified junior and senior majors; students should not elect independent study unless they know in advance the specific area they wish to investigate and can demonstrate a serious interest in pursuing that investigation. It is suggested that the student spend one semester searching pertinent literature and writing a proposal (for one credit hour) and a second semester actually carrying out the project (for one more credit hour). Prerequisite: written proposal for the project approved by a faculty sponsor and the department chair. I II (1-4)

495 DIRECTED STUDY
Original experimental or theoretical research open to upper division students intending to graduate with a Bachelor of Science-Research Emphasis. Requires a written proposal approved by a faculty sponsor and the department chair. (2)

School of Business Administration

In concert with general university requirements, the business curriculum prepares graduates for responsible positions in business, education, and government.

Optional concentrations are offered in the fields of accounting, finance, human resource management, international business, management information systems, marketing, and operations management.

FACULTY

King, *Dean;* **Polcyn,** *Assistant Dean;* **Ahna, Bancroft, Barndt, Barnowe, Berniker, Carvey, Finnie, Gibson, Gill, Hegstad, Kibbey, Lauer, MacDonald, McNabb, Myers, Ramaglia, Raymond, Schafer, Sepic, Sumner, Thrasher, Van Wyhe, Waters, Yager.**

ADMISSION
The professional Bachelor of Business Administration degree program is composed of an upper division business curriculum with a strong base in liberal arts.

Undergraduate students are admitted to the School of Business Administration upon the successful completion of at least 24 semester hours with a cumulative grade point average of 2.5 or above, and the declaration of business administration as the major or minor field of study. Transfer students are also required to have maintained the grade point average of 2.5.

Access to upper division business courses is limited to students with a cumulative grade point average of 2.5 or above.

Students considering graduate-level study should seek early planning advice from the faculty concerning appropriate undergraduate course selection.

Graduate students are admitted to the School of Business Administration when they meet the requirements specified in the M.B.A. Catalog.

AFFILIATIONS
The School of Business Administration of Pacific Lutheran University is a member of the American Assembly of Collegiate Schools of Business. The B.B.A., M.B.A., and accounting programs are nationally accredited by the Accreditation Council of the AACSB. Pacific Lutheran University is accredited regionally by the Northwest Association of Schools and Colleges. The School is privileged to have a student chapter of Beta Gamma Sigma, the national business honorary society recognized by the AACSB.

DEGREE REQUIREMENTS
The Bachelor of Business Administration degree program consists of a minimum of 128 semester hours completed with an over-all grade point average of 2.5 or above as well as a 2.5 grade point average separately in business courses. C- is the minimal acceptable grade for business administration courses.

At least one-half of the minimum total degree requirements are taken in fields outside the School of Business Administration. At least 40 semester hours are taken in required and elective business subjects. A minimum of 20 semester hours in business must be taken in residence at PLU.

BACHELOR OF BUSINESS ADMINISTRATION
Required supporting courses: Math 128 (or 151 and 230) (or 151, 152, and 331), Economics 150, Computer Science 220 (or equivalent), Statistics 231 or Math 341, and one upper division economics course. Required Business Administration courses: 230, 281, 282, 350, 354, 364, 370, 455, and at least eight semester hours of upper division business electives or concentration courses.

CONCENTRATIONS
A concentration is a specialization within the School of Business Administration. The concentration, which is noted on the student's transcript, must be completed with at least a 3.0 grade point average. C- is the minimal acceptable grade for concentration courses.

Accounting
BUSA 281 Financial Accounting
BUSA 282 Management Accounting
BUSA 381 Intermediate Financial Accounting
BUSA 382 Advanced Financial Accounting
BUSA 385 Cost Accounting
BUSA 483 Income Taxation
BUSA 484 Auditing
BUSA 487 Accounting Information Systems

Finance
BUSA 364 Managerial Finance
BUSA 462 Investments
BUSA 463 Portfolio Analysis and Management
BUSA 464 Financial Analysis and Strategy
BUSA 381 Intermediate Accounting
OR 465 International Financial Management
ECON 352 Intermediate Micro Economic Analysis
OR ECON 361 Money and Banking
(Either course will fulfill the business requirement for an upper division economics course.)

Human Resource Management
BUSA 354 Human Resource Management
BUSA 454 Organizational Change and Development
BUSA 457 Productivity and the Quality of Work Life
BUSA 458 Advanced Human Resource Administration
ECON 321 Labor Economics, Labor Relations, and Human Resources (This will fulfill the requirement for an upper division economics course.)

International Business
BUSA 340 International Business
BUSA 465 International Finance
BUSA 474 International Marketing
ECON 331 International Economics
Two years of one college level foreign language (or equivalent)

Management Information Systems (Completion of this concentration also fulfills the requirements for an Information Science minor within the Department of Mathematics and Computer Science.)
CSCI 144 Pascal
CSCI 270 Data Structures
CSCI 367 Data Base Management
BUSA 325 Information Systems in Organizations
BUSA 421 Systems Design and Analysis
BUSA 428 Seminar in Management Information Systems
BUSA 487 Accounting Information Systems
Students in the MIS concentration may substitute the CSCI 144, 270, 367 series for the supporting course CSCI 220 requirement.

Marketing
BUSA 370 Marketing Systems
BUSA 471 Marketing Research
BUSA 475 Marketing Management
Two of the following:
BUSA 472 Advertising and Sales Management
BUSA 473 Industrial Marketing and Purchasing
BUSA 474 International Marketing
PSYC 430 Consumer Psychology

Operations Managment
BUSA 350 Management
BUSA 385 Cost Accounting
BUSA 450 Production and Operations Management
BUSA 473 Industrial Marketing and Purchasing

MINOR IN BUSINESS ADMINISTRATION: Required supporting courses: Economics 150; Math 128 (or 151 and 230) (or 151, 152, and 331); Computer Science 220 (or equivalent); Statistics 231 or Math 341; Required Business Administration courses: 281, 350, 364, 370. A grade point average of 2.5 in the business courses is required for the minor.

MASTER OF BUSINESS ADMINISTRATION: See Graduate Catalog.

BUSINESS ADMINISTRATION COURSES
Courses numbered 100-299 are available to all students.
Courses numbered 321-499 are open to students with junior standing, the required prerequisites, and a 2.5 cumulative g.p.a.
Courses numbered 500-599 are reserved for students in the M.B.A. program and students in other PLU graduate programs who have an approved field in business.
The middle digit of the course number indicates the field of concentration:
2—management information systems
3—law
4—general service
5—management
6—finance
7—marketing
8—accounting
9—specialized and predominantly independent studies

COURSE OFFERINGS

230 LAW AND SOCIETY
A study of the American legal system and the legal relationships among the natural environment, individuals, groups, business organizations, governmental agencies, and the judicial system. Current business and social problems are addressed from a global perspective with an emphasis on business ethics and social responsibility. Prerequisite: Sophomore standing. I II (4)

281 FINANCIAL ACCOUNTING
An introduction to accounting concepts and principles. Valuation theories in the U.S. compared to those in other nations. Preparation (manual and computer) and analysis of financial reports. Sophomore standing. I II (4)

282 MANAGEMENT ACCOUNTING
Introduction to the use of accounting data in planning, control, and decision making. Topics include cost-volume-profit relationships, cost accounting methods, management accounting systems, and budgeting; spreadsheet applications; International applications of performance evaluation systems. Prerequisites: 281; MATH 128, CSCI 220. Sophomore standing. I II (4)

325 INFORMATION SYSTEMS IN ORGANIZATIONS
Introduction to the fundamental concepts of systems and information as they apply to decision-making in organizations. A focus on complex systems and the assumptions, models, and thinking processes used in their design and management. Ethical and decision-making implications of information systems will be explored. Prerequisites: MATH 128, CSCI 220 (or 144) (or equivalents); Junior standing. I II (4)

340 INTERNATIONAL BUSINESS
Integrated study of international business functions, and related concepts, practices, and policies, using project and case analyses. This is the principal business administration course for students in the Global Studies International Trade minor. Prerequisites: 281, 350; ECON 150; STAT 231; ECON 331. I (4)

350 MANAGEMENT
A critical examination of the principles and processes of administration in an increasingly international context. Management techniques and the functions of planning, organizing, leading and directing, and controlling are discussed from the classical, behavioral, and more recent integrative points of view. Included is the study of concepts and characteristics related specifically to the operations function. Introduction to case analysis and problem solving techniques. Prerequisites: ECON 150, STAT 231 (may be concurrent), BUSA 281. Junior standing. I II (4)

354 HUMAN RESOURCE MANAGEMENT
Detailed examination of the behavior of individuals and groups in business organizations, with emphasis on policies and practices for solving problems. Fundamentals of personnel/human resource procedures in the U.S. and other countries. International aspects of human resource management will provide insight into the problems of managing foreign operations. Prerequisites: 281, 350; ECON 150; STAT 231. I II (4)

364 MANAGERIAL FINANCE
Introduction to the principal problems, theories and procedures of financial management: valuation, financial planning, financial statement analysis, capital asset acquisition, cost of capital, financing strategies (including capital structure theory and dividend policy), management of working capital accounts, and financial dimensions of international trade (including foreign exchange risk, country risk, translation gains and losses). Prerequisites: 281; CSCI 220 (or equivalent); ECON 150; MATH 128 (or equivalent), STAT 231. Junior standing. I II (4)

370 MARKETING SYSTEMS
The flows of goods and services in the U.S. and global economies; economic and behavioral approaches to the analysis of domestic and international demand; the role of marketing functions in business and not-for-profit organizations. Determination of a marketing mix: product policy, pricing, channels and physical distribution, and marketing communications. Prerequisites: 281; ECON 150; MATH 128 (or equivalent); STAT 231. Junior standing. I II (4)

381 INTERMEDIATE FINANCIAL ACCOUNTING
Concentrated study of the conceptual framework of accounting, valuation theories in the U.S. and abroad, asset and income measurement, financial statement disclosures, and foreign currency translation for multinationals. Prerequisite: 281. I II (4)

382 ADVANCED FINANCIAL ACCOUNTING
Concentrated study of equity measurement including the accounting aspects of partnerships, corporations, and consolidations. Also includes accounting for multinational corporations and not-for-profit organizations. Prerequisites: 281, 381. I II (4)

385 COST ACCOUNTING
Development and analysis of cost information for management use in decision making, income determination, and performance evaluation, using a variety of computer and quantitative techniques. International implications arising from the use of traditional inventory models. Prerequisites: 281, 282; CSCI 220, MATH 128, STAT 231, or equivalents. I II (4)

392 INTERNSHIP
A program of full-time experience closely related to the student's specific career and academic interests. The student is expected to develop the internship opportunity with a firm or organization, and the School will provide an internship agreement. This agreement identifies the problems to be researched, experience to be gained, and related readings to be accomplished. Monthly progress reports and other measures of achievement will be used to determine the grade. Not more than 2 hours of credit will be granted for a full month of internship, and not more than 8 hours of accumulated credit will be granted for the internships taken. The internship must be taken for a grade if used to meet one of the required upper division business elective courses, and it must be completed in advance of the last semester before graduation. Prerequisites: 281, 282, 350; ECON 150; STAT 231; MATH 128; CSCI 220; one additional course in the student's area of concentration. (2 or 4)

393 INTERNSHIP ABROAD
Credit is offered for PLU-sponsored academic or experiential study in other countries. Students may spend a summer, semester, interim term, or full academic year abroad.

421 SYSTEMS DESIGN AND ANALYSIS
Information systems analysis and design for management decision making. Emphasis is on the organiztion of the systems analysis and development process. Exercises and case studies deal with information analysis and with the logical specification of a project. Prerequisites: 281, 325 (may be concurrent); MATH 128; CSCI 220 (or 144) (or equivalents). I (4)

428 SEMINAR IN MANAGMENT INFORMATION SYSTEMS
Exploration of current topics in the development and use of management information systems and decision support systems. Emphasis on information systems projects which are applicable to functional areas of business or government. Prerequisites: 281, 282, 325, 421, 487; CSCI 220 (or CSCI 144, 270, 367); MATH 128. II (4)

435 BUSINESS LAW
An in-depth study of the legal principles governing business entities and commercial transactions. Study includes transactions governed by the Uniform Commercial Code including sales, secured transactions, negotiable instruments and letters of credit, both in the U.S. and in international transactions. Among federal statutes studied are those dealing with securities, employment and antitrust as well as state laws on real estate, estates, trusts and wills. Junior standing. I II (4)

450 PRODUCTION AND OPERATIONS MANAGEMENT
Study of key concepts, quantitative techniques, and practices applied by domestic and foreign management to the production of goods and services. Includes examination of facility design; work design and measurement; quality assurance techniques; and production planning, control, and scheduling methods. Prerequisites: 281, 350; MATH 128; STAT 231, CSCI 220 (or equivalent); ECON 150. I (4)

454 ORGANIZATIONAL CHANGE AND DEVELOPMENT
Examination of the need for change in organizations, using a diagnostic approach and employing appropriate strategies to develop human resources vital to every organization's economic viability. Emphasis on developing the skills of an internal change agent with knowledge of evaluation methods and interventions that facilitiate planned change. Prerequisites: 281, 350, 354; ECON 150; STAT 231. I II (4)

455 BUSINESS POLICY
Study of organizational administration from top management perspective. Formulation and execution of strategies and policies to integrate all management and business functions in support of organizational objectives. Implications of resource availability, technology, and the economy; education, religion, ethics, and personal values; social responsibility; public policy; and international relations for top management decisions. Includes comprehensive case analyses. Required for business administration majors. Prerequisites: 281, 282, 350, 354, 364, 370; MATH 128; CSCI 220; ECON 150; STAT 231. Senior standing. I II (4)

456 HONORS SEMINAR

457 PRODUCTIVITY AND THE QUALITY OF WORK LIFE
Examination of the sociotechnical determinants of organizational and individual productivity, with subsequent exploration of issues that affect quality of work life in service and manufacturing industries. Comparison of U.S. and foreign firms and cultures will provide reasons for differences in productivity and QWL. Prerequisites: 281, 350, 354, 454; ECON 150; STAT 231. II (4)

458 ADVANCED HUMAN RESOURCE ADMINISTRATION
Detailed coverage of modern human resource procedures: job analysis, employee selection, training and career development, compensation, safety and health, labor relations. Review of the U.S. legal context of employment practices in other countries. Prerequisites: 281, 350, 354; ECON 150; STAT 231. II (4)

462 INVESTMENTS
Emphasis on concepts, principles, and issues relating to individual securities: risk, return, and valuation of bonds, preferred stock, common stock, options, warrants, convertibles, and futures; determination and term structure of market interest rates; market transactions structure; capital market efficiency. Prerequisites: 281, 364; CSCI 220 (or equivalent); ECON 150; MATH 128 (or equivalent); STAT 231. I II (4).

463 PORTFOLIO ANALYSIS AND MANAGEMENT
The implications of modern investment theory for bond portfolio management. Emphasis on management of interest rate risk and clientele effects in the bond markets and on modern portfolio theory and its implication for individual investment decisions. Methods for evaluating portfolio performance. Description of existing equilibrium asset pricing models in finance. Prerequisites: 281, 364, 462; MATH 128; CSCI 220; ECON 150; STAT 231. I II (4).

464 FINANCIAL ANALYSIS AND STRATEGY
An extension of the conceptual and analytical principles and procedures of managerial finance (valuation, capital budgeting, planning and control, growth strategies, financing strategies, leverage and capital structure theory), as well as treatment of selected special topics. Context is both multinational and domestic. Extensive use of computerized financial models and cases. Prerequisites: 281, 364; CSCI 220 (or equivalent); ECON 150; MATH 128; STAT 231. I II (4)

465 INTERNATIONAL FINANCIAL MANAGEMENT
Analysis of direct and indirect international investments; international regulatory environment; international money flows and capital markets; international risk. Prerequisites: 281, 364; MATH 128; CSCI 220 (or equivalents); ECON 150; STAT 231; ECON 331 (may be concurrent). II (4)

471 MARKETING RESEARCH AND CONSUMER BEHAVIOR
Techniques and uses of marketing research in the business decision-making process. Emphasis on research design, various survey methods, research instruments, and sampling plans as they relate to marketing consumer products and services in domestic and international environments. Contemporary behavioral science concepts to be examined and incorporated in selected marketing projects. Prerequisites: 281, 370; MATH 128; CSCI 220 (or equivalents); ECON 150; STAT 231. I II (4)

472 ADVERTISING AND SALES MANAGEMENT
The role of promotion activities (advertising, personal selling, sales promotion and publicity) in the domestic and international marketing of goods and services; analysis of target markets; developing market potentials; media selection; designing the promotional message; evaluation and control of the promotional mix. Prerequisites: 281, 370; MATH 128 (or equivalent); ECON 150; STAT 231. I II (4)

473 INDUSTRIAL MARKETING AND PURCHASING
Analysis of the industrial buying and selling process in domestic and international business exchanges; purchasing policies and procedures; selection of sources of supply, including international sourcing; ethical standards; marketing problems of manufacturers and suppliers of industrial goods and services; developing and implementing domestic and global industrial marketing strategies. Prerequisites: 281, 370; MATH 128 (or equivalent); ECON 150; STAT 231. I II (4)

474 INTERNATIONAL MARKETING
Introduction to marketing problems and opportunities facing U.S. firms in an international marketing context. Covered are the changes necessary in marketing programs whenever business transactions cross international boundaries; the economic and cultural forces that make these changes necessary. Prerequisites: 281, 370; MATH 128 (or equivalent); ECON 150; STAT 231; ECON 331. II (4)

475 MARKETING MANAGEMENT
Analytical approaches to the solution of domestic, international, and multinational marketing problems. Developing strategies, planning, and administering comprehensive marketing programs; use of computer models; evaluation and control of marketing operations. Prerequisites: 281 370, *two* 400 level marketing courses; MATH 128; CSCI 220 (or equivalents); ECON 150; STAT 231. I II (4)

483 INCOME TAXATION
Comprehensive study of income tax concepts. regulations, and tax planning principles. Emphasis on individual and business income taxation. Prerequisite: 281. I II (4)

484 AUDITING
Comprehensive study of auditing concepts and procedures; analysis of risk through the study and evaluation of internal controls, and through the study and evaluation of account balances; reporting of risk; review of the development and meaning of professional responsibility and ethics; review of operational auditing. Prerequisites: 281, 282, 381, 382 (may be concurrent). I II (4)

487 ACCOUNTING INFORMATION SYSTEMS
Application of information systems concepts to the basic accounting information systems and the expansion of traditional accounting models to include the computerized information systems approach. Topics include manual accounting systems, reporting objectives, procedures for systems analysis and design of accounting systems, behavioral aspects of systems design, audit requirements, and computer processing technology. Prerequisites: 281, 282, MATH 128 (or equivalent); CSCI 220 (or 144, 270 and 367). I II (4)

490 SEMINAR
Seminar on specifically selected topics in business. Offered on demand. Prerequisite: consent of instructor. (4)

491 DIRECTED STUDY
Individual studies; readings on selected topics approved and supervised by the instructor. Prerequisite: consent of instructor. (1-4)

501 FUNDAMENTALS OF ACCOUNTING AND FINANCE
Fundamental assumptions, principles, and procedures underlying accounting; transaction analysis and the fundamental accounting model; matching of expenses with revenue; measurement and reporting of income statement and balance sheet accounts; consolidated statements; and accounting implications of basic international transactions. Theoretical framework for financial decisions; decision theory relative to working capital management, short and intermediate-term financing, capital investments and valuation, capital structure and dividend policy, long-term financing, and multinational financing and investing. I II (4)

502 FUNDAMENTALS OF MANAGEMENT AND MARKETING
Principles and processes of administration. Techniques and functions of planning, organizing, directing, and controlling. The flows of goods and services in the economy; economic and behavioral approaches to the analysis of demand; the marketing functions in business firms. Determination of the marketing mix. An examination of the cultural and economic implications of international business transactions on the management and marketing functions of U.S. firms. I II (4)

505 MANAGEMENT USE OF COMPUTERS
An introduction to computer systems and their uses by managers in industry. Topics include hardware components of micro and mainframe systems; current issues surrounding computer usage; use of application software to aid in managerial decision-making (word processing, spreadsheets, data base packages, statistical packages); and elementary programming techniques. I II (4)

520 PROGRAMMING FOR MANAGERS
Computer programming including branching, looping, subscripts, input/output, character manipulation, subroutines, file manipulations, data storage and retrieval. Advanced work with software packages. Prerequisite: 505. (4)

521 INFORMATION SYSTEMS DESIGN
Information systems development processes. Emphasis placed on the analysis and design of information systems for support of management decision making. Case studies and systems design projects focus on solutions to problems of systems design. Prerequisites: 501, 505. I (4)

528 MANAGEMENT INFORMATION SYSTEMS SEMINAR
Study of current topics dealing with the development and application of information systems. Design and use of management information systems and decision support systems is pursued in the context of systems design projects with emphasis on applicability to business and government. Prerequisites: 501, 505, 520, 521 (or 587). II (4)

535 LEGAL ASPECTS OF THE MANAGEMENT PROCESS
A survey of federal and state law affecting business decision-making. Areas covered include employment relations, consumer protection, investor protection, worker protection, environmental protection, and organizational and managerial liability. The purpose is to help prepare the student for imaginative and ethically responsible citizenship and leadership roles in business and society, domestic and worldwide. (4)

550 ORGANIZATIONAL BEHAVIOR AND ENVIRONMENT
The study of open sociotechnical systems within which a manager must operate. Three major perspectives are encompassed: the external organization environment, including legal, ethical, social, economic, political, and international influences; the organization itself as an entity; and the internal organization environment. Comparisons with administrative practices in other countries and cultures. Prerequisite: 502. I II (4)

551 OPERATIONS MANAGEMENT SEMINAR
Intensive study of key concepts, practices, and techniques applicable to management of production of goods and services including work-facility-design, planning, scheduling, quality control, and materials management and advanced internationally competitive manufacturing practices. Organizational impacts of production systems. Case analyses used to address complex situations. Prerequisites: 502, 505, 550; ECON 500, 543. I II (4)

553 CONTEMPORARY ISSUES IN MANAGEMENT
Investigation of the roles of managers in modern society. The exploration may include, but is not limited to, the topics of corporate responsibility, ethical issues in management, the impact of technological change on organizations and society, and the challenges posed by international competition and management innovations in other countries. The workshop approach to these topics combines the use of cases, readings, discussions, and simulations. Prerequisites: 550, ECON 504. (4)

554 PLANNED ORGANIZATIONAL CHANGE
Detailed examination of techniques for diagnosing administrative problems requiring change, and for planning, implementing, and evaluating changes undertaken through systematic programs of individual, group, and organization development. Emphasis on the problem assessment skills of internal change agents and on interventions aimed at structural changes, management training, and career development. Comparative organization development practices in other countries. Prerequisite: 550. II (4)

555 BUSINESS STRATEGY AND POLICY
An integrated management approach based on decision-making analysis in complex cases and comprehensive field situations. Advanced readings and library research integrate concepts of management and business functions including consideration of legal, social, and international aspects of the business environment. Prerequisites: 551, 564, and 570, any one of which may be taken concurrently with 555. I II (4)

561 INVESTMENT ANALYSIS AND MANAGEMENT

Analysis of the general problem of portfolio management. Emphasis is placed on the application of investment theory in portfolio construction and risk management. Issues discussed include fundamental valuation, managing interest rate risk, option pricing, modern portfolio theory, and current equilibrium asset pricing models in finance. Prerequisites: 501; ECON 500, 543. I (4)

564 FINANCIAL MANAGEMENT SEMINAR

Analysis of optimal financial policies. Intensive investigation of the valuation process and its resulting impact on firm investment, financing, and dividend policies. Discussion of the implications of international financing and investing activities. Extensive use of the case method. Prerequisites: 501, 505, ECON 504, 543. I II (4)

570 MARKETING MANAGEMENT SEMINAR

Introduction to marketing strategy decisions in both domestic and international contexts; marketing resource allocation decisions in a competitive selling environment; marketing alternatives for both consumer and industrial goods and services. Prerequisites: 502, 505; ECON 504, 543. I II (4)

582 ACCOUNTING INFORMATION AND CONTROL

Applications of accounting information, services, and systems to management problems. Impact on decision making by international accounting practices. Prerequisites: 501, 505. I II (4)

587 FINANCIAL INFORMATION SYSTEMS

Expansion of traditional accounting information flow models to include computerized systems. Emphasis on the financial information needs of management and the resulting systems requirements. Prerequisites: 501, 520, 582. (4)

590 SPECIAL SEMINAR

Selected advanced topics; offered on demand. (4)

591 INDEPENDENT STUDY

Individual reading and studies on selected topics; minimum supervision after initial planning of student's work. Prerequisite: consent of instructor. (1-4)

593 THESIS

Research study to meet Thesis Option requirement for elective in the M.B.A. degree program. (4)

Chemistry

The history of civilization is inseparable from the history of chemistry. Everything that occurs in nature—from mental processes and behavior, to the furniture we live around, to the tools we use for work or play, to the problems of pollution—is chemically based. Chemistry seeks to understand the fundamental nature of matter, the changes in its composition, and the energy changes accompanying these changes. Use of this knowledge influences our lives in many profound ways. Whether interested in the chemical profession itself, including biochemistry, polymer chemistry, radiation chemistry, and other specialties, or in chemistry in conjunction with other fields such as business, the social sciences, and the humanities, students will have suitable programs available to meet their interests at PLU. Diversity in career planning is a key concept in the chemistry department. Programs are available which are broadly applicable to the health, biological, physical, environmental, behavioral, and fundamental chemical sciences.

The chemistry department's courses, curriculum, faculty, and facilities are approved by the American Chemical Society. The staff of eight persons with doctorates has composite expertise in virtually every field of pure and applied chemistry. The faculty are very active in basic and applied research, and most are also significantly involved in the community, applying their expertise to enhance the quality of life of the citizens.

The department uses numerous scientific instruments in the laboratories. Such major research and teaching equipment includes: *nuclear magnetic resonance, infrared, ultra-violet, visible, atomic absorption, emission, and electron spin resonance spectrometers; X-ray crystallographic diffractometer; gas and liquid chromatographs; gas chromatograph—mass spectrometer; precision refractometer; dipolometer; scintillation counter; zone refiner; and a fluorometer.*

Faculty research projects involving student participation are in progress in many important fields of chemistry. Some of the general areas are: *polymer structure and properties, synthesis of heterocyclic compounds, fungal and chemical cleavage of lignin, structural and magnetic studies of inorganic complexes, organic kinetics, photochemical reactions, the role of nutrition in health, and the biochemistry of drug actions.*

FACULTY

Tonn, *Chair;* **C. Anderson, Fryhle, Giddings, Huestis, Nesset, Swank, Tobiason.**

Degrees in chemistry are the Bachelor of Arts and the Bachelor of Science for students wishing to structure their undergraduate education around a full chemistry major. The B.A. program is the minimum preparation suitable for further professional studies and is often combined with extensive study or a second major in an allied field. The B.S. program involves additional chemistry courses and serves both students going directly into employment on graduation and those going into graduate programs. It is offered with emphasis in chemistry, biochemistry, or chemical physics. The first option is an American Chemical Society certified program. The latter two options are offered in cooperation with the biology and physics departments for students wishing to work at the interfaces between chemistry and biology or physics.

Students contemplating a major in chemistry are invited to discuss their interests and plans with members of the chemistry faculty at the earliest possible time. Opportunities for honors work in chemistry are described below.

Students deciding to major in chemistry should officially declare their intent after having completed Chemistry 331 and after consultation with a faculty adviser in the chemistry department. Transfer students desiring to major in chemistry should consult a departmental adviser no later than the beginning of the junior year.

The foreign language requirement of the College of Arts and Sciences should be met by Option I, preferably in German.

The chemistry department considers computer usage to be an increasingly important tool in professional and personal activities. Further, laboratory work in the department places considerable emphasis on computer use. Therefore, the department strongly recommends that a student planning to major in chemistry take at least one two-credit hour course in computer science.

Chemistry

BACHELOR OF ARTS MAJOR: Chemistry 115, 116, 321, 331, 332, 333, 334, 341, 342, 343, 460. Required supporting courses: Physics 147, 148, 153, 154; Math 151, 152.

BACHELOR OF SCIENCE MAJOR (three alternatives):

1. *General—leads to American Chemical Society certification;* Chemistry 115, 116, 321, 331, 332, 333, 334, 341, 342, 343, 344, 405 or 450 or 456, 435, 460, 490; Physics 147, 148, 153, 154; Math 151, 152. For American Chemical Society certification, 450 and either 405, 456, or Cooperative Education 476 are required.
2. *Biochemistry emphasis:* Chemistry 115, 116, 321, 331, 332, 333, 334, 341, 343, 403, 405, 435, 460, 490; Biology 161, 162, 323; four hours selected from Biology 326, 328, 331, 346, 359, 385,407, 441 or Chemistry 342; Physics 147, 148, 153, 154; Math 151, 152.
3. *Chemical-physics emphasis:* Chemistry 115, 116, 331, 332, 333, 334, 341, 342, 343, 344, 460; Physics 147, 148, 153, 154, 331, 332, 336, 356; Math 151, 152, 253.

Generalized Chemistry Curriculum for the B.S. Degree

FALL	SPRING
Freshman (1)	
Chem. 115	Chem. 116
Math 151	Math 152
Physics 153, or Biology 161 for biochemistry emphasis (2)	Physics 154 or Biology 162 (2) (or core course)
Optional fourth course (3)	PE 100 or activity
PE 100 or activity	
Sophomore	
Chem. 331, 333	Chem. 332, 334
Physics 153 or Biology 161 (2)	Physics 154 or Biology 162 (2)
Two additional courses	Two additional courses
Junior	
Chem. 341, 343	Chem. 342, 344
Chem. 321	Core course(s)
Core course(s)	Electives
Electives	
Senior	
Chem. 460	Chem. 435
Chem. 490	Electives
Electives	

(1) Refer to the Division of Natural Sciences section of this catalog for other beginning curriculum options.
(2) The department stresses the importance of taking physics during either the freshman year or the sophomore year. This permits a better understanding of chemistry and enables a student to complete degree requirements with no scheduling difficulties in the junior and senior years. Students interested in the Bachelor of Science with biochemistry emphasis should plan to take biology in the alternate year.
(3) Students desiring to fulfill the College of Arts and Sciences foreign language requirement under Option I, or who desire to attain or maintain a language proficiency, should take a language course as part of their optional course selections.

DEPARTMENTAL HONORS: In recognition of oustanding work, the designation *with Departmental Honors* may be granted by vote of the faculty of the chemistry department, based on the student's performance in these areas:
(1) *Course work:* The grade point average in chemistry courses must be at least 3.50.
(2) *Written work.* From the time a student declares a major in chemistry, copies of outstanding work (e.g., laboratory, seminar, and research reports) will be kept for later summary evaluation.
(3) *Oral communication.* Students must evidence ability to communicate effectively as indicated by the sum of their participation in class discussions, seminars, help session leadership, and teaching assistantship work.
(4) *Independent chemistry-related activities.* Positive considerations include the extent and quality of extracurricular work done in background reading, independent study, and research; assisting in laboratory preparation, teaching, or advising; any other chemistry-related employment, on campus or elsewhere; and participation in campus and professional chemistry-related organizations.

The departmental honors designation will appear on a graduating chemistry major's transcript.

BACHELOR OF ARTS IN EDUCATION: Students interested in this degree develop their chemistry program through the department in conjunction with the School of Education. See School of Education section.

CHEMICAL ENGINEERING: Students interested in pursuing studies in chemical engineering should see the course outline in the Engineering section of this catalog. The department chair should be consulted for assignment of a program adviser.

MINOR: 22 semester hours, including 115, 116, 321, 331, 332, 333, and 334, completed with grades of C or higher.

COURSE OFFERINGS

104 ENVIRONMENTAL CHEMISTRY

Basic principles of chemical structure and reactions, with applications to human activities and the natural environment. No prerequisite; students without high school chemistry are encouraged to take 104 before taking 105 or 115. Also suitable for environmental studies, general science teachers, B.A. in earth sciences, and general university core requirements or College of Arts and Sciences option III. I (4)

105 CHEMISTRY OF LIFE

General, organic, and biochemistry pertinent to chemical processes in the human organism; suitable for liberal arts students, nursing students, and prospective teachers. Students who have not completed high school chemistry are encouraged to take 104 before taking 105. II (4)

115, 116 GENERAL CHEMISTRY

First semester topics include the structure of matter, atomic and molecular theory, states of matter and quantitative relationships. Second semester topics include kinetics, chemical equilibrium, thermochemistry, study of the elements grouped according to the periodic table, radio-chemistry, and inorganic qualitative analysis. Designed primarily for students who want to major in biology, chemistry, engineering, geology, or physics. Students interested in health sciences should refer to the Preprofessional Programs section of this catalog. High school chemistry or permission of instructor required. Students with no high school chemistry or weak mathematical background should take 104 before this course. Corequisite: MATH 140. Prerequisite: 115 or 116; I for 115, II for 116. (4, 4)

210 NUTRITION, DRUGS, AND THE INDIVIDUAL

An introduction to basic metabolic interactions, general endocrinology, mind and body interactions, and roles of drugs in modifying biological and behavioral functions. Nutrition topics include food preparation, "the balanced meal philosophy," nutritional myths, the effects of stress, environmental and societal influences on diet. Prerequisites: one year of high school chemistry or equivalent suggested. Meets general university core requirements. I (4)

321 ANALYTICAL CHEMISTRY

Chemical methods of quantitative analysis, including volumetric, gravimetric, and selected instrumental methods. Prerequisites: 116 and MATH 140. I (4)

331, 332 ORGANIC CHEMISTRY

An interpretation of properties and reactions of aliphatic and aromatic compounds on the basis of current chemical theory. Prerequisite: 116. Corequisites: 333, 334 I II (4, 4)

333, 334 ORGANIC CHEMISTRY LABORATORY

Reactions and conventional and modern techniques of synthesis, separation, and analysis of organic compounds. Must accompany 331, 332. I II (1, 1)

336 ORGANIC SPECIAL PROJECTS LABORATORY

Individual projects emphasizing current professional-level methods of synthesis and property determination of organic compounds. This course is an alternative to 334 and typically requires somewhat more time commitment. Students who wish to prepare for careers in chemistry or related areas should apply for departmental approval of their admission to this course.

341 PHYSICAL CHEMISTRY

A study of the relationship between the energy content of systems, work, and the physical and chemical properties of matter. Topics include classical and statistical thermodynamics, thermochemistry, solution properties, and phase equilibria. Prerequisites: CHEM 115, MATH 152, PHYS 154. I (4)

342 PHYSICAL CHEMISTRY

A study of the physical properties of atoms, molecules and ions, and their correlation with structure. Topics include classical and modern quantum mechanics, bonding theory, atomic and molecular structure, spectroscopy, and chemical kinetics. Prerequisites: CHEM 115, MATH 152, PHYS 154. II (4)

343, 344 PHYSICAL CHEMISTRY LABORATORY
Experiments in thermodynamics, solution behavior, and molecular structure designed to acquaint students with instrumentation, data handling, correlations with theory, and data reliability. Computer usage is encouraged. Corequisite or prerequisite: 341, 342. I II (1, 1)

403 BIOCHEMISTRY
An overview, including biochemical structure, mechanisms of reactions, metabolism, genetics, and the biochemistry of the cell. Majors are encouraged to take both 403 and 405 for a more complete understanding of biochemistry. Also for B.A. majors and non-majors interested in biochemistry as a supporting field of knowledge. Laboratory designed to stimulate creativity and problem-solving abilities through the use of modern biochemical techniques. Prerequisites: 332, 334. I (4)

405 BIOCHEMISTRY
A study of chemical reactions and structures in living cells. Topics include enzyme kinetics and mechanisms of catalysis, metabolism, and biochemical genetics. Concepts introduced in Physical Chemistry and Biochemistry will be applied in this course. Designed for students interested in graduate school or research. Prerequisites: 332, 334, 341 and/or 342 or permission, 403. II (2)

435 INSTRUMENTAL ANALYSIS
Theory and practice of instrumental methods along with basic electronics. Special emphasis placed on electronics, radiochemical, mass spectrometric, and spectrophotometric methods. Prerequisites: 321, 341 and/or 342, 343. II (4)

450 INORGANIC CHEMISTRY
Techniques of structural determination (IR, UV, VIS, NMR, X-ray, EPR), bonding principles, non-metal compounds, coordination chemistry, organometallics, donor/acceptor concepts, reaction pathways and biochemical applications are covered. Laboratory will include synthesis and an in-depth exploration of the physical properties of non-metal, coordination and organometallic compounds. Prerequisites: 331, 332, 341; corequisite 342. a/y II (3)

456 POLYMERS AND BIOPOLYMERS
A course presenting the fundamentals of polymer synthesis, solution thermodynamic properties, molecular characterization, molecular weight distributions, and solution kinetics. Free radical, condensation, ionic, and biopolymer systems are covered, with illustrated applications taken from the medical, engineering, and chemical fields. The one-credit laboratory examining polymer synthesis through experiments is optional. Prerequisite: 341; corequisite, 342. a/y II (3)

460 SEMINAR
Presentation by students of knowledge gained by personal library or laboratory research, supplemented with seminars by practicing scientists. Participation of all senior chemistry majors is required and all other chemistry-oriented students are encouraged to participate. Seminar program will be held during the entire year but credit will be awarded in the spring semester. I II (1)

490 INTRODUCTION TO RESEARCH
A course designed to introduce the student to laboratory research techniques, use of the chemical literature, research proposal and report writing. Emphasis on the student developing and making progress on an independent chemical research problem chosen in consultation with a member of the chemistry faculty. Prerequisite: 342. I (2)

491 INDEPENDENT STUDY
Library and/or laboratory study of topics not included in regularly offered courses. Proposed project must be approved by department chair and supervisory responsibility accepted by an instructor. May be taken more than once. I II (1, 2, or 4)

497 RESEARCH
Experimental or theoretical investigation open to upper division students with consent of department chair. May be taken more than once. Generally consists of an expanded study of the research project developed in 490. I II (1, 2 or 4)

597, 598 GRADUATE RESEARCH
Open to master's degree candidates only. Prerequisite: consent of department chair. I II (2-4)

College of Arts and Sciences

Division of Humanities
English
Languages
Philosophy
Religion

Division of Natural Sciences
Biology
Chemistry
Earth Sciences
Mathematics and Computer Science
Physics and Engineering

Division of Social Sciences
Anthropology
Economics
History
Political Science
Psychology
Social Work and Marriage and Family Therapy
Sociology

Degrees Offered
Bachelor of Arts
Bachelor of Science

MAJOR REQUIREMENT

A major is a sequence of courses in one area, usually in one department. A major should be selected by the end of the sophomore year. The choice must be approved by the department chair (or in case of special academic programs, the program coordinator). Major requirements are specified in this catalog. The quality of work must be 2.00 or better. D grades may be counted toward graduation but not toward a major.

Recognized majors are:

Anthropology
Art
Biology
Chemistry
Classics
Communication Arts
Computer Engineering
Computer Science
Earth Sciences
Economics
Engineering
English
French
German
History
Legal Studies
Mathematics
Music
Norwegian
Philosophy
Physics
Political Science
Psychology
Religion
Scandinavian Area Studies
Social Work
Sociology
Spanish

Not more than 40 semester hours earned in one department may be applied toward the bachelor's degree in the Collge.

FOREIGN LANGUAGE/ ALTERNATIVE REQUIREMENTS

In addition to meeting general university requirements, candidates in the College must meet the requirements of Option I, II, or III:

I. 16 semester hours in one foreign language*

II. 8 semester hours in one foreign language*
4 semester hours in history, literature, or language (must be a different language or intermediate level of the language used in line 1)
4 semester hours in logic, math/computer science (except MATH 91 and 99), or statistics

III. 4 semester hours in history, literature, or language
4 semester hours in social science, which may include geography
4 semester hours in natural science, excluding math, computer science, and geography
4 semester hours in logic, math/computer science (except MATH 91 and 99) or statistics

*Option I may be satisfied by four years of high school study in one foreign language. If students have less than four years, placement and credit should be determined by examination. Freshmen planning to continue in a foreign language begun in high school should take the College Board Placement Test offered during orientation. (This test is required of those freshmen who plan to study German, French, or Spanish.) Continuation of a foreign language should not be deferred.

Students with 2-3 years of high school language who wish to continue should register for the second year course. Students may receive credit for any language course in which they are placed without regard to high school credit. Final decision of placement is made by the Department of Languages. Students may not receive credit if they voluntarily select a course level lower than that in which the department places them.

The foreign language requirement in Option II may be met by satisfactory scores on a proficiency examination or by more than two years of high school work in a single language. Two years are sufficient if the grade point average for the total units in that language is 3.00.

Candidates for the B.A. in English, or for the B.A. in Education with concentration in English, must meet Option I.

No course will be allowed to meet both general university requirements and College of Arts and Sciences requirements. Where possible, courses taken to fulfill such requirements shall be in different areas.

Communication Arts

In order to explore fully their potential as human beings, people must first expand their abilities to communicate. Communication is the process by which feelings and ideas are shared and is the foundation on which learning rests. Providing a field for both humanistic and scientific research, the communication arts focus on how and why people communicate through language (both spoken and written) and through nonverbal means. The effects of all forms of human communication are also studied.

Within the Department of Communication Arts, four distinct, yet interrelated areas of human communication may be explored: broadcasting, journalism, interpersonal communication, and theater. Students majoring in any of these areas articulate and test their ideas, develop their individual abilities, and gain competence in various strategies for improving effective communication. They acquire knowledge and skills that apply to nearly every aspect of their private and public lives.

Career prospects for students trained in communication are excellent. A person's career may ultimately turn out to be quite different from what was originally anticipated, of course, but in a rapidly changing world, certain fundamental skills and resources are necessary for adaptation and success. As the work environment in the coming decades becomes increasingly oriented toward communications, it will be critically important for students to have the ability to communicate clearly and effectively, both orally and in writing. Those who major or minor in one of the communication arts will be far ahead of their contemporaries who neglect to prepare for the world of tomorrow.

FACULTY

Spicer, *Chair;* Bartanen, Becvar, Doughty, Inch, Nolan, Nordholm, O'Donnell, W. Parker, Rowe, West, Wills, Wilson.

CORE REQUIREMENT: Only the following courses from Communication Arts may be used to meet the general university core requirement in the arts: 151, 160, 162, 241, 250, 359, 363, 364, 458.

COMMUNICATION CORE SEQUENCE

Broadcast, journalism, interpersonal communication, and public relations majors must take an initial core of courses as follows: 123, 271, 283, and 333. NOTE: 123, 271, and 333 must be taken in the sequence listed. They cannot be taken concurrently. A student may take 283 concurrently with 271 or 333.

DECLARATION OF MAJOR

Students who want to declare a communication arts major with an emphasis in broadcasting, interpersonal communication, journalism, or public relations:

1. Will, at the time of declaration, have a cumulative grade point average of at least 2.5.
2. Will have successfully completed the Communication Core (123, 271, 283, and 333) with a grade point average of 2.5 or higher. Transfer students will be given the opportunity to pass a pre-test on material taught in 123, 271, and 283. 333 will be required of all transfer students regardless of their performance on the pre-test examinations for the other three courses.

BACHELOR OF ARTS MAJOR: 40 semester hours in any of the areas of concentration:

1. Broadcasting-Required Courses: 123, 271, 283, 333, 373, 374, 378, and 381, plus 8 additional hours from 300 and 400 level communication arts courses selected after consultation with adviser. Required supporting areas: 4 hours each in economics, history, and political science plus 8 additional hours in one of those areas. Students must earn a grade of B in 283 or have the instructor's permission in order to advance in the sequence.
2. Interpersonal Communication-Required Courses: 123, 271, 283, 333, 328, 330, 437, plus 12 additional hours from 300 and 400 level communication arts courses selected after consultation with adviser.
3. Journalism-Required Courses: 123, 271, 283, 333, 380, 381, 384, 480, plus 8 additional hours from 300 and 400 level communication arts courses selected after consultation with adviser. Required supporting areas: 4 hours each in economics, history, and political science plus 8 additional hours in one of those areas. Students must earn a grade of B in 283 or have the instructor's permission in order to advance in the sequence.
4. Public Relations-Required Courses: 123, 271, 283, 333, 385, 435, plus 16 additional hours from 300 and 400 level communication arts courses selected after consultation with adviser.
5. Theater-Acting/Directing Emphasis—Required Courses: 151, 160, 225, 250, 352, 357, 363, 364, 425, plus 6 hours from communication arts courses in consultation with adviser.
6. Theater—Design/Technical Emphasis—Required Courses: 151, 160, 225, 250 or 454, 352, 356, 363, 364, 425, 452 or 453, plus 6 hours from communication arts courses in consultation with adviser. (Independent studies in costume construction, scenic construction, history of costume and history of period, style and form are available for design/technical students.)

In addition to requirements listed above, candidates for the B.A. degree must meet the foreign language requirement in the College of Arts and Sciences.

BACHELOR OF FINE ARTS MAJOR: At least 52 semester hours plus 2 practicums in any of the two areas of concentration:

Broadcasting-Required Courses: 123, 271, 333, 283, 373, 374, 378, and 381, plus 20 hours selected in consultation with adviser.

Theater-Acting/Directing Emphasis—Required Courses: 123, 151, 241, 250, 352, 357, 363, 364, 454, plus 16 hours selected in consultation with adviser.

Theater—Design/Technical Emphasis—Required Courses: 151, 225, 250 or 454, 352, 356, 363, 364, 425, 452 or 453, plus 16 hours selected in consultation with adviser. (Independent studies in costume construction, scenic construction, history of costume and history of period, style and form are available to design/technical students).

BACHELOR OF ARTS IN EDUCATION: See School of Education.

MINORS

Interpersonal Communication: 20 semester hours, including 123, 333, 437, plus 8 hours from 300 and 400 level communication arts courses selected in consultation with adviser.

Public Relations: 20 semester hours, including 123, 283, 333, 385, plus 4 hours from 400 level communication arts courses selected in consultation with adviser.

Theater: 20 semester hours, including 151, 160, 241, 250, plus 4 hours from communication arts courses selected in consultation with adviser.

The Dance Minor is cross-referenced with the School of Physical Education. See the description of that minor under Physical Education.

The Publishing and Printing Arts Minor is cross-referenced with the Department of English. See the description of that minor under English.

COURSE OFFERINGS

123 FUNDAMENTALS OF HUMAN COMMUNICATION

Foundations course that introduces the student to a variety of communication contexts. Emphasizes three areas: communication concepts, interpersonal communication, and public speaking. I II (4)

151 STAGE TECHNOLOGY

Basic theory and procedure of all backstage elements in the theater, costumes, scenery, props, lights, makeup, and management. I (4)

160 INTRODUCTION TO THEATER

Study of both practical and theoretical aspects of theater. Exposure to theater and its numerous offshoots (e.g., film, television, rock concerts) through audience participation and personal contact. Development of heightened awareness and appreciation of what makes for good theater. (4)

162 HISTORY OF AMERICAN FILM

Concentrates on the development and growth of the motion picture in the United States from 1895 to the present. Emphasis on the film director, whose implementation of film technique and theory serves as the formative artistic force in the cinema. Societal influences such as economic factors, public attitudes and mores, and political positions reflected in the United States throughout the past 75 years, which provide the film media with shape and thematic focus, will provide parallel points of reference. (4)

225, 425 COMMUNICATION ARTS PRACTICUM

One semester hour credit may be earned each semester, but only 4 semester hours may be used to meet university requirements. Students put classroom theory to practical application by individually completing a project relating to an aspect of communication. An instructor in the area of interest must approve the project and agree to provide guidance. I II.

234 INTRODUCTION TO RESEARCH IN COMMUNICATION

The study of methods of gathering, interpreting, and evaluating data in the study of human communication. Both quantitative and qualitative research methods. (2)

236 INTERPERSONAL COMMUNICATION

The study of theories and variables relating to the nature of and problems involved in the communication of individuals on a one-to-one basis. (2)

241 ORAL INTERPRETATION OF LITERATURE

The art of communicating the essence of a piece of literature to an audience; interpreting it experientially, logically, and emotionally. Individual and group performance. I II (4)

250 FUNDAMENTALS OF ACTING

An examination of the work of actors and actresses, their natural and learned skills; exercises in memory, imagination, and observation; improvisations and scenes from modern plays. (4)

271 MASS MEDIA

Survey of the mass media. History, organization, and mechanics of print and broadcast media. Role of mass communication in developing the political, social, and economic fabrics of a democratic society. Analysis of the journalist's audience, journalistic vocations, and social and legal responsibilities of the media. II (4)

283 NEWS WRITING

Basic news and feature writing for print and broadcast media with special attention to clarity, accuracy, and deadlines. Most writing done in class under deadline. Techniques of interviewing and fact-gathering. News staff organization and procedures. I,II (4)

324 NONVERBAL COMMUNICATION

Focus on the nonverbal aspects of communication within the framework of interpersonal interaction. Prerequisite: 123 or consent of instructor. (2)

325 TOPICS IN COMMUNICATION

Various content, dependent on faculty assessment of student needs and interests. Topics announced during the fall semester preceding the course offering. Prerequisite: 123 or consent of instructor. (2)

326 GROUP COMMUNICATION

Survey and analysis of small group communication theory and research. II (4)

328 ARGUMENTATION

The study of reason-giving in social decision-making. Analysis of the genres, forms, and techniques of arguers. Particular emphasis is given to studying academic, legal, and public policy debates. I (4)

330 PUBLIC SPEAKING

Focus on a variety of speaking situations and presentational methods. Topics vary according to the skill level of course participants. Potential topics include audience analysis, technical reporting, using visual aids, and persuasion. Open to both majors and non-majors. I II (4)

333 FOUNDATIONS OF COMMUNICATION THEORY
An introduction to the theoretical concepts and research tools of interpersonal and mass communication research. Prerequisite: 123 or consent of instructor. I II (4)

351 STAGE MAKEUP
Specialized work in planning and application techniques from straight makeup through aging, three dimensional, and special effects. (4)

352 STAGE MANAGEMENT
All of the facets of managing a theatrical production: planning, scheduling, rehearsal process, documentation, and interpersonal relationships. (4)

356 STAGE LIGHTING
Stage lighting from the basic development of electricity and lighting instruments to the complete design of lighting a show. II (4)

357 INTERMEDIATE ACTING, THE ACTOR AT WORK
Study of the actor on today's stage. Work on the analysis and performance of the modern realistic play. Practical experience in the art of the actor through performance of scenes from plays of the modern theater, emphasis on the importance of play analysis by the actor, and examination of current acting theory. Prerequisite: 250. (4)

358 ADVANCED ACTING
Study of the work of an actor; character analysis and embodiment, using scenes from plays; includes styles of acting as defined by historical period. Prerequisite: 357. II (4)

359 ACTING FOR THE NON-ACTOR
Study of the actor's craft and the implementation of theory. Specifically designed for those who have nourished a curiosity to explore the art of acting but have been intimidated by a lack of knowledge or prior experience. Introduction of acting theory to those who have never participated in any theatrical endeavor. Emphasis on individual awareness and interest. Not open to theater majors or minors. (4)

363 HISTORY OF THE THEATER: AESCHYLUS THROUGH TURGENIEV
Theater as it evolved from its primitive origin through representative societies; Ancient Greece, Rome, Renaissance, modern European and American. Emphasis on religious, philosophical, and political thought as reflected in the drama of each period. I (4)

364 HISTORY OF THE THEATER: IBSEN THROUGH TO THE PRESENT
(See description for 363.) II (4)

373 AUDIO PRODUCTION
Elements of audio production; analysis of program design, scripting, and production tools and techniques. Lecture and laboratory. Prerequisite: 283 or consent of instructor. (4)

374 VIDEO PRODUCTION
Analysis and application of program design, writing and production tools and techniques. Lecture and laboratory. Prerequisite: 373. (4)

378 BROADCAST JOURNALISM
Techniques of broadcast journalism. Applications of news gathering, writing, and reporting in a broadcast context. News and feature assignments using broadcast equipment in the field and studio. Prerequisite: 374. (4)

380 NEWSPAPER EDITING, LAYOUT, AND DESIGN
Selection and editing of news copy and headline writing. Selection, sizing, and cropping of photos. Functions of layout. Principles of newspaper design and their practical applications. Prerequisite: 283. (4)

381 MEDIA LAW AND PRINCIPLES
The theory and application of law in news gathering, publishing, and broadcasting. (4)

384 ADVANCED NEWS REPORTING
Reporting of politics and police, courts and other governmental functions. Investigative reporting and writing. Blend of field trips and writing exercises. Prerequisite: 283. (2)

385 INTRODUCTION TO PUBLIC RELATIONS
Introduction to the theory, research, and practical aspects of public relations. Problem-solving toward creating shared understandings between profit and non-profit organizations and their various constituencies. Strong emphasis on writing. Prerequisite: Students are required to have completed 283 with a grade of B- or higher or have consent of instructor. I II (4)

388 EDITORIAL WRITING
Research and writing of editorials and commentaries for newspapers and broadcast. Function of the editorial and editorial pages in the news media. Prerequisite: 283. (2)

389 NEWS MEDIA ETHICS
Ethical practices at the corporate, staff, and individual levels within news organizations. (2)

435 ORGANIZATIONAL COMMUNICATION
Communication systems and studies within formal organizations. Focus on theory and research of informational and directive communication as related to channels, structures, status, involvements, morale, and leadership. Prerequisite: 333 or consent of instructor. II (4)

436 PERSUASION
Analysis and evaluation of the dimensions of persuasion in communication emphasizing contemporary theoretical models and research. Investigation of how research and models may be applied in contemporary settings. Prerequisite: 333 or consent of instructor. (4)

437 ADVANCED INTERPERSONAL COMMUNICATION
The study of the theories, concepts, and applications of communication at the dyadic level. How people interact at this level and how the qualities of those interactions influence their communication competence and success. Prerequisite: 333 or consent of instructor. (4)

450 WORKSHOP IN EFFECTIVE PUBLIC SPEAKING
Audience analysis, topic selection, organization of ideas for various audiences, types of speeches, use of visual aids, and delivery. Designed for both novices and those who have had some experience as speakers. A week-long series of lectures, discussions, readings, exercises, and practical applications to help participants become more comfortable and effective as speakers. (2)

452 SCENIC DESIGN
Development of artistic and technical abilities in the field of scenic design incorporating many periods and styles as well as preparation of models, renderings, and draftings. (4)

453 COSTUME DESIGN
Development of artistic and technical abilities in the field of costume design incorporating history, patterns, and renderings. (4)

454 PLAY DIRECTION
The role of the director, historically and critically; an intensive study that is both practical and theoretical in its approach to the art of the play director. Study of many different directing philosophies. Each student is required to direct scenes from plays representative of all periods of theater history. A final project, consisting of a contemporary scene, will culminate the course. Prerequisites: 151, 250, and junior status. II (4)

458 CREATIVE DRAMATICS
Designed to acquaint the student with materials, techniques, and theories of creative dramatics. Students participate in creative dramatics. Intended for elementary and junior high school teachers or prospective teachers, theater majors, religious leaders, youth and camp counselors, day care workers, social and psychological workers, and community theater leaders interested in working with children. S (4)

475 ADVANCED MEDIA PRODUCTION
Producing, scripting, directing, performing and evaluating sophisticated audio and video programming. Prerequisite: 374. (4)

480 IN-DEPTH AND INVESTIGATIVE REPORTING
Group reporting in depth on a single issue. Students select the subject, organize the staff, research and interview, provide illustrations, edit copy, and lay out the completed work. Submission of students' work to the *Mast* for possible publication. Prerequisites: 380, 384. (4)

485 **INTRA DISCIPLINARY PERSPECTIVES IN COMMUNICATION**
A seminar to acquaint senior level communication arts majors with the relationship of communication theory, mass communication, and theater as parts of the discipline of human communication. Limited to 16 students who have completed the bulk of their major requirements. Discussion of research and philosophical issues common to the three areas. Students complete a research paper covering some application of the intradisciplinary nature of communication. (4)

491, 492, 493 **SPECIAL STUDIES IN COMMUNICATION ARTS**
Investigations or research in area of special interest not covered by regular courses; open to qualified junior or senior students. A student should not begin registration for independent study until the specific area for investigation has been approved by a departmental sponsor. (1-4)

596-598 **RESEARCH IN COMMUNICATION ARTS**
For graduate students only. (1-4)

Computer Science

Computer science deals with manipulating stored information, both textual and numerical. By using the ideas of computer science along with a computer system people can actually amplify their thought processes. Already many new ideas in mathematics, physics, engineering, chemistry, economics, and other fields were either suggested, verified, or expanded by the use of computer science. The exploration of the solar system using space probes would have been impossible without computer science. The list of significant advances in knowledge aided by computer science seems endless.

Computer science students study the theory, design, and application of computing systems. The program covers various programming languages, the development and analysis of algorithms, hardware and software design and special topics in such areas as graphics, pattern recognition, data base management, and fault-tolerant computing.

The Bachelor of Science degree in computer science has been accredited by the Computer Science Accreditation Commission of the Computing Sciences Accreditation Board, Inc.

Computer science is a part of the Department of Mathematics and Computer Science.

FACULTY: Mathematics and Computer Science

Brink, *Chair;* **Batker, Beaulieu, Benkhalti, Blaha, Dollinger, B. Dorner,** C. **Dorner, Edison, Hauser, J. Herzog, M. Herzog, N. C. Meyer,** C. **L. Nelson, G. Peterson, Rosenfeld, Scott, Spillman, Woo, Yiu.**

BEGINNING CLASSES

There are two beginning level classes in computer science: Computer Science 110 is programming in BASIC and Computer Science 144 is programming in Pascal. Students intending to major in computer science or mathematics or who intend to take more computer science classes are advised to take Computer Science 144 first. Computer Science 110 is for those who want only an introduction to programming. In place of Computer Science 110 a student may take Computer Science 220.

COMPUTER SCIENCE MAJOR

The program is designed to provide sufficient backgrounds for advanced study at the graduate level or for entering a professional career. All computer science majors take a core curriculum consisting of an introduction to programming in PASCAL, data structures, digital logic, and assembly language and computer organization (Computer Science 144, 270, 362, and 380).

The core courses form a foundation for upper division work, which may include the study of microprocessors, computer architecture, automata, modeling and simulation, and compilers as well as other topics.

The program is supported by PLU's VAX 6210/6220 cluster computing systems, along with approximately 40 IBM-PC microcomputers, which are available for general student use. In addition, the department operates a lab which contains five SUN microcomputer workstations, an HP 9000 system, and an Intel hypercube.

A typical computer science major program is as follows:

Freshman year:	Computer Science 144, 270 Math 151, 152
Sophomore year:	Computer Science 362, 380 8 hours laboratory science Second computer language Math 245 and either Math 230 or 331
Junior & Senior years:	Computer science electives (Computer Science 490 may be taken several times with different topics) Math 345

Careers in computer science include designing computers and computer systems and applying computers to areas such as business administration, economics, and the sciences, as well as teaching and research. Students interested in business administration should take courses in the School of Business Administration (including 281, 282, and 487) as well as COBOL. Students interested in the design of computers should consider courses from Engineering 271, 341, 347, and 352 (along with Physics 153 and 154). For students interested in the more theoretical aspects of computer science, courses in logic are recommended (Philosophy 233, 341, 342).

BACHELOR OF ARTS MAJOR: 24 semester hours including Computer Science 144, 270, 362, 380, 2 hours of a second computer language (240 or 242 are suggested) and 6 hours of computer science numbered above 330, excluding 449. Up to 4 hours may be substituted from Math 341, and 346. Required supporting: Math 151, 152, 230 or 331, 245.

BACHELOR OF SCIENCE MAJOR: 40 semester hours including 144, 270, 362, 375, 380, 486, 2 hours of a second programming language (240, 242, or 243 recommended), and one of two paths as described below. Required supporting: Math 151, 152, 230 (or 331), 245, 345, and 14 hours of approved science/quantitative methods courses incluing a one-year sequence of a laboratory science (Physics 153-154 with labs 163-164, Chemistry 115-116, Biology 161-162, Earth Sciences 131-132). The paths are as follows:

C

Computer Science

Artificial Intelligence Path requirements	General Path Requirements
CSCI 330 (4 hrs.)	Any three of:
CSCI 436 (4 hrs.)	CSCI 444 (4 hrs.)
CSCI 438 (4 hrs.)	CSCI 455 (2 hrs.)
	CSCI 330 (4 hrs.)
	CSCI 480 (4 hrs.)
	CSCI 420 (4 hrs.)
Electives (4 hrs.)	Electives (4-6 hrs.)
	(Total = 16 hrs.)

The electives include any upper division computer science class (numbered above 330), Math 341 or Math 346, but the entire program must be approved by the department. Students are urged to complete a minor in an area where computers have wide applicability such as the natural sciences, social sciences, mathematics, or business.

Students in the B.S. program *must* have their computer science and science/quantitative methods electives approved by the department and consequently are *strongly urged* to apply for the major after completing 270.

The Bachelor of Science degree in computer science has been accredited by the Computer Science Accreditation Commission of the Computing Sciences Accreditation Board, Inc.

MINOR IN COMPUTER SCIENCE: Computer Science 144, 270, 362, and 380 plus 2 hours of a second computer language. Required suporting: Math 151 or 128.

MINOR IN INFORMATION SCIENCE: Computer Science 144, 270, 367, Business Administration 281, 325, plus 4 hours from Business Administration 282, 364, 421, 487. Strongly recommended: Computer Science 242.

MASTER OF ARTS IN COMPUTER APPLICATIONS: See Graduate Catalog.

MASTER OF SCIENCE IN COMPUTER SCIENCE: See Graduate Catalog.

COURSE OFFERINGS

A grade of C or higher is strongly recommended in all prerequisite courses.

110 BASIC
Introduction to interactive computing, branching, looping, subscripts, functions, input/output, subroutines and simple file techniques in the context of the BASIC language. 110 and 220 may not both be taken for credit. Not normally taken by computer science majors. Prerequisite: high school algebra. I II (2)

115 INTRODUCTION TO THE WORLD OF MATHEMATICS AND COMPUTERS (MATH 115)
A study of mathematics and computers in the modern world with a wide variety of applications and a historical perspective. This class is designed for students without extensive knowledge of mathematics, but who want to acquire a basic understanding of the nature of mathematics and computers. Not intended for majors in science or mathematics or computer science. Some BASIC and/or LOGO programming is included. Prerequisite: one year of high school algebra. I II (4)

144 INTRODUCTION TO COMPUTER SCIENCE
An introduction to computer science including algorithm design, structured programming, numerical/ non-numerical applications and use of data files. The PASCAL programming language will be used. Required for computer science majors or minors. Prerequisites: MATH 140 or MATH 128 or equivalent. I II (4)

199 DIRECTED READING
Supervised study of topics selected to meet the individual's needs or interests; primarily for students awarded advanced placement in computer science. Admission only by department invitation. (1-2)

210 COMPUTERIZED INFORMATION SYSTEMS
Computer systems and their use, word processing, spreadsheets, and file management using existing software packages on IBM PC's. 210 and 220 cannot both be taken for credit. Prerequisite: 110. Prerequisite or co-requisite: MATH 128. I II (2)

220 COMPUTERIZED INFORMATION SYSTEMS WITH BASIC
Introduction to computers and computer systems and their use. Programming in the BASIC language using branching, subllooping, subscripts, input/output, character manipulation, subroutines, word processing, spreadsheets, and file management using existing software packages on IBM PC's. Students cannot take both 220 and either 110 or 210 for credit. Prerequisites: MATH 128, MATH 140, or equivalent. I II (4)

240 FORTRAN
An accelerated introduction to the FORTRAN programming language. Study of the rules of statement formation. Topics include input/output, computation, branching, looping, data types, and subprograms. Numeric and non-numeric problems will be solved. Some previous experience with programming is recommended. I II (2)

242 COBOL
Presentation and application of the COBOL programming language to business problems. Prerequisite: 144 or 110-210 or consent of instructor. II (2)

243 ADVANCED PROGRAMMING LANGUAGES
A study of advanced programming languages such as ADA, C, etc., and the operating system UNIX. Prerequisite: 270. I (2)

270 DATA STRUCTURES
Continuation of Pascal programming techniques and a study of basic data structures including linked lists, trees, queues, stacks and graphs. Applications of these forms to sorting, searching, and data storage will be made. Prerequisite: a grade of C- or higher in 144. I II (4)

322 MICROCOMPUTERS IN THE CLASSROOM
Introduction to the use of microcomputers in educational settings. Topics: 1) The computer as a teacher tool using word processing, spreadsheet, and grading programs, 2) Computer assisted instruction, 3) Software evaluation, 4) Integrating software into the curriculum, 5) Copyright laws and public domain software, and 7) Software currently used in education settings. Pre or co-requisite: EDUC 251 or 253. Does not count toward degrees in computer science. (2)

330 INTRODUCTION TO ARTIFICIAL INTELLIGENCE
An introduction to concepts of artificial intelligence, including expert systems, natural language processing, image understanding, and problem solving techniques. The AI programming language LISP will be taught and used in several projects. Prerequisite: 270, MATH 245 I (4)

348 MODELING AND SIMULATION
An applications structured programming course solving various problems. Statistics, data structures, mathematical modeling, simulation, documentation, and team programming techniques will be applied. Prerequisites: MATH 245, CSCI 270 and either MATH 230 or MATH 331. a/y 1989-90 I (4)

362 DIGITAL LOGIC
Boolean algebra and combinatorial logic applied to basic logic circuits, digital arithmetic, sequential circuits, system controller, and other components of a computer. Prerequisite: 144. I II (4)

367 DATA BASE MANAGEMENT
Data structures and storage methods are reviewed. The hierarchical, network, and relational modes are studied. Prerequisite: 270. I (4)

375 DESIGN AND ANALYSIS OF ALGORITHMS
Basic data structures reviewed and applied to the analysis of problems associated with searching, sorting, strings, and minimal paths. Study of the complexity and storage requirements of the algorithms. Use of top-down and structured programming. Prerequisite: 270, MATH 245. II (4)

380 ASSEMBLY LANGUAGE AND COMPUTER ORGANIZATION
Computer assembly language applied to various problems. Topics include data forms, instruction formats, addressing, linking, macro definition, and computer architecture. Prerequisite: 270. Strongly recommended: 362. I II (4)

385 COMPUTER ARCHITECTURE
An introduction to the structure and operating of large computer systems. Topics include data representation, memory structure, I/O processing, multi-processing systems such as parallel, pipeline, and stack machines. Examples of the architecture of several large systems are analyzed including TI ASC, Cray and Intel Hypercube. Prerequisite: 380, MATH 245 (2)

386 DISTRIBUTED SYSTEMS
An introduction to computer networks and computer communication. Topics include system topology, message and packet switching, bus structures and data-link transmission. Prerequisite: 362. a/y 1990-91 (2)

391 PROBLEM SOLVING AND PROGRAMMING SEMINAR
This course is designed to improve advanced problem solving and programming skills, including advanced data structures. A goal of the course is participation in the regional ACM programming competition. Pass/Fail only. Students may take this course more than once. Prerequisite: 270 or consent of instructor. I (1)

412 COMPUTER GRAPHICS
Exploration of techniques used to generate and interpret computer graphics. Transformation, restoration, enhancement software, and other topics, depending upon available equipment and instructor. Prerequisite: 270, MATH 245 and 230 or 331. (4)

420 SOFTWARE ENGINEERING
An engineering approach to the development of large software packages. Topics include software requirements definition, structured programming, software design, specifications, and software testing. Prerequisite: 270, MATH 245. a/y 1990-91 II (4)

436 PATTERN RECOGNITION
The use of the computer to recognize patterns in data. Topics include artificial intelligence, cluster analysis algorithms, learning algorithms, and pattern processing. Prerequisites: 270, MATH 245. a/y 1989-90 II (4)

438 EXPERT SYSTEMS
The development of AI systems which operate at the level of a human expert. Students will explore the structure of expert systems and use an expert system development tool such as OPS 5. Prerequisite: 330 or consent of instructor. a/y 1990-91 II (4)

444 OPERATING SYSTEMS
An introduction to computer operation including batch processing systems, interacting systems, multi-programming systems, storage management techniques and resource control. In addition, the course includes an analysis of the deadlock problem and basic file systems. Prerequisite: 380, MATH 245 I (4)

449 COMPUTER SCIENCE IN THE SECONDARY SCHOOL
Methods and materials in secondary school computer science teaching. LOGO, PILOT, etc., may be considered. Does not count toward a major in computer science. Prerequisite: 144. II (2)

455 COMPILERS
An introduction to the organization, specification, and analysis of programming languages. Topics including parsing, data representation, object code, run-time machine structures and optimization. Prerequisite: 380. MATH 245 I (2)

470 COMPUTER-AIDED DESIGN OF DIGITAL SYSTEMS
An introduction to use of CAD systems for digital design. Basic principles of combinational and sequential logic design are reviewed. Simulators, computer hardware description languages, and other computer-aided design tools are developed. Prerequisite: 362. II (2)

475 FORMAL LANGUAGES
Study of the theory of computation. Turning machines, formal languages, recursive theory, complexity. NP-completeness, and the halting problem may be considered. Prerequisites: 375, MATH 335. a/y 1989-90 II (4)

480 MICROPROCESSORS
Study of microprocessors and their use in microcomputer systems. Data representation, programming, interrupts, I/O interfacing, data communications, available software, and program development tudied in lecture and laboratory sessions. Prerequisites: 362, 380. II (4)

486 SENIOR SEMINAR
Written and oral presentation of a topic of interest by the student under the supervision of a faculty member. Discussion of the skills needed for good technical communication. Study of the social implications of computing. Prerequisites: Senior computer science major or consent of department chair. I II. (2)

488 VLSI DESIGN
An introduction to the design of very large scale integrated systems using computer aided design methods. Topics include MOS devices, fabrication procedures, chip architecture, chip topology, and system timing. Prerequisites: 270, 362. I (2)

490 SEMINAR IN COMPUTER SCIENCE
Selected topics from the list below or topics of current interest. II (1-4)

a. FAULT TOLERANT COMPUTING
An introduction to the methods of fault detection and location in digital systems and to techniques for the reliable design of computing systems. Topics include: the D-Algorithm, Boolean Differences, Path Testing, Triple Modular Redundancy Design and the design of self-checking checkers. Prerequisite: 362. (4)

b. SWITCHING THEORY
Advanced applications of Boolean algebra to digital system design. Topics include decoding networks, harmonic analysis, ULM's, and cellular logic circuits. Prerequisite: 362.

c. COMPARATIVE PROGRAMMING LANGUAGES
The study of different modern high level languages from a theoretical and practical viewpoint, their features and implementation techniques. Prerequisite: 270, MATH 245. (4)

d. INFORMATION THEORY AND CODING
The study of information storage and representation. Topics include basic coding techniques, measurement of information content, and information transmission. Prerequisites: 270, MATH 245.

e. MICROPROCESSOR INTERFACE
Techniques for connecting computers to peripherals and communications devices are covered. Topics include: bus structures, real time control, software structures and parallel interfacing. Prerequisite: 480.

f. COMPUTER SECURITY
The study of the protection of data and program access to computer systems. Topics include data encryption, code breaking techniques, access controls and inference controls. Prerequisite: 270, Math 245. (4)

491, 492 INDEPENDENT STUDY
Prerequisite: consent of department chair. (1-4)

495 COMPUTER SCIENCE RESEARCH
The student becomes involved in an ongoing research project in computer science under the supervision of a faculty member. Prerequisite: consent of instructor. (1-4)

502 APPLEWORKS FOR TEACHERS
Designed to help teachers develop a high level of proficiency with one of the most popular computer software packages used in educational settings — Appleworks. Teachers are introduced to the concepts and use of a word processor, spreadsheet, and database with the Appleworks integrated software package. Two major areas of emphasis are stressed: the use of Appleworks as a teacher tool for record keeping, gradebook, and educational materials production, and the use of the Appleworks program as part of the classroom curriculum. Does not count toward degrees in computer science. No prerequisites. (2)

520 ADVANCED DIGITAL DESIGN
Continuation of topics in 362. The design of digital control systems; asynchronous circuits; digital signal processors; digital filters; timing considerations; use of computer-aided design tools. Prerequisite: 362, MATH 152. (4)

538 EXPERT SYSTEMS
Same as 438. Requires students to generate an expert system. Prerequisite: 430, MATH 245. a/y II 1990-91 (4)

544 ADVANCED OPERATING SYSTEMS
Continuation of topics in 344 and 385 leading to the development of an operating system. Emphasis on the interaction between the hardware structure and the operating system; operating data structures; and operating system security. Prerequisite: 444. II (2)

555 COMPILER IMPLEMENTATION
Continuation of 455; the structure of programming languages; data and control abstractions; compiler implementation; run time management; an introduction to code optimization. Prerequisites: 355, 380. a/y 1990-91 II (4)

570 MATHEMATICS OF COMPUTER SCIENCE
Survey of the basic mathematical tools required in computer science, including graph theory, network flow analysis, queueing theory and its applications, stochastic models, and transform theory. Prerequisite: 375. (4)

580 MICROPROCESSOR DEVELOPMENT SYSTEMS
Development of software on 8 and 16 bit microprocessors; microprocessor applications; interfacing; microprocessor organization; interrupt structures. Prerequisites: 362, 380. (2)

586 GRADUATE DESIGN SEMINAR
Written and oral presentation of a topic of interest to the student under the supervision of a faculty member. Discussion of methods and techniques appropriate to the discipline. Students may not receive credit for this course if they receive credit for 593, Thesis. Prerequisite: Full graduate standing and the completion of at least one graduate level course. (2)

590 GRADUATE SEMINAR
Selected topics from the list below or topics of current interest. Possible topics include Formal Languages, Fault-Tolerant Computing, Software Engineering, Switching Theory, Comparative Programming Languages, Information Theory and Coding, Microprocessor Interface, Computer Security, and Performance Evaluation. (1-4)

591 INDEPENDENT READING AND RESEARCH
Individual reading and research on select topic. Intended for advanced graduate students. Minimum supervision after initial planning of student's project. Prerequisite: Consent of department. (1-6)

593 THESIS
Research study to meet thesis option requirement for M.A. or M.S. degree. (1-6)

Cooperative Education

Cooperative education assumes that experiential learning can be an appropriate component of any quality educational program. Though it shares this assumption with other experiential learning strategies such as internships, fieldwork placements, and practica, it differs in several respects. Cooperative education introduces students to an educational work experience early in their academic careers and weaves opportunities for work and learning throughout their undergraduate programs, rather than concentrating on practical course work at the end. As the name suggests, cooperative education represents a systematic cooperation between the university and a variety of employers in the community.

Although the program's career-related advantages are obvious, its main benefits are educational. Students gain an appreciation of the relationship between theory and application, and may learn, both early and first-hand, about new developments in a particular field. Cooperative education provides timely and extended opportunities for developing communication skills orally and in writing.

A cooperative education program can enable students to become aware of opportunities to contribute creatively to the changing dimensions of work in present-day society.

The university and employers benefit as well. The university develops stronger and more creative connections with its community. Employers derive a more efficient device for training and recruiting. More importantly, the partnership provides a unique opportunity for employers to participate in an important educational service to the community.

TWO MODELS
The Cooperative Education Program accommodates both part-time and full-time work modes. Part-time work, which allows students the opportunity to take on-campus courses concurrently, is labeled the "Parallel Model." A full-time work experience fits under the "Alternating Model." In most cases students will follow one or the other, but some departments or schools may develop sequences that combine both parallel and alternating work modes.

Full-time summer work, for example, would be classified as an alternating cooperative education experience, and many summer jobs provide for learning that relates to students' academic objectives.

THE PROCESS FOR STUDENTS
In order to be eligible for admission into the Cooperative Education Program a student must have completed 30 semester hours and be in good standing.

Students who wish to participate apply to either the Co-op Office in Ramstad Hall or to a Co-op faculty coordinator or sponsor serving this function in specific departments, divisions, or schools. Both written application and personal interview are required in order to determine eligibility, terms for placement, areas of interest, academic requirements, and kinds of positions available.

Students are responsible for their learning activities during their cooperative education position. Each student must seek out and arrange for academic supervision from a faculty coordinator or sponsor. Faculty are responsible for insuring that the work experience provides appropriate learning opportunities, for helping to establish the learning agreement, and for determining a grade.

Learning is facilitated through: (1) use of a "Learning Agreement"; (2) completing an academic project; (3) periodic contact with the faculty sponsor; (4) attendance at one workshop during the work experience; and (5) an on-site supervisor who accepts the responsibility to function in a resource role.

The learning agreement, developed by each student with the assistance of a faculty sponsor, lists learning objectives with measurable indicators of learning, and also incorporates supplementary resources such as reading materials and participation in work-related training sessions. The learning agreement is signed by the student, the faculty sponsor, the program director, and the work supervisor, each of whom receives a copy.

Contact between the faculty sponsor and the student must be sufficient to allow the sponsor to serve as a resource and pro-

vide academic supervision. Typically this can be accomplished during one or two site visits. Students in a "parallel" cooperative education program may arrange to meet with the sponsor on campus. Those involved in "alternating" programs some distance from campus may maintain contact through periodic phone conferences, when site visits are impractical.

Employers are responsible to: (1) provide opportunities for students to achieve their learning objectives within the limits of their work settings; (2) help students develop skills related to the contextual aspects of the work world (such as relationships with co-workers); and (3) facilitate students' integration into their work setting so that their employment proves valuable and productive.

Students are required to register for at least one credit hour after accepting a Co-op position. Throughout an undergraduate academic career a student may receive a maximum of 16 semester hours of credit in cooperative education.

Martinson, *Director.*

COURSE OFFERINGS

376 WORK EXPERIENCE I

A supervised educational experience in a work setting. Requires the completion of a Cooperative Education Learning Agreement in consultation with a faculty sponsor. (1-8)

476 WORK EXPERIENCE II

A supervised educational experience in a work setting providing for an advanced level of responsibility. Requires the completion of a Cooperative Education Learning Agreement in consultation with a faculty sponsor. (1-8)

Earth Sciences

Earth Sciences explore the components of the physical universe from humanity's existing habitat to the foundations of the earth, and beyond to the planets and the stars. A program of studies in these fields acquaints students with their physical world and provides perspective on human development in time and space. Environmental problems also are approached through the earth sciences, which impart a realistic appreciation of society's dependence on earth's physical resources.

In providing such a perspective, the department fulfills the needs of a variety of students seeking to broaden their liberal arts education, and also provides more specialized knowledge in support of several fields, particularly for minor or major studies leading to careers in resources and environmental management or scientific research.

Situated between the Olympic Mountains and the Cascade Range, the department is ideally located to examine geologic and marine environments, which are unsurpassed for teaching and learning purposes.

Graduates in earth sciences hold positions in the National Park Service, the U.S. Geological Survey, oil and mining groups, and geotechnical engineering, as well as education. The demand for qualified graduates in pollution management and geotechnical applications continues.

Most fields require post-graduate degrees, and to this end, a number of PLU graduates have pursued master's and doctoral programs at major universities.

FACULTY

Benham, *Chair;* **Foley, Lowes, Whitman; assisted by Huestis.**

The department's programs remain flexible, allowing fairly easy scheduling of courses. However, students should notice that upper division courses are offered on a two-year cycle. Early declaration of majors or minors in earth sciences will facilitate development of individual programs and avoid scheduling conflicts.

BACHELOR OF SCIENCE (GEOLOGY) MAJOR: 40 semester hours; courses include: 131, 132, 323, 324, 325, 326, 327, 328, and 425, plus one from 330, 333/334, or 341; remaining hours to be applied to departmental seminars (minimum of three). Necessary supporting courses include: Chemistry 115, 116; Physics 125, 126 (147 and 148 labs)(or Physics 153, 154 and labs); Mathematics 151, 152 or Computer Science 220. Biology 323 and additional courses are recommended when paleontology is a major interest.

BACHELOR OF ARTS MAJOR: 32 semester hours; courses include 131 plus at least three lower division and five upper division courses. Attendance at departmental seminars is required during junior and senior years. A field course such as 330, 360, or 425 is recommended. Required supporting courses include: Chemistry 104, 105, or 115, 116; Physics 125, 126 (147, 148 labs); Mathematics 151. Recommended are: Computer Science 220; Biology 323; Mathematics 152. Options reflect a student's interests and are discussed with an adviser.

BACHELOR OF ARTS IN EDUCATION: See School of Education.

MINOR: 20 semester hours of earth science courses, excluding interim courses, completed with grade of C or higher.

COURSE OFFERINGS

131 PHYSICAL GEOLOGY

An introductory course dealing with the human geologic habitat, both at present and as it has developed through time; materials of earth (and lunar) crusts, their derivation through major earth processes and formation of surface features—with emphasis on their significance to cultural development and civilization; laboratory study of rocks, minerals, and geologic mapping; field trips are arranged. I II (4)

132 HISTORICAL GEOLOGY

A sequel to 131 which concentrates on earth history, particularly the formation of the North American continent: sedimentary rocks, fossils, and stratigraphic record are related to tectonic upheaval and growth; field trips are arranged. II (4)

E

Earth Sciences

202 GENERAL OCEANOGRAPHY
Oceanography and its relationship to other fields; physical, chemical, biological, climatic, and geological aspects of the sea; field trips. I, II (4)

222 CONSERVATION OF NATURAL RESOURCES
Principles and problems of public and private stewardship of our resources with special reference to the Pacific Northwest. I II (4)

323 MINERALOGY
Crystallography and mineralogy, both ore and rock-forming minerals. Prerequisites: 131 and high school chemistry or consent of instructor. Interim 1990 (4)

324 PETROLOGY
The occurrence and classification of common rock types; processes by which they were formed with reference to theoretical principles. Prerequisite: 131 or consent of instructor. II a/y 1989-90 (3)

325 STRUCTURAL GEOLOGY
The form and spatial relationships of various rock masses and an introduction to rock deformation; consideration of basic processes to understand mountain building and continental formation; laboratory emphasizes practical techniques which enable students to analyze regional structural patterns. Prerequisite: 131 or consent of instructor. I a/y 1990-91 (3)

326 OPTICAL MINERALOGY
Theory and practice of mineral studies using the petrographic microscope, including immersion oil techniques, production of thin sections, and determination of minerals by means of their optical properties. This provides an introduction to the broader subject of petrography. I a/y 1989-90 (3)

327 STRATIGRAPHY AND SEDIMENTATION
Formational principles of surface-accumulated rocks, and their incorporation in the stratigraphic record. This subject is basic to field mapping and structural interpretation. I a/y 1989-90 (3)

328 PALEONTOLOGY
A systematic study of the fossil record, combining principles of evolutionary development, paleohabitats and preservation, with practical experience of specimen identification. These studies are fundamental to the understanding of stratigraphy and the geologic time scale. I a/y 1990-91 (3)

330 SURVEY AND MAPPING PRINCIPLES
Introduction to techniques and instrumentation of basic surveying and cartography. Includes leveling and transit traverses, baseline measurements, and triangulation; also, applications of aerial photos and their interpretation for geologic mapping. Techniques for compiling geologic data and construction of geologic maps are among the essential skills covered. II (3)

333 GEOLOGIC HAZARDS
Study of geologic features and processes that create hazards when encroached upon by humans, including earthquakes, floods, landslides, avalanches, volcanic eruptions, subsidence, soils, and coasts. Emphasis on understanding geology of events and solutions to problems created by the hazards. I a/y 1989-90 (2)

334 GROUNDWATER
The origin of groundwater, flow in aquifers, groundwater resource evaluation and development, wells, water quality, including pollution, and geothermal resources. Emphasis on problems with groundwater in the Puget Sound area, with additional examples from diverse geologic environments. II a/y 1989-90 (2)

341 ENERGY AND MINERAL RESOURCES FOR THE FUTURE
A survey of the world's energy and mineral resources comprising the raw materials of industrialized societies. Studies include geological occurrence, global distribution, and quantities of such reserves; also, their fundamental technologies and economics, as well as the political framework in which they are developed. I a/y 1990-91 (3)

425 GEOLOGIC FIELD MAPPING
Combining a survey of regional field geology with a series of local mapping projects, this course introduces field techniques of geologic map-making. Included are traversing and data assembly, map construction, section measurements, structural analysis, and chronological synthesis. Graphics techniques are also covered. Prerequisites: previous geology courses and consent of instructor. S (5)

490 SEMINAR (1-2)

491, 492 INDEPENDENT STUDY (1-4)

493 SEMINAR IN TECTONICS
Reviews of books and journal articles dealing with various aspects of large-scale movements of the earth's crust. II 1990-91 (1-2)

494 SEMINAR IN GEOCHEMISTRY
Reviews of literature on the chemical aspects of magmatism, metamorphism, lithification, hydrothermal systems. I 1989-90 (1-2)

495 SEMINAR IN GEOPHYSICS
Reviews of literature concerning the physics of the earth: gravity and isostasy; seismicity; magnetism and polarity; radioactive and geothermal processes; also application to exploration techniques. II 1989-90 (1-2)

496 SEMINAR IN ECONOMIC MINERAL DEPOSITS
Selected readings on the nature, origin, occurrence of, and exploration for concentrations of metallic and industrial minerals in crustal rocks. Class discussions will be held twice weekly. I 1990-91 (1-2)

Economics

Want is a growing giant whom the coat of Have was never large enough to cover." —Ralph Waldo Emerson

Economics is the study of how people establish social arrangements for producing and distributing goods and services to sustain and enhance human life. Its main objective is to determine a wise use of limited economic resources so that people receive the maximum possible benefit at the lowest cost.

The economics discipline embraces a body of techniques and conceptual tools that are useful for understanding and analyzing our complex economic system. Career avenues for graduates are numerous, since their understanding of the economy and their problem-solving and thinking abilities are applicable to a wide range of activities in business and/or government.

FACULTY

Ankrim, *Chair;* **Brue, R. Jensen, Miller, N. Peterson, Reiman, Vinje, Wentworth.**

BACHELOR OF ARTS MAJOR: (A) Minimum of 36 semester hours, including 150, 351, 352, 486, 12 hours of electives in economics, and 8 hours selected from the following: Economics 343, 344 (if not used as economics electives), Statistics 231, Math 334, 341, Business Administration 281, or up to 4 hours in computer science. (B) A grade point average of 2.5 in all classes included in the 36 semester hours toward the major.

For students planning graduate work in economics or business, additional math preparation will be necessary. For specific courses, consult your major adviser.

HONORS MAJOR: Outstanding students may choose to pursue graduating in economics with honors. In addition to meeting all other major requirements, in order to be granted departmental honors a student must: (A) have an overall university grade point average of 3.5 or better; (B) take four hours beyond the standard major in 495, *Honors Thesis,* (Students apply for admission to this course in the second semester of their junior year. The department grants admission to 495, *Honors Thesis,* based on the student's prior work in economics and the quality of the general research proposal.); (C) present the results of the work completed in 495,*Honors Thesis,* at a meeting of Omicron Delta Epsilon (the economics honorary).

MINOR: 20 semester hours, including 150, 351 or 352, and 12 additional hours of electives, 4 of which may be in statistics.

ECONOMICS HONORARY: The department offers membership in Omicron Delta Epsilon, the International Economics Honorary, to qualified majors. For specific criteria, see any departmental faculty member.

BACHELOR OF ARTS IN EDUCATION: See School of Education.

COURSE OFFERINGS

150 PRINCIPLES OF ECONOMICS
Introduction to the scope of economics, including macro and micro economics; analysis of U.S. economic system; emphasis on current economic policy. (4)

321 LABOR ECONOMICS, LABOR RELATIONS, AND HUMAN RESOURCES
Analysis of labor markets and labor market issues; wage determination; investment in human capital, unionism and collective bargaining; discrimination; labor mobility, earnings inequality, and unemployment. Prerequisite: 150 or consent of instructor. (4)

331 INTERNATIONAL ECONOMICS
Regional and international specialization, comparative costs, international payments and exchange rates; national policies which promote or restrict trade. Prerequisite: 150. (4)

341 ECONOMIC DEVELOPMENT: COMPARATIVE THIRD WORLD STRATEGIES
Analysis of the theoretical framework for development with applications to alternative economic development strategies used in the newly emerging developing countries. Emphasis on comparisons between countries, assessments of the relative importance of cultural values, historical experience, and governmental policies in the development process. Prerequisite: 150 or consent of instructor. (4)

343 OPERATIONS RESEARCH
Quantitative methods for decision problems. Emphasis on linear programming and other deterministic models. Prerequisite: STAT 231 or equivalent. (2)

344 APPLIED REGRESSION ANALYSIS
Simple and multiple regression analysis as investigative tools. Course stresses construction of elementary linear models and interpretation of regression results. Prerequisite: STAT 231 or equivalent. (2)

345 MATHEMATICAL TOPICS IN ECONOMICS
An introduction to basic applications of mathematical tools used in economic analysis. Topics include simple linear models of supply and demand, single and multivariable maximization models, and linear difference and differential equation models of economic growth. Prerequisites: 150 and MATH 128 or 151 or equivalent. (4)

351 INTERMEDIATE MACRO ECONOMIC ANALYSIS
National income determination including policy implications within the institutional framework of the U.S. economy. Prerequisite: 150. (4)

352 INTERMEDIATE MICRO ECONOMIC ANALYSIS
Theory of consumer behavior; product and factor prices under conditions of monopoly, competition, and intermediate markets; welfare economics. Prerequisite: 150. (4)

361 MONEY AND BANKING
The nature and role of money; monetary theory; tools and implementation of monetary policy; regulation of intermediaries; banking activity in financial markets; international consequences of and constraints on monetary policy. Prerequisite: 150. (4)

362 PUBLIC FINANCE
Public taxation and expenditure at all governmental levels; the incidence of taxes, the public debt and the provision of public goods such as national defense, education, pure air, and water. Prerequisite: 150. (4)

371 INDUSTRIAL ORGANIZATION AND PUBLIC POLICY
An analysis of the structure, conduct, and performance of American industry and public policies that foster and alter industrial structure and behavior. Topics include the economics of firm size, motivations of the firm, concentration, mergers, patents, antitrust, public utility regulation, public enterprise, and subsidization. Prerequisite: 150 or consent of instructor. (4)

381 COMPARATIVE ECONOMIC SYSTEMS
An analysis and comparison of contemporary economic systems. The course includes examination of the capitalist, mixed and centrally planned models, including an historical perspective. The economic systems of selected countries will also be studied. Prerequisite: 150 or consent of instructor. (4)

399 INTERNSHIP
A research and writing project in connection with a student's approved off-campus activity. The primary goal is to gain insight into applications of the ideas and methodologies of economics. Prerequisite: sophomore standing plus one course in economics, and consent of the department. (1-4)

486 EVOLUTION OF ECONOMIC THOUGHT
Economic thought from ancient to modern times; emphasis on the period from Adam Smith to J.M. Keynes; the classical economists, the socialists, the marginalists, the neoclassical economists, and the Keynesians. (4)

490 SEMINAR
Seminar in economic problems and policies with emphasis on encouraging the student to integrate problem-solving methodology with tools of economic analysis. Topic(s) selected by class participants and instructor. Prerequisite: consent of instructor. (1-4)

491, 492, 493 INDEPENDENT STUDY
Prerequisite: consent of the department and completion of two courses in economics. (1-4)

495 HONORS THESIS
Independent research supervised by one or more faculty members. Research proposal and topic developed by the student in the junior year. Application to enroll is made in the second semester of the junior year. Prerequisite: economics major and consent of the department. (4)

500 APPLIED STATISTICAL ANALYSIS
An intensive introduction to statistical methods for graduate students who have not previously taken introductory statistics. Emphasis on the application of inferential statistics to concrete situations. Topics include measures of location and variation, probability, estimation, hypothesis tests, and regression. (4)

501 GRADUATE WORKSHOPS
Graduate workshops in special fields or areas for varying periods of time. (1-4)

504 ECONOMIC ANALYSIS AND POLICY DECISIONS
Basic economic concepts applied to policy formation and operating decisions in a global framework. (4)

543 QUANTITATIVE METHODS
The concepts of probability, sampling, statistical decision theory, linear programming, and other deterministic models applied to managerial problems. Prerequisite: STAT 231 or 341. (4)

590 GRADUATE SEMINAR
Selected topics as announced. Prerequisite: consent of instructor. (1-4)

591 DIRECTED STUDY (1-4)

595 GRADUATE READINGS
Independent study card required. (4)

598 RESEARCH PROJECT (4)

599 THESIS (4)

School of Education

The School of Education offers programs of study leading to certification for elementary and secondary teachers, counselors, nurses, administrators, and personnel in special education. The curriculum is designed to provide graduates with a blending of the liberal arts and a variety of practical exposures to guided field experiences beginning early in the educational sequence. The faculty is committed to the development of educational personnel sensitive to the varied individual needs of learners.

FACULTY

Mulder, *Dean;* **Baughman, Carey, Churney, DeBower, Fletcher, Gerlach, M. Hanson, Johnson, Johnston, Lewis, Mallon, Mathers, Minetti, Moe, Nokleberg, F. Olson, Owens, Pederson, Rallo, Reisberg, Rickabaugh, Sydnor, Wentworth, Williams, Williamson, Yetter.**

The School of Education is accredited by the National Council for Accreditation of Teacher Education (NCATE), the Northwest Association of Schools and Colleges, and the Washington State Board of Education for the preparation of elementary and secondary teachers, principals, program administrators, special education teachers, and guidance counselors, with the Master of Arts in Education the highest degree approved. The accreditation gives PLU graduates reciprocity with many other states.

Programs for the preparation of school administrators, school counselors, and school librarians are available. The School offers course work toward the conversion, renewal, or reinstatement of teaching certificates. For preparation of school nurses, see School of Nursing section of this catalog.

The School of Education offers graduate degrees in Classroom Teaching, Reading, Educational Administration, Counseling and Guidance, Educational Psychology, and Special Education. Information regarding these programs is available from the director of graduate programs in the School of Education (535-7272).

ELIGIBILITY REQUIREMENTS FOR PROFESSIONAL STUDIES

Students seeking to register for Education 251 or 253 must make an appointment with the coordinator of admissions and retention in the School of Education, in order to receive a tally card for registration. Official transcripts of all college/university work and official documentation of college admission test scores must be submitted to the university admissions office and a copy to the School of Education before issuance of a tally card to determine if the following requirements have been met.

Requirements include:

1) Evidence of verbal and quantitative ability as illustrated by one of the following test scores:*
   - — Scholastic Aptitude Test (SAT) Verbal 425 or above; Total 900 or above
   - — Washington Pre-College Test (WPCT) Verbal 48 or above; Total 100 or above
   - — American College Test Assessment (ACT) Verbal 20 or above; Composite 21 or above

* This requirement shall be waived for persons who have completed a baccalaureate degree; or who have completed two or more years of college level coursework, demonstrated competency through college level coursework, and are over the age of twenty-one.

2) Sophomore standing (30 or more semester hours)
3) Cumulative grade point average (GPA) of 2.50
4) Psychology 101: grade of C or higher
5) English 101: grade of C or higher

Students who do not meet *all* the above requirements may exercise the appeal process for admission to Education 251 or 253. Admission appeal process forms are available from the coordinator of admissions and retention in the School of Education.

All students admitted to Education 251 or 253 are admitted provisionally. Students are reassessed throughout the program. Application to the School of Education is completed during Education 251/253. Formal admission to the School of Education is granted at the completion of additional requirements identified in the Initial Level Certification Handbooks.

BAE and/or CERTIFICATION REQUIREMENTS

Students become candidates for certification when they have completed the following:

1. All course work with a cumulative grade point average of 2.50 or above.
2. Professional Education Sequence for elementary or secondary teaching.
3. An approved teaching major(s) or concentration(s) (see requirements as listed under Academic Preparation).
4. All courses in education and in major and minor fields with grades of C or higher.
5. Achievement of proficiency in writing and math skills.
6. Anthropology 210/History 210 for secondary teaching and Anthropology 102 for elementary teaching.
7. Passing score on Exit Exam for Washington Certification.

TEACHER CERTIFICATION

Initial Teaching Certificate. The School of Education in the fall of 1989 entered into a new program of certification mandated by the State Board of Education under the 1987 Standards for Certification. The four-year curriculum usually leads to a Bachelor of Arts in Education and the initial level teaching certificate. The initial teaching certificate is valid for four years and may be renewed once for three years by meeting renewal requirements. PLU endorses the certificate on the basis of preparation. Secondary teachers holding initial level certificates shall be assigned by local districts to endorsed areas and levels only. Teachers holding initial level elementary endorsements shall be assigned to elementary or middle grades only.

ELEMENTARY PREPARATION

General requirements. In addition to the general university and core requirements in all curricula, certain specific requirements in general education must be met.

1. Anthropology 102, Exploring Anthropology: Culture and Society (recommended) or Anthropology 210/History 210, Global Perspectives, must be taken.
2. Biology 111 or another life science course must be taken.
3. Natural Science 106 or another physical science course must be taken.
4. Mathematics 323 or equivalent must be taken.

A year course in one laboratory science may be substituted by those who have adequate background from high school in the other science area.

Professional Education Sequence, Elementary Program.

SPED 190	Exceptional Children and Adults, 3 hours (no prerequisite)
EDUC 253	Child Development and Schools, 4 hours (2.50 GPA and sophomore status required; prerequisites: ENGL 101 and PSYC 101)
EDUC 322	General Methods, Primary, 4 hours
	OR
EDUC 323	General Methods, Upper Elementary, 4 hours
	OR
EDUC 324	General Methods, Elementary, 4 hours (Prerequisites for all General Methods courses: 2.50 GPA, junior standing, EDUC 253 or 321, application, screening, and acceptance into the School of Education).
EDUC 421	Teachers and the Law, 1 hour. (Prerequisite: EDUC 253) (For physical education majors, PE 328 fulfills the School Law requirement.)
EDUC 430	Student Teaching, Primary, 10 hours (single)
	OR

EDUC 432 Student Teaching, Upper Elementary, 10 hours (single)
EDUC 434 Student Teaching, Elementary, 8 hours (dual) (For Student Teaching a GPA of 2.50 and senior standing are required along with positive field evaluations from EDUC 253 and EDUC 322-4. Prerequisites: EDUC 253, 322-4, 325, 326, 408, 410, and 412 and methods in art, music, and physical education; all conditions to full admission met; satisfactory writing, spelling, and math skills.)
EDUC 435 Professional Seminar, 2 hours (must be taken concurrently with EDUC 430 or 432)
Students in elementary education who do not complete all necessary procedures before April 15 for fall student teaching or November 15 for spring student teaching may expect a delay of one semester in being placed for student teaching. A valid first aid card must be on file in the School of Education before student teaching placement can be finalized.

Professionalized Subject Matter Minor (16-20 hours required of all elementary candidates)

Required-16-20 semester hours
EDUC 325 Reading in the Elementary School (4)
EDUC 326 Mathematics in the Elementary School (2)
EDUC 408 Language Arts in the Elementary School (2)
EDUC 410 Science/Health in the Elementary School (2)
EDUC 412 Social Studies in the Elementary School (2)
ARTD 341 Elementary Art Education (2)
or
EDUC 457 The Arts, Media and Technology (2)
MUSI 341 Music in the Elementary School (1-4)
PHED 322 Physical Education in the Elementary School (1-4)

SECONDARY PREPARATION
Professional Sequence (minimum of 30 hours)
SPED 190 Exceptional Children and Adults (3)
EDUC 251 Learner and Society (GPA 2.50 required; sophomore level course; prerequisites: ENGL 101, PSYC 101) (4)
EPSY 368 Educational Psychology (GPA 2.50 required; prerequisite: EDUC 251) (4)
EDUC 421 Teachers and the Law (GPA 2.50 required) (1) (For physical education majors, PHED 328 fulfills the School Law requirement.)
EDUC 425 General Secondary Methods (GPA 2.50 required; prerequisites: EDUC 251, EPSY 368 or permission; strongly recommended: SPED 190, ANTH 210/HIST 210) (4)
EDUC 44X Special Methods (select for major/minor)
EDUC 465 Student Teaching (single) or EDUC 466 Student Teaching (dual), (GPA 2.50 and senior status required; prerequisites: EDUC 251, EPSY 368, EDUC 425, first aid card, all conditions of screening met) (10)
EDUC Elective: See education adviser.

The elementary education subject area endorsement program has been revised to conform with the requirements in the State of Washington (WAC 180-79-348). These essential areas of study are:
1. Child growth and development.
2. Classroom organization and management.
3. Instructional methods in reading.
4. Instructional methods in mathemaics.
5. Instructional methods in language arts.
6. Instructional methods in science.
7. Instructional methods in social studies.
8. Instructional methods in art.
9. Instructional methods in music.
10. Instructional methods in physical education.
11. Instructional methods in health education.

OPTIONAL ENDORSEMENT PROGRAMS
The following specialized programs in education are available to all students pursuing teacher certification. Students desiring to work toward a specialized program should consult an adviser in the School of Education for assistance in planning their program.

READING—14 semester hours
Requirements:
EDUC 253 Child Development and Schools
EDUC 325 Reading in the Elementary School
EDUC 408 Language Arts in the Elementary School (2)
EDUC 420 Problems of Reading in the Secondary School (2)
EDUC 479 Special Techniques in Reading (4)
EDUC 483 Primary Reading (2)
ENGL 363 Children's Literature (4)
Electives minimum of 4 semester hours chosen in consultation with an adviser before registration.

SPECIAL EDUCATION (K-12)
The 26 semester hour teaching major and 18 semester hour minor must be taken in conjunction with an academic teaching major. Students completing this major along with the required professional education sequence for elementary or secondary teachers will be recommended for an endorsement in special education. Students not majoring in education may be excused from the requirements of taking Education 251 or 253.

Major — (26 hours minimum)

I. Required Courses — Minimum of 21 hours
SPED 190 Exceptional Children and Adults (3)
SPED 290 Introduction to Learning Disabilities (3)
SPED 390 Introduction to Developmental Disabilities (3)
SPED 393 Introduction to Behavior Disorders (3)
SPED 398 Assessment in Special and Remedial Education (3)
SPED 399 Practicum in Special Education (2)
SPED 407 Curriculum and Instruction for Exceptional Students (4)

II. Elective Courses — Minimum of 5 hours
SPED 191 Observation in Special Education (1)
SPED 296 Introduction to Health and Physical Impairments (2)
SPED 395 Introduction to Language Development and Disorders (2)
SPED 403 Parent/Professional Partnership in Special Education (2)
SPED 408 Career and Vocational Education for Exceptional Students (2)
SPED 475 Supervising Para-Professionals and Volunteers (1)
SPED 479 Special Techniques in Reading (4)
SPED 490 Early Learning Experiences for the Handicapped Child (2)
SPED 492 Methods of Teaching Young Handicapped Children (2)
SPED 494 Computer Application for the Handicapped (2)

III. Student Teaching (Required) — Minimum of 6 hours
SPED 438 Student Teaching in Elementary Special Education (6)
SPED 439 Student Teaching in Secondary Special Education (6)

Minor — (18 hours minimum)

I. Required Courses - Minimum of 14 hours
SPED 190 Exceptional Children and Adults (3)
SPED 290 Introduction to Learning Disabilities (3)
SPED 398 Assessment in Special and Remedial Education (3)
SPED 399 Practicum in Special Education (1)
SPED 407 Curriculum and Instruction for Exceptional Students (4)

II. Elective Courses — Minimum of 4 hours
SPED 296 Introduction to Health and Physical Impairments (2)
SPED 390 Introduction to Developmental Disabilities (3)
SPED 393 Introduction to Behavior Disorders (3)
SPED 395 Introduction to Language Development and Disorders (2)
SPED 399 Practicum in Special Education (1)
SPED 403 Parent/Professional Partnership in Special Education (2)
SPED 408 Career and Vocational Education for Exceptional Students (2)
SPED 475 Supervising Para-Professionals and Volunteers (1)
SPED 490 Early Learning Experiences for the Handicapped Child (2)
SPED 494 Computer Application for the Handicapped (2)

Please note—Special Education 190 is a prerequisite to ALL special education coursework. Education 251 or Education 253 is a prerequisite for ALL courses beyond Special Education 190. Students not majoring in education may be excused from this requirement.

EARLY CHILDHOOD-SPECIAL EDUCATION
See graduate catalog.

LEARNING RESOURCE SPECIALIST (Preparation of School Librarians)
16 semester hours
Students interested in preparing for the responsibility of administering a school library may meet suggested standards through the following program:

Prerequisite: EDUC 251 or 253, or teacher certification.
Required:
EDUC 451 Administration of the School Library (2)
EDUC 452 Basic Reference Materials (2)
EDUC 453 Processing School Library Materials (2)
EDUC 457 The Arts, Media and Technology (2)
EDUC 580 Curriculum Development (2)
Electives:
EDUC456 Storytelling (2)
ENGL 363 Children's Literature (4)
*EDUC xxx Teaching Methods for School Librarians (2)
*EDUC xxx Young Adult Literature (2)
* Subject to approval

ACADEMIC PREPARATION

A major from those listed must be completed. Completion of a teaching major/minor in a second academic area is strongly recommended. (Students do not major in education.) Teaching majors are offered in the following areas: anthropology, art, biology, chemistry, Chinese, computer science, drama, earth sciences, economics, English, French, German, health, history, journalism, language arts, Latin, mathematics, music, Norwegian, physical education, physics, political science, psychology, science, social studies, sociology, speech, and Spanish.

The majors and minors in the elementary and secondary education programs have been revised because of changes in the Washington Administrative Code. Except in the areas of English/language arts, science, and social studies, the elementary major fulfills areas of study required by the State for endorsement. See an education adviser for current information.

PREPARATION FOR SENIOR HIGH SCHOOL TEACHING: Students preparing for senior high teaching must complete approximately 32-69 semester hours in the academic area in which they plan to teach. A minor in a second teaching area is recommended. Students may also find it advantageous to their career goals to 1) develop skills in one or more coaching areas in response to Title IX legislation, and 2) develop competencies in special education in response to federal special education legislation. In all cases, students must discuss their program with an adviser from the School of Education.

PREPARATION FOR K-12 TEACHING: Students preparing for K-12 teaching in art, music, or physical education must have student teaching experience and course work in methodology on both the elementary and secondary levels. Detailed information regarding K-12 certification is available in the School of Education office.

ELEMENTARY EDUCATION MINOR

Students preparing for elementary classroom teaching should choose one of the following options:

Cross-Disciplinary Studies
12 hours required
Select 12 hours from:
Children's Literature
Speech
Geography
Computers in Education
Child Development

Special Education
18 hours required
(see listing under Optional Endorsement Programs)

Reading
16 hours required
(see listing under Optional Endorsement Programs)

Mathematics
12 hours required

THE INITIAL CERTIFICATE

The Initial Certificate is valid for a four-year period and may be renewed for an additional three years by meeting the following requirements.

RENEWAL REQUIREMENTS

1. In order to be eligible to renew or have an initial certificate reissued, an individual must have completed all coursework requirements for continuing certification or have completed 10 semester (15 quarter) hours of study since the issuance of the MOST RECENT initial certificate in the role for which renewal or reissuance is being sought. (WAC 180-79-065)(1)(a) The individual must also meet the recency requirement described below. In some cases the same credits may apply to both the renewal/reissuance requirement and the recency requirement.
2. In order to be eligible to obtain, renew, or have an initial certificate reissued, the individual must have completed 10 semester (15 quarter) hours within the seven years preceding application for the initial certificate. The recency requirement does not apply to individuals who are seeking the continuing certificate. (WAC 180-79-065)(3)
3. An individual must file an approved Continuing Certificate Study Plan in the School of Education.
4. An individual must complete the renewal application form and send it to the School of Education, with the $15 renewal fee *(check should be made payable to Pacific Lutheran University).*
5. An individual must have a copy of his or her Initial Certificate on file in the School of Education.

CONVERTING TO THE CONTINUING CERTIFICATE
Requirements

Teaching Experience

Applicants may choose Option A or Option B until August 31, 1990. If an individual does not meet requirements for a continuing certificate by August 31, 1990, he/she must then use Option B.

OPTION A: Three full years (540 days at 5 hours per day) of educational service with at least two years being teaching experience. Teaching experience can be service in different districts and can include substitute experience. One of three years can be service in the educational staff associate role, service as a principal, or state agency service. Teaching experience is not restricted to K-12. This is an option only until August 31, 1990.

OPTION B: Two consecutive years of at least half-time teaching experience in an assignment with the same employer; e.g., school district, state agency, college/university, or private school. (Half-time means the equivalent of 90 full days each year, or half a day for a full year).

Procedures
1. Apply for admission to the Continuing Certificate Program
   a. *as a post baccalaureate student.**
      Persons selecting to take this fifth year of college work must complete all requirements before September 1, 1992.
   b. *as a graduate student.**
      Persons interested in working toward a master's degree and Continuing Certificate concurrently should contact the Education Office and the Graduate Office for advising.

* *Beginning September 1, 1992 a fifth year of college work will no longer be sufficient to obtain a continuing certificate. A master's degree will be required.*

Coursework
1. A minimum of 30 semester hours (45 quarter hours) of coursework must be completed after the bachelor's degree, distributed as follows:
   a. The following courses are needed to meet the requirements for continuing certification:
      EDUC 515 Professional Seminar (2)
      EDUC 516 Teacher Supervision (1)
      EDUC 544 Research and Program Evaluation (2)
   b. Effective August 31, 1988, all continuing certificate candidates must have completed at least two endorsements.
   c. Elective credits to complete the required 30 semester hours.
2. 14 semester hours must be earned after at least one year (180 days) of teaching.
3. A minimum of 15 semester hours must be taken at PLU.
4. A minimum GPA of 2.0 is required for each course taken for the certificate ("P" and "S" grades are acceptable).
5. All course work must be upper division (321-499 level) or graduate level unless it is used to add a new endorsement to the certificate which must be completed before issuance of the continuing certificate.
6. Usually, all courses must be taken through accredited four-year institutions (see adviser).*
7. Education courses taught in Washington by out-of-state institutions or agencies are not acceptable for the Continuing Certificate unless approved by the Washington Professional Education Certification Office.

* *Substitutes require approval of Program Director.*

UPON COMPLETION OF ALL CONTINUING CERTIFICATE REQUIREMENTS:

Procedures:
1. Verify completion of all other certification requirements with the Continuing Certification adviser.
2. Obtain the State of Washington Institutional Application for a Teacher's Certificate from the School of Education and State Patrol clearance form.*

3. Submit to the School of Education verification of one year of teaching experience completed before taking the last 14 semester hours.
4. Complete the required State of Washington verification forms, obtained from and submitted to the School of Education.
5. Verify completion of all other certification requirements with an adviser.
6. Complete the application form and return it and a copy of the verified State Patrol clearance form* to the School of Education with a $70 fee *(check should be payable to Pacific Lutheran University)*.

NOTE: 150 clock hours of inservice credits (or academic equivalent) must be completed every five years to maintain a valid continuing certificate.

* Required if certificate has expired.

PRINCIPAL'S AND PROGRAM ADMINISTRATOR'S CERTIFICATE

Preparation programs leading to certification at the initial and continuing levels for school and district-wide program administrators are available through the School of Education. Specific requirements for the certificates are identified in handbooks available upon request. Master's degrees in educational administration are described in the Graduate Catalog, which can be obtained from the Office of Graduate and Continuing Studies.

CERTIFICATION REQUIREMENTS FOR SCHOOL COUNSELORS AND SCHOOL NURSES

Educational Staff Associate certification for school counselors or for school nurses is individually designed through a Professional Education Advisory Board consisting of a school district, related professional associations, and Pacific Lutheran University. For information regarding counselor certification, contact the School of Education. For information regarding school nurse certification, contact the School of Nursing (535-8872).

ANTHROPOLOGY

State endorsement requirements: 1) Cultural anthropology, 2) Physical anthropology, 3) Archaeology.

Secondary teaching major: 32 semester hours required. Anthropology 101, 102, 354, 480. 4 hours from Anthropology 220, 230, 270, 330, 336, 340, 345. 4 hours from Anthropology 210, 350, 360, 375, 380, 392. 8 hours from Anthropology 103, 332, 365, 370, 465.

Secondary teaching minor: 20 semester hours required. Anthropology 101, 102. 8 hours from Anthropology 210, 220, 230, 270, 330, 336, 340, 345, 354. 4 hours from Anthropology 103, 332, 365, 370, 465.

Elementary teaching major: 24 semester hours required. Anthropology 101, 102, 354. 8 hours from Anthropology 210, 220, 230, 270, 330, 336, 340, 345. 4 hours from Anthropology 103, 332, 365, 370, 465.

ART

State endorsement requirements: 1) Art history or criticism, 2) Aesthetics or philosophy of art, 3) Drawing, 4) Painting, 5) Sculpture, 6) Instructional methods in art.

K-12 teaching major: 32 semester hours required. Art 160, 226, 230, 250, 365. 8 hours from Art 196, 255, 326, 328, 355, 370. 4 hours from Art 110, 180, 181, 380, 386.

Art minor: 24 semester hours required. Art 160, 250, 365. 4 hours from Art 196, 230, 255, 326, 328, 335, 370. 4 hours from Art 180, 181. 4 hours from Art 110, 380, 386.

Elementary teaching major: 24 semester hours required. Same as art minor.

BIOLOGY

State endorsement requirements: 1) Genetics, 2) Ecology or evolution theory, 3) Botany, including laboratory experience, 4) Zoology, including laboratory experience, 5) Laboratory management and safety, 6) Science technology and society or bioethics.

Secondary teaching major: 41 semester hours required. Biology 161, 162, 323, 340. Biology 201 or 328, 424 or 475, 324 or 326, 331 or 346 or 407. 4 hours of electives from Biology 205 or above. Required supporting: Chemistry 105 or 115.

Secondary teaching minor: 25 semester hours required. Biology 161, 162, 323. 8 hours of electives from Biology 201 or above. Required supporting: Chemistry 105 or 115.

Elementary teaching major: 25 semester hours required. Same as secondary teaching minor.

CHEMISTRY

State endorsement requirements: 1) Organic chemistry, including laboratory experience, 2) Inorganic chemistry, including laboratory experience, 3) Analytic chemistry, including laboratory experience, 4) Physical chemistry, 5) Laboratory management and safety.

Secondary teaching major: 54 semester hours required. Chemistry 115, 116, 321, 331, 332, 333, 334, 341, 342, 343, 344, 403. Required supporting: Math 151, 152, Physics 153, 154, 163, 164.

Secondary teaching minor: 26 semester hours required. Chemistry 115, 116, 210, 331, 332, 333, 334. 4 hours from Chemistry 321 or 403.

Elementary teaching major: 24 semester hours required. Chemistry 104, 105, 115, 116, 210. 4 hours of electives from Earth Sciences.

CHINESE

State endorsement requirements: 1) Writing/composition in the designated foreign language, 2) Conversation in the designated foreign language, 3) Reading in the designated foreign language, 4) History and culture of the designated foreign language.

Secondary teaching minor: 24 semester hours required. Chinese 101, 102, 201, 202, 351, 371.

Elementary teaching major: 24 semester hours required. Same as secondary teaching minor.

COMPUTER SCIENCE

State endorsement requirements: 1) Computers and society, 2) Computer software, 3) Data structures, 4) Assembly language, 5) Structured programming in BASIC or logo, 6) Structured programming in one of the high level languages: LISP, C, Pascal, PROLOG, FORTRAN, PL 1, Smalltalk, COBOL, Modula 2, FORTH, RPG.

Secondary teaching minor: 24 semester hours required. Computer Science 144, 270, 322, 380, 449. Required supporting: Math 128 or 151. 4 hours from Computer Science 110-210 or 220.

Elementary teaching major: 26 semester hours. Same as secondary teaching minor, plus 2 hours from Special Education 494.

DRAMA

State endorsement requirements: 1) Acting skills, 2) Theater production, 3) Theater history or history of drama, 4) Creative drama, 5) Theater directing.

Secondary teaching major: 32 semester hours required. Communication Arts 151, 160, 241, 250, 352, 357, 363 or 364, 454.

Secondary teaching minor: 20 semester hours required. Communication Arts 151, 250. 4 hours from Communication Arts 160, 363, 364. 8 hours from Communication Arts 351, 352, 454, 458.

Elementary teaching major: 24 semester hours required. Communication Arts 151, 160, 250. 8 hours from Communication Arts 351, 352, 454, 458. 4 hours of electives.

EARTH SCIENCES

State endorsement requirements: 1) Physical geology, 2) Historical geology, 3) Environmental geology, 4) Oceanography, 5) Astronomy, 6) Meteorology.

Secondary teaching major: 45-46 semester hours required. Earth Sciences 131, 132, 202, 222, Natural Science 206. 12-13 hours from Earth Sciences 323, 324, 325, 327, 328, 330, 333, 334, 341. Chemistry 104 or 115. Physics 125, 135. 4 hours from Math 140 or Computer Science 115 or Computer Science 144 or Computer Science 220.

Secondary teaching minor: 20 semester hours required. Earth Sciences 131, 132, 202, 222, Natural Sciences 206.

Elementary teaching major: 24 semester hours required. Same as secondary teaching minor with 4 additional hours of earth sciences electives.

ECONOMICS

State endorsement requirements: 1) Macroeconomics, 2) Microeconomics, 3) History and/or development of economic thought.

Secondary teaching major: 32 semester hours required. Economics 150, 351, 352, 486. 8 hours from Economics 343, 344, Statistics 231, Math 334, 341, Business Administration 281, or an elective in computer science. 8 hours of electives in economics, 4 hours of which may be statistics and/or including Economics 399, 490, 491, 492, 493 for variable credit.

Secondary teaching minor: 20 semester hours required. Economics 150, 351, 352, 486. 4 hours of electives in economics, which may include statistics.

Elementary teaching major: 24 semester hours required. Same as secondary teaching minor with 4 additional hours of electives in economics or statistics.

ENGLISH

State endorsement requirements: 1) American literature, 2) English literature, 3) Comparative literature, 4) Linguistics or structure of language, 5) Writing/composition.

Secondary teaching major: 32 semester hours required. English 241, 251, 252, 328, 403. 4 hours from English 342, 343, 381, 384, 389, 390, 391, 392. 4 hours from English 382, 383, 440, 451, 452. 4 hours from English 216, 217, 218, 231, 345, 363, 365. All

majors must present two years of one foreign language at the college level or show equivalent proficiency.

Secondary teaching minor: 20 semester hours required. English 241, 251 or 252, 328, 403. 4 hours from English 216, 217, 218, 231, 345, 363, 365.

Elementary teaching major: 24 semester hours required. English 241, 251 or 252, 328, 363, 403. 4 hours of electives in English.

FRENCH

State endorsement requirements: 1) Writing/composition in the designated foreign language, 2) Conversation in the designated foreign language, 3) Reading in the designated foreign language, 4) History and culture of the designated foreign language.

Secondary teaching major: 32 semester hours required beyond French 101-102. French 201, 202, 321, 351, 352, 421, 422, 431 or 432.

Secondary teaching minor: 20 semester hours required beyond French 101-102. French 201, 202, 321, 351, 352.

Elementary teaching major: 24 semester hours required beyond French 101-102. French 201, 202, 321, 351, 352. 4 hours from upper division French elective.

GERMAN

State endorsement requirements: 1) Writing/composition in the designated foreign language, 2) Conversation in the designated foreign language, 3) Reading in the designated foreign language, 4) History and culture of the designated foreign language.

Secondary teaching major: 32 semester hours required beyond German 101-102. German 201, 202, 321, 322, 351, 352, 421, 422.

Secondary teaching minor: 20 semester hours required beyond German 101-102. German 201, 202, 321 or 322, 351, 352.

Elementary teaching major: 24 semester hours required beyond German 101-102. German 201, 202, 321 or 322, 351, 352. 4 hours from upper division German elective.

HEALTH

State endorsement requirements: 1) Substance use and abuse, 2) Wellness and illness, 3) Nutrition, 4) Human physiology, 5) Safety education.

Secondary teaching minor: 16 semester hours required. Health 260, 270, 292, 295, 321, 323, 325, 327 2 hours of electives approved by health coordinator.

Elementary teaching major: 24 semester hours required. Same as secondary teaching minor. Health 329 and 6 hours of electives in health education.

HISTORY

State endorsement requirements: 1) Washington State or Pacific Northwest history and government, 2) United States history, 3) World, Western, or Pacific Rim history or civilizations.

Secondary teaching major: 32 semester hours required. 8 hours from History 251, 252, 253. History 107 or 108, 460 or 461, Senior Seminar. 4 hours of electives from non-Western history and 8 hours of upper division electives in history.

Secondary teaching minor: 20 semester hours required. 4 hours from History 251, 252, 253. History 107 or 108, 460 or 461. 4 hours of electives from non-Western history and 4 hours of upper division electives in history.

Elementary teaching major: 24 semester hours required. Same as secondary teaching minor. Anthropology 354.

JOURNALISM

State endorsement requirements: 1) News and feature writing, 2) Copy editing, 3) News production, 4) Copy makeup and design, 5) Legal rights and liabilities of the press.

Secondary teaching major: 32 semester hours required. Communication Arts 123, 233, 271, 283, 380, 381, 384, 388. 4 hours of electives.

Secondary teaching minor: 20 semester hours required. Communication Arts 123, 271, 283, 380, 381.

Elementary teaching major: 24 semester hours required. Communication Arts 123, 271, 283, 380, 381, 384, 388.

LANGUAGE ARTS

State endorsement requirements: 1) Drama, 2) Speech, 3) Journalism.

Secondary Teaching major: 44 semester hours required. English 241, 251 or 252, 328. 4 hours from English 403, Languages 200. 4 hours from English 216, 217, 218, 231, 365. 8 hours in speech from Communication Arts 123, 241, 328, 330, 436, 450. 8 hours in drama from Communication Arts 151, 250, 352, 458. 8 hours in journalism from Communication Arts 283, 380, 381, 388.

Elementary teaching major: 24 semester hours required. English 241, 251 or 252, 328. 4 hours from English 403, Languages 200. 4 hours from English 363, 365. 4 hours from Communication Arts 123, 241, 330, 450, 458.

LATIN

State endorsement requirements: 1) Writing/composition in the designated foreign language, 2) Conversation in the designated foreign language, 3) Reading in the designated foreign language, 4) History and culture of the designated foreign language.

Secondary teaching minor: 24 semester hours required. Latin 101, 102, 201, 202. Classics 250 or 322. 4 hours from upper division Latin elective.

Elementary teaching major: 24 semester hours required. Latin 101, 102, 201, 202, Classics 250, 322.

MATHEMATICS

State endorsement requirements: 1) Euclidean geometry, 2) Non-Euclidean geometry, 3) Differential calculus, 4) Integral calculus, 5) Discrete mathematics (a combination of at least two of the following: probability, statistics, combinatorics, business applications, logic, set theory, functions).

Secondary teaching major: 38-42 semester hours required. Math 151, 152, 253, 321, 331. 4 hours of electives from Math 325 or above or Computer Science 320 or above. 4 hours from Math 341 or 433. 2-4 hours from Computer Science 110 or 144. Required supporting: 8-10 hours from a two-course sequence in natural sciences other than mathematics or computer science.

Secondary teaching minor: 20-24 semester hours required. Math 151, 152, 321. 2-4 hours from Math 230 or 331. 4 hours from Math 245, 341, 433. 2-4 hours from Computer Science 110, 144, 220.

Elementary teaching major: 24 semester hours required. Same as secondary teaching minor with additional elective hours in mathematics, if necessary.

MUSIC

State endorsement requirements: 1) Score reading, 2) Music theory, 3) Music history and/or culture, 4) Conducting, 5) Instructional music, 6) Instructional methods in general music.

See the requirements for the degree Bachelor of Music Education (B.M.E.), as listed under Music in this catalog:

B.M.E. — K-12 Choral

B.M.E. — K-12 Instrumental (Band Emphasis)

B.M.E. — K-12 Instrumental (Orchestra Emphasis)

Elementary teaching major: 24 semester hours required. Music 121, 123, 125, 221, 230, 248, 326 or 353, 341, 345, 348. 2 hours from Music 241-246. 2 hours from Music 360-380. 2 hours of private instruction.

NORWEGIAN

State endorsement requirements: 1) Writing/composition in the designated foreign language, 2) Conversation in the designated foreign language, 3) Reading in the designated foreign language, 4) History and culture of the designated foreign language.

Secondary teaching major: 32 semester hours required. Norwegian 101, 102, 201, 202, 351, 352. 4 hours from upper division elective in Scandinavian culture and 4 hours from upper division elective in Scandinavian literature.

Secondary teaching minor: 24 semester hours required. Norwegian 101, 102, 201, 202, 351. 4 hours from upper division elective in Scandinavian culture.

Elementary teaching major: 24 semester hours required. Same as secondary teaching minor.

PHYSICAL EDUCATION

State endorsement requirements: 1) Care and prevention of student injury, including first aid, 2) Kinesiology, 3) Exercise physiology, 4) School physical education, sports, or athletic law, 5) Sociology and/or psychology of sports, 6) Instructional methods in physical education for the handicapped, 7) Instructional methods in physical education.

K-12 teaching major: 53 semester hours required. Biology 205, 206, Health Education 281, Physical Education 277, 283, 285, 286, 287, 288, 322, 328, 329, 345, 478, 480, 481, 482, 484, 485.

K-12 teaching minor: 18 semester hours required. Health Education 281, Physical Education 283, 322, 328, 334, 345. 4 hours from Physical Education 285, 286, 287.

Elementary academic major: 23 semester hours required: Health Education 281, Physical Education 283, 288, 322, 328, 334, 345. 8 hours from Physical Education 285, 286, 287.

PHYSICS

State endorsement requirements: 1) Mechanics, including laboratory experience, 2) Electricity and magnetism, including laboratory experience, 3) Light and sound, including laboratory experience, 4) Thermodynamics, modern physics, or astronomy.

Secondary teaching major: 42 semester hours required. Physics 153, 154, 163, 164, 223, 331, 336, 351, 354, Math 151, 152, 253.

Secondary teaching minor: 25-26 semester hours required. 10 hours from Physics 125, 126, 135, 136 or 153, 154, 163, 164. 7-8 hours from Physics 205, 223, 331, 336, 341/347, 351 or Chemistry 341, Physics 354, Natural Sciences 206. Required supporting: Math 151, 152.

Elementary academic major: 25-26 semester hours required. Same as secondary teaching minor.

POLITICAL SCIENCE

State endorsement requirements: 1) American government, 2) International relations or studies, 3) Comparative government or political systems, 4) Political theory.

Secondary teaching major: 32 semester hours required. Political Science 101, 151. 8 hours from Political Science 345, 354, 361, 363, 364, 368, 371, 372, 373. 4 hours from Political Science 210, 231, 331, 338. 4 hours from Political Science 381, 384, 385, 386, 387. 4 hours from Political Science 325, 326. 4 hours of electives in political science.

Secondary teaching minor: 24 semester hours required. Political Science 101, 151. 4 hours from Political Science 345, 354, 361, 363, 364, 368, 371, 372, 373. 4 hours from Pols 210, 231, 331, 338. 4 hours from Political Science 381, 384, 385, 386, 387. 4 hours from Political Science 325, 326.

Elementary teaching major: 24 semester hours required. Same as secondary teaching minor.

PSYCHOLOGY

State endorsement requirements: 1) Human behavior, 2) Learning theories, 3) Developmental psychology, 4) Interpersonal psychology.

Secondary teaching major: 32 semester hours required. Psychology 101, 243. 4 hours from Psychology 345, 460. 4 hours from Psychology 335 or 403-405. 4 hours from Psychology 325, 330, 333, 355, 430. 12 hours of electives in psychology.

Secondary teaching minor: 20 semester hours required. Psychology 101, 243. 4 hours from Psychology 345, 460. 4 hours from Psychology 335 or 403-405. 4 hours from Psychology 325, 330, 333, 355, 430.

Elementary teaching major: 24 semester hours required. Same as secondary teaching minor with 4 additional hours of electives in psychology.

SCIENCE

State endorsement requirements: 1) Chemistry, 2) Physics, 3) Biology, 4) Earth sciences.

Secondary teaching major: 63-69 semester hours required. Biology 161, 162, 323, Chemistry 104, 105, Earth Sciences 222, Physics 125, 126, 135, 136 or Physics 153, 154, 163, 164. 8 hours from Earth Sciences 131, 132, 333, 334. A minor is required in one of the following: biology, chemistry, earth sciences, or physics.

Elementary teaching major: 24 semester hours required, including 8 hours in life science, 8 hours in physical science, and 8 hours of electives.

SOCIAL STUDIES

State endorsement requirements: 1) Economics, 2) Anthropology, sociology, or psychology, 3) Geography, 4) Political science.

Secondary teaching major: 44 semester hours required. Anthropology 354, Economics 150, History 107 or 108, 251 or 252 or 253, 460, Political Science 101, 4 hours in non-Western history, 4 hours of upper division political science. 8 hours of upper division electives chosen from two of the following disciplines: anthropology, economics, psychology, or sociology.

Elementary teaching major: 24 semester hours required. Anthropology 354, History 251 or 252 or 253, 460. 4 hours from History 107 or 108 or non-Western history. 8 hours of electives from anthropology, economics, political science, psychology, or sociology.

SOCIOLOGY

State endorsement requirements: 1) Group behavior, 2) Social institutions, 3) Social process, 4) Theory and history of sociology.

Secondary teaching major: 32 semester hours required. Sociology 101, 396, 397. 8 hours from Sociology 240, 336, 386, 440. 8 hours from Sociology 330, 340, 351, 380, 391, 433. 4 hours from Sociology 260, 341, 350, 395.

Secondary teaching minor: 20 semester hours required. Sociology 101, 396, 397. 4 hours from Sociology 330, 336, 340, 351, 380, 391, 443. 4 hours from Sociology 240, 291, 336, 350, 386, 395, 440.

Elementary teaching major: 24 semester hours required. Same as secondary teaching minor with 4 additional hours of electives in sociology.

SPANISH

State endorsement requirements: 1) Writing/composition in the designated foreign language, 2) Conversation in the designated foreign language, 3) Reading in the designated foreign language, 4) History and culture of the designated foreign language.

Secondary teaching major: 32 semester hours required beyond Spanish 101-102. Spanish 201, 202, 321, 322, 351, 352. 8 hours from Spanish 421, 422, 431, 432.

Secondary teaching minor: 20 semester hours required beyond Spanish 101-102. Spanish 201, 202, 321 or 322, 351, 352.

Elementary teaching major: 24 semester hours required beyond Spanish 101-102. Spanish 201, 202, 321, 322, 351, 352.

SPEECH

State endorsement requirements: 1) Public speaking, 2) Debate, 3) Group process, 4) Interpersonal communication.

Secondary teaching major: 34 semester hours required. Communication Arts 123, 233, 236, 283, 326, 328, 330, 435, 436.

Secondary teaching minor: 18 semester hours required. Communication Arts 123, 236, 326, 328, 330.

Elementary teaching major: 24 semester hours required. Same as secondary teaching minor with six additional hours of electives.

SPECIAL EDUCATION

State endorsement requirements: 1) Exceptionality, 2) Alternative delivery system and strategies for special education, 3) Student assessment and evaluation, 4) Procedural and substantive legal issues in special education, 5) Instructional methods in special education, 6) Child growth and development.

K-12 teaching major: 26 semester hours required. Special Education 190, 290, 390, 393, 398, 399, 407. 5 hours from Special Education 191, 296, 395, 403, 408, 475, 479, 490, 492, 494. Majors must also register for 7 hours of special education student teaching (Sped 438 or 439) in addition to 8 hours of elementary or secondary student teaching (Educ 434 or 466).

Special education minor: 18 semester hours required. Special Education 190, 290, 398, 399, 407. 4 hours from Special Education 296, 390, 393, 395, 399, 403, 408, 475, 490, 494.

COURSE OFFERINGS

251 LEARNER AND SOCIETY: GROWTH AND DEVELOPMENT (SECONDARY)

Orientation to contemporary schools; human development in relation to individuals and groups in an educational setting. Public school observation required weekly with students responsible for their own transportation. Prerequisites: PSY 101, ENGL 101, sophomore standing, 2.50 GPA. (4)

253 CHILD DEVELOPMENT AND SCHOOLS

Introduction to the nature of schools and teaching in contemporary society; overview of human development with special emphasis on intellectual, social, emotional, and physical development of elementary age children in a school setting. Weekly public school observations required with students responsible for their own transportation. Prerequisites: ENGL 101, PSY 101, sophomore standing, 2.50 GPA, writing and math skills assessment. Also available as independent study (253 IS) for 1-4 credits, if approved by faculty, for students with extensive background or experience in schools and development. (4)

321 HUMAN DEVELOPMENT

Emotional, social, intellectual, and physiological development from infancy through adolescence. A weekly four-hour observation in the public school is required. (Individually assigned.) Students responsible for their own transportation. Prerequisites: PSY 101, ENGL 101, junior standing, 2.50 GPA. (2-4)

322 GENERAL METHODS-PRIMARY

Competencies will be developed for teaching in grades K-3, with observation and participation in public schools. Prerequisites: 253 or 321. 2.50 GPA (4)

323 GENERAL METHODS-UPPER ELEMENTARY

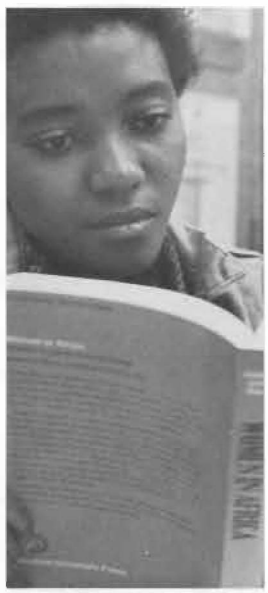
Competencies will be developed for teaching in grades 4-6, with observation and participation in public schools. Prerequisites: 253 or 321. 2.50 GPA. (4)

324 GENERAL METHODS-ELEMENTARY

Competencies will be developed for teaching in grades K-6. Extended experience and participation in public school classrooms will be provided. Prerequisites: 253 or 321, MATH 323, and concurrent enrollment in courses 325, 326, 408, 410, 412. 2.50 GPA. (4)

325 READING IN THE ELEMENTARY SCHOOL

Teaching reading in elementary grades, including modern approaches, materials, methods, techniques, procedures, and some diagnosis of reading difficulties. Prerequisites: 322-324 or concurrently with 322-324. 2.50 GPA. (4)



E

School of Education

326 MATHEMATICS IN THE ELEMENTARY SCHOOL
Basic mathematical skills and abilities needed by the elementary school teacher; recent developments and materials. Prerequisites: 253, MATH 323 or equivalent. 2.50 GPA. (2)

341 PHILOSOPHY OF VOCATIONAL EDUCATION
Objectives of high school business education programs, the business curriculum, layout and facilities planning, the evaluation of business teachers and competence for business occupations. Examination of information resources and current thought in business education, cooperative education, and distributive education. Prerequisite: EDUC 425 is recommended. (2)

342 METHODS OF TEACHING TYPING
Application of research findings and psychological principles to the teaching of typing. Prerequisites: advanced typing and EDUC 425 (may be concurrent). (2)

343 METHODS OF TEACHING BOOKKEEPING
Application of research findings and psychological principles to the teaching of bookkeeping. Prerequisites: EDUC 425 (may be concurrent) and BA 281. (1)

344 METHODS OF TEACHING GENERAL BUSINESS SUBJECTS
Application of research findings and psychological principles to the teaching of general business, consumer economics, economics, business law, business mathematics, and business communications subjects. Prerequisites: EDUC 425 (may be concurrent), ECON 150, and BA 281. (1)

345 METHODS OF TEACHING SECRETARIAL SUBJECTS
Application of research findings and psychological principles to the teaching of shorthand, office practice, simulation, word processing, and related subjects.Prerequisites:EDUC 425 (may be concurrent), advanced typing, and advanced shorthand. (1)

401 WORKSHOPS
Workshops in special fields for varying periods of time. (1-6)

408 LANGUAGE ARTS IN THE ELEMENTARY SCHOOL
The functional teaching of communication skills, grades K-6; areas include oral and written expression, listening, reading, literature, dramatization, spelling, grammar, handwriting, children's language study, vocabulary development, and lexicography. Prerequisite: 253. 2.50 GPA and 322-324 or concurrently with 322-324. (2)

410 SCIENCE/HEALTH IN THE ELEMENTARY SCHOOL
A humanistic approach with emphasis on those kinds of materials and "hands on" activities needed to achieve the objectives of science and health. Prerequisite: 322-324 or concurrently with 322-324. 2.50 GPA. (2)

412 SOCIAL STUDIES IN THE ELEMENTARY SCHOOL
Objectives, materials, and methods of teaching the social studies; recommended to student teachers and experienced teachers. Prerequisite: 253. 2.50 GPA. (2)

420 PROBLEMS OF READING IN THE SECONDARY SCHOOL
Teaching secondary reading in content areas; attention to developmental reading problems; materials, methods, techniques, procedures, and some observation and diagnosis of reading difficulties. Prerequisite: 251; taken concurrently with 425 and 434. (2)

421 TEACHERS AND THE LAW
A brief study of students', parents', and teachers' rights and respsonsibilities with some emphasis on the question of liability. (1)

425 GENERAL METHODS-SECONDARY
Curriculum, materials, and methods of secondary teaching; observation and discussion. Prerequisites: 251, EPSY 368. 2.50 GPA (4)

430 STUDENT TEACHING-PRIMARY (SINGLE)
Teaching in classrooms of local public schools under the direct supervision of the School of Education faculty and classroom teachers. Prerequisites: 253 or 321, 322 or 324, 325, 326, 408, 410, 412, art, music, and physical education methods. 2.50 GPA. concurrent enrollment in 435. (10)

432 STUDENT TEACHING-UPPER ELEMENTARY (SINGLE)
Teaching in classrooms of local public schools under the direct supervision of School of Education faculty and classroom teachers. Prerequisites: 251 or 321, 323 or 324, 325, 326, 408, 410, 412, art, music, and physical education methods. 2.50 GPA. Concurrent enrollment in 425. (10)

434 STUDENT TEACHING-ELEMENTARY (DUAL)
Designed for persons who do dual student teaching. Ten weeks of teaching in classrooms of local public schools under the direct supervision of School of Education faculty and classroom teachers. Prerequisites: EDUC 253 or 321; 322, 323, or 324; and 325, 326, 408, 410, and 412, art, music, and physical education methods. 2.50 GPA. Concurrent enrollment in 435. (8)

435 PROFESSIONAL SEMINAR
An opportunity for students to share experiences with an exchange of ideas on pupil behavior, curriculum practices, and ways of improving teaching performance. (Must be taken concurrently with 430 or 432.) (2)

436 ALTERNATE LEVEL STUDENT TEACHING-ELEMENTARY
A course designed to give some knowledge, understanding, and study of children, subject matter fields, and materials in the student's alternate teaching level plus student teaching on that level. Students who have completed secondary preferred level student teaching should enroll in this course. (6)

437 ALTERNATE LEVEL STUDENT TEACHING-SECONDARY
A course designed to give some knowledge, understanding, and study of children, subject matter fields, and materials in the student's alternate teaching level plus student teaching on that level. Students who have completed elementary preferred level student teaching should enroll in this course. Independent study card required. (6)

440-448 SPECIAL METHODS IN TEACHING SECONDARY SCHOOLS SUBJECTS
Curriculum, methods, and materials of instruction in a variety of subjects; may be taken for graduate credit.

440 SEMINAR IN SECONDARY ART EDUCATION (2)

444 ENGLISH IN THE SECONDARY SCHOOL
Theory and techniques of English instruction; curriculum, methods, resources; classroom management. (2)

445 METHODS IN TEACHING FOREIGN LANGUAGES
Theory and techniques of foreign language teaching; special problems in the student's major language, emphasis on audio-lingual techniques. G (2)

446 MATHEMATICS IN THE SECONDARY SCHOOL (2)

447 SCIENCE IN THE SECONDARY SCHOOL (2)

448 SOCIAL STUDIES IN THE SECONDARY SCHOOL (2)

449 COMPUTER SCIENCE IN THE SECONDARY SCHOOL (2)

451 ADMINISTRATION OF THE SCHOOL LIBRARY
Library organization and administration in the elementary and secondary schools. G (2)

452 BASIC REFERENCE MATERIALS
Those services of a school librarian related to the preservation of all materials which form the sources of reference. G (2)

453 PROCESSING SCHOOL LIBRARY MATERIALS
Classification, cataloging, and technical processing of materials. G (2)

454 SELECTION OF LEARNING RESOURCE MATERIALS
Criteria, professional literature, and techniques of evluation of library materials (print and non-print); the librarian's responsibility to faculty, students, and the general public. G (2)

456 STORYTELLING
A combination of discovery and practicum in the art of storytelling. Investigates the values and background of storytelling, the various types and forms of stories, techniques of choosing and of telling stories. Some off-campus practice. Demonstrations and joint storytelling by and with instructor. (4)

457 THE ARTS, MEDIA AND TECHNOLOGY
Students use a variety of techniques, equipment, and materials to explore ways of seeing and expressing how they see and experience their environment. Exploration of ways to incorporate these techniques into the classroom. Computers, video cameras, book-production, models, animation, cartoons, photography, and posters, along with the standard fare of tape recorders, slide shows, movies, film strips, and overheads are manipulated as media to express a view of the world creatively. (2)

465 STUDENT TEACHING-SECONDARY (SINGLE)
Teaching in the public schools under the direction and supervision of classroom and university teachers. Prerequisites: 251, 425, and EPSY 368. 2.50 GPA. May be taken concurrently with 467. (10)

466 STUDENT TEACHING-SECONDARY (DUAL)
Designed for persons who do dual student teaching. Ten weeks of teaching in the public schools under the direction and supervision of classroom and university teachers. Prerequisites: 251, 425, and EPSY 368. 2.50 GPA. May be taken concurrently with 467. (8)

467 EVALUATION
Evaluation of school experiences; problems in connection with development, organization, and administration of tests (standardized and teacher-made). Required of fifth-year students. Prerequisite: student teaching or teaching experience; 251, 253, EPSY 368. May be taken concurrently with student teaching. G (2)

473 PARENT-TEACHER RELATIONSHIPS
Issues and skills important in conferencing and parent-teacher relationships. Emphasis on effective communication skills. Special education majors and teachers examine relevant placement processes and parent needs. (2)

479 SPECIAL TECHNIQUES IN READING
Individual diagnostic assessment of reading problems using both formal and informal testing techniques. Special instructional methods for remediation for children with reading difficulties. Practicum required. Prerequisite: 325 or equivalent. (4)

483 PRIMARY READING
Materials and methods of the primary reading program and its relation to other activities. Prerequisite: teaching experience or concurrently with student teaching. G (2)

485 THE GIFTED CHILD
A study of the gifted child, characteristics and problems, and school procedures designed to further development. G (2)

496 LABORATORY WORKSHOP
Practical course using elementary-age children in a classroom situation working out specific problems; provision will be made for some active participation of the university students. Prerequisite: conference with the instructor or the dean of the School of Education. G

497 SPECIAL PROJECT
Individual study and research on education problems or additional laboratory experience in public school classrooms. Prerequisite: consent of the dean. G (1-4)

501 WORKSHOPS
Graduate workshops in special fields for varying lengths of time. (1-4)

515 PROFESSIONAL SEMINAR; CONTINUING LEVEL, TEACHERS
The preparation and sharing of selected topics related to the minimum generic standards needs of the individual participants. Required for the continuing level certification of teachers. (2)

516 TEACHER SUPERVISION
Identification and development of supervisory skills for teachers who work with other adults in the classroom. (1)

525 CURRENT PRACTICES AND ISSUES IN READING
To examine current practices and issues in the field of reading as described through educational research. Research findings applied to classroom practices. Students encouraged to pursue specific areas of interest within the broad area of reading instruction. Prerequisite: 325 or equivalent and teaching experience. (2-4)

527 PSYCHOLOGY OF READING
Principles of reading, perception, word recognition, concept development, and meaning in reading. The psychological and physiological aspects of the reading act examined in relationship to successful reading achievement. Prerequisite: 325 or equivalent and teaching experience. (2)

544 RESEARCH AND PROGRAM EVALUATION
Knowledge of student and class evaluation techniques; the ability to select and interpret tests; knowledge of research design; the ability to interpret educational research; the ability to identify, locate, and acquire topical research and related literature; and the ability to use the results of research or evaluation to propose program changes. (2)

545 METHODS AND TECHNIQUES OF RESEARCH
Seminar in research methods and techniques in education with emphasis on designing a research project in the student's area of interest. Required for M.A. Prerequisite: consultation with student's adviser and admission to the graduate program. (2)

550 SCHOOL FINANCE
Local, state, and federal contributors to school finance, its philosophy and development; the development and administration of a school budget. (2)

551 EDUCATIONAL LAW
Study of contemporary federal, state, and local statutes, regulations, and case law and their application to public and private schools (K-12). (2)

552 EDUCATIONAL ADMINISTRATION
Administration and supervision of school personnel, facilities, and programs; with emphasis on the human relationships in that setting. Prerequisite: teaching experience or consent of the dean. (3)

554 SEMINAR IN EDUCATIONAL ADMINISTRATION
The preparation and sharing of selected presentations related to needs of individual participants. Required for continuing certification of principals and program administrators. Registration must take place in the fall semester and participation will be continuous for the academic year. (2)

555 ADMINISTRATION AND SUPERVISION WORKSHOP
Projects determined by the class; typical projects include curriculum planning and adjustment, public relations programs, personnel employment and in-service training; financing building and educational programs. Prerequisite: one course in administration and supervision. (2)

556 SECONDARY AND MIDDLE SCHOOL CURRICULUM
A variety of facets of secondary and middle school programs: finance, curriculum, discipline, evaluation, classroom management, the basic education bill, legislative changes, and special education. Development of secondary and middle schools from their beginnings to the present. Critical issues in the education scene today. (3)

558 INTERNSHIP IN EDUCATIONAL ADMINISTRATION
Internship in educational administration planned with the School of Education in cooperation with selected educational administrators. Prerequisite: course work in educational administration and admission to the graduate program. (2-4)

579 DIAGNOSIS AND REMEDIATION IN READING
Causative factors relating to reading difficulties; some opportunity to apply remediation techniques; open to those with teaching experience. (2)

580 CURRICULUM DEVELOPMENT
Types of curriculum organizations, programs and techniques of curriculum development. (2)

585 COMPARATIVE EDUCATION
Comparison and investigation of certain materials and cultural systems of education throughout the world. (2)

586 SOCIOLOGY OF EDUCATION
The nature and functioning of the educational system examined from a sociological perspective. Topics include: education, stratification, and social change; the school as a complex organization; the school as a social institution; and the sociology of learning. (4)

E

School of Education

587 **HISTORY OF EDUCATION**
Great educators, educational theories, and educational systems from antiquity to the present. (2)

589 **PHILOSOPHY OF EDUCATION**
Philosophical and theoretical foundations of education. (3)

590 **GRADUATE SEMINAR**
A workshop for all Master of Arts candidates in the School of Education which provides a forum for exchange of research ideas and problems; candidates should register for this seminar for assistance in fulfilling requirement. No credit is given, nor is tuition assessed. (0)

597 **INDEPENDENT STUDY**
Projects of varying length related to educational issues or concerns of the individual participant and approved by an appropriate faculty member and the dean. (1-4)

598 **STUDIES IN EDUCATION**
A research paper or project on an educational issue selected jointly by the student and the graduate adviser. It will be reviewed by the student's graduate committee. (2)

599 **THESIS**
For Master of Arts candidates who elect to write a thesis. The thesis problem will be chosen from the candidate's major field of concentration and must be approved by the candidate's graduate adviser. (3-4)

EDUCATIONAL PSYCHOLOGY

368 **EDUCATIONAL PSYCHOLOGY**
Principles and research in human learning and their implications for curriculum and instruction. Prerequisite: EDUC 251, 253. (4)

501 **WORKSHOPS**
Graduate workshops in special fields for varying lengths of time. (1-4)

512 **GROUP PROCESS AND THE INDIVIDUAL**
A human interaction laboratory to facilitate the exploration of the self concept through the mechanisms of interpersonal interactions and feedback. Emphasis placed on the acquisition of skill in self-exploration, role identification, and climate-making. G (2)

535 **FOUNDATIONS OF GUIDANCE**
The focus is on developing an understanding of the services and processes available to assist individuals in making plans and decisions according to their own life pattern. G (4)

536 **AFFECTIVE CLASSROOM TECHNIQUES**
Exploration of various techniques designed to facilitate understanding of self and others; methods for working with students. Prerequisite: student teaching or graduate status. Laboratory experience as arranged. G (2)

537 **REALITY DISCUSSION TECHNIQUES**
The use of reality therapy in a helping relationship—schools, social agencies, mental health clincis, or university residences. Laboratory experience as arranged. Prerequisite: 553. G (2)

551 **REFLECTIVE SKILLS PRACTICUM**
A mini-practicum in the techniques of counseling; enrollment limited to students beginning the master's degree program in Counseling and Guidance, and is a prerequisite to admission on regular status to the Counseling and Guidance master's program. The practicum makes use of counseling sessions with clients using verbal and non-verbal attending behavior. (1)

552 **SOCIAL LEARNING-MODELING PRACTICUM**
A mini-practicum in the theory and techniques of social learning and role modeling. Prerequisite: 551. (1)

553 **REALITY THERAPY PRACTICUM**
A mini-practicum in counseling using the theory and techniques of reality therapy. Prerequisites: 537, 552, 561, and 578. (1)

554 **GESTALT THERAPY PRACTICUM**
A mini-practicum in counseling using the theory and techniques of Gestalt therapy. Prerequisites: 553 and 561. (1)

561 **BASIC RELATIONSHIPS IN COUNSELING**
A study of the theory, process, techniques, and characteristics of the counseling relationship. A basic course for M.A. students in the Counseling and Guidance program. (4)

563 **PRACTICUM IN GROUP PROCESS AND LEADERSHIP**
A human interaction laboratory which explores interpersonal operations in groups and facilitates the development of self-insight; emphasis on leadership and development of skill in diagnosing individual, group, and organizational behavior patterns and influences. Students will co-facilitate a laboratory group. Prerequisite: 512. (2)

565 **ADVANCED HUMAN DEVELOPMENT**
A comparative study of human development will be made at various levels of development through observational assessments using non-standardized instruments: e.g., sociometric scales, autobiographies, interviews, interaction analysis and other appropriate measurements. A practicum (a minimum of one hour each week) is required in a school or appropriate agency. Prerequisite: Fifth year or graduate status. (4)

569 **CAREER GUIDANCE**
A study of careers, theories of choice, and guidance techniques. (4)

570 **FIELDWORK IN COUNSELING AND GUIDANCE**
A culminating practicum of field experience in schools or agencies using theory, sills, and techniques previously learned. A variety of work experiences with both individuals and groups. Students incorporate consultation experience following the Adlerian model. (4)

575 **MENTAL HEALTH**
Basic mental health principles as related to interpersonal realtionships. Focus on self-understanding. Laboratory experiences as arranged. (4)

578 **BEHAVIORAL PROBLEMS**
Adlerian concepts provide the basis for observation, motivation, modification, and life style assessment. Skills for assisting people in developing responsibility for their own behavior. Laboratory experience as arranged. (4)

583 **CURRENT ISSUES IN EXCEPTIONALITY**
The characteristics of exceptional students and the counselor's role in dealing with a variety of problems they may have. Learning disabilities, emotional problems, physical problems, and the gifted student. Given every other interim. G (2-4)

597 **INDEPENDENT STUDY**
Projects of varying length related to educational issues or concerns of the individual participant and approved by an appropriate faculty member and the dean. (1-4)

598 **STUDIES IN EDUCATION**
A research paper or project on an educational issue selected jointly by the student and the graduate adviser. It will be reviewed by the student's graduate committee. (2)

599 **THESIS**
The thesis problem will be chosen from the candidate's major field of concentration and must be approved by the candidate's graduate committee. Candidates are expected to defend their thesis in a final oral examination conducted by their committee. (3-4)

SPECIAL EDUCATION

190 **EXCEPTIONAL CHILDREN AND ADULTS**
Introduction to the needs and characteristics of exceptional children and adults. Federal and state legislation, current issues, and practices of delivering services to individuals with disabilities. Designed as an overview of the field for students in education, nursing, counseling, social work, psychology, and other related fields. Prerequisite for all special education coursework. Required for all education majors. (3)

191 **OBSERVATION IN SPECIAL EDUCATION**
Observation in special education settings in the local area. May be taken concurrently with SPED 190. No prerequisite. (1)

290 **INTRODUCTION TO LEARNING DISABILITIES**
Overview of the field of learning disabilities, including concepts, assessment, and instructional practices. Prerequisite: EDUC 251 or EDUC 253 or consent of instructor. (3)

296 INTRODUCTION TO HEALTH AND PHYSICAL IMPAIRMENTS
Study of anatomical, physiological, social, and educational problems of those with orthopedic disabilities or health problems. (2)

NOTE: PREREQUISITES FOR 300/400 LEVEL SPECIAL EDUCATION: EDUC 251 or 253 or consent of instructor. Students not majoring in education may be excused from this requirement.

390 INTRODUCTION TO DEVELOPMENTAL DISABILITIES
A study of the emotional, social, physical, and mental characteristics of the developmentally disabled. Methods of classifying, diagnosing, and teaching mentally retarded children and adults from medical, psychological, social, and educational points of view. (3)

393 INTRODUCTION TO BEHAVIOR DISORDERS
Current problems and issues as they apply to the education of children with behavior disorders. Includes use of behavior modification and classroom management techniques. (3)

395 INTRODUCTION TO LANGUAGE DEVELOPMENT AND DISORDERS
Introduction to language disorders, assessment, and intervention. Focus on theories of language development and normal language acquisition. (2)

398 ASSESSMENT IN SPECIAL AND REMEDIAL EDUCATION
Study of a variety of informal and formal assessment tests and procedures. Curriculum based assessments, systematic classroom observation, norm-referenced tests, task analysis, and criterion-referenced tests and procedures are examined. Includes the role of assessment in eligibility and program planning. (3)

399 PRACTICUM IN SPECIAL EDUCATION
Experience with special education children or adults in a supervised setting. 1 hour credit given after successful completion of 45 clock hours. Prerequisite: SPED 290 or consent of instructor. (1-2)

403 PARENT/PROFESSIONAL PARTNERSHIP IN SPECIAL EDUCATION
Discussion of the techniques for communicating effectively with parents of children with special needs. (2)

407 CURRICULUM AND INSTRUCTION FOR EXCEPTIONAL STUDENTS
Focus on teaching academic, social, and adaptive skills to mild and moderately handicapped students. Includes writing individual education plans, data based instruction, task analysis, and learning sequences. Prerequisites: General Methods, SPED 290, or consent of instructor. (4)

408 CAREER AND VOCATIONAL EDUCATION FOR EXCEPTIONAL STUDENTS
Focus on career education curricula, life adjustment, and vocational instruction for mild and moderately handicapped adolescents and adults. Includes emphasis on community transition programs, supervised work and living arrangements, and assessment of occupational skills. (2)

438 STUDENT TEACHING IN ELEMENTARY SPECIAL EDUCATION
Teaching in special education classrooms of public schools under the direction and supervision of classroom and university teachers. 8 weeks. Prerequisite: consent of instructor. (6)

439 STUDENT TEACHING IN SECONDARY SPECIAL EDUCATION
Teaching in special education classrooms of public schools under the direction and supervision of classroom and university teachers. 8 weeks. Prerequisite: consent of instructor. (6)

475 SUPERVISING PARA-PROFESSIONALS AND VOLUNTEERS
Emphasis on the effective management of para-professionals and volunteers in the classroom. (1)

479 SPECIAL TECHNIQUES IN READING
Individual diagnostic assessment of reading problems using both formal and informal testing techniques. Special instructional methods for remediation. Practicum required. Prerequisite: EDUC 325 or equivalent. (4)

485 THE GIFTED CHILD
A study of the gifted child, characteristics and problems, and school procedures designed to further development. (2)

490 EARLY LEARNING EXPERIENCES FOR THE HANDICAPPED CHILD
Implications of normal and atypical child development (B-8) to the learning process of young and at risk or handicapped children. (2)

492 METHODS OF TEACHING YOUNG HANDICAPPED CHILDREN
Early childhood methods, materials, curriculum, and techniques for teaching children with special needs. Prerequisite: SPED 490. (2)

494 COMPUTER APPLICATION FOR THE HANDICAPPED
An introduction into the application of computer technology with handicapped students. Focus on current issues and uses of computer technology including computer assisted instruction, software evaluation, pupil and data management, and computer aids for the handicapped (2)

499 SEMINAR IN SPECIAL EDUCATION
Current topics on the teaching of handicapped children and adults. (2)

501 WORKSHOPS IN SPECIAL EDUCATION
Graduate work shops in special education for varying lengths of time. (1-4)

520 TEACHING HANDICAPPED CHILDREN IN THE REGULAR CLASSROOM
An examination of teaching strategies appropriate for exceptional children in regular classrooms. Emphasis on the needs of exceptional children, program modification, and classroom management. Designed for regular educators. (2)

521 TEACHING HANDICAPPED ADOLESCENTS IN THE REGULAR CLASSROOM
An examination of teaching strategies appropriate for exceptional adolescents in regular classrooms. Emphasis on the needs of exceptional adolescents, program modification, and classroom management. Designed for regular educators. (2)

530 CURRENT ISSUES IN ASSESSMENT
Current issues in the use of assessment information for making educational decisions. Prerequisite: SPED 398 or consent of instructor. (2)

531 SEVERELY AND PROFOUNDLY HANDICAPPED IN SCHOOL AND SOCIETY
Introduction to the physical, social, and educational environments of the severely and profoundly handicapped and the consequent implications for the education and training process. Interdisciplinary concepts, terminology, and instructional models. (2)

532 EDUCATION AND TRAINING OF THE SEVERELY AND PROFOUNDLY HANDICAPPED
In-depth study of educational prescription and programming for the severely and profoundly handicapped. Emphasis on teaching strategies and curriculum modification as they apply to this population. (2)

533 CURRENT ISSUES IN DEVELOPMENTAL DISABILITIES
Current issues related to the education of children and adults with developmental disabilities. Prerequisite: SPED 390 or consent of instructor. (2)

534 CURRENT ISSUES IN BEHAVIOR DISORDERS
Current issues related to the education of children and youth with behavior disorders. Prerequisite: SPED 393 or consent of instructor. (2)

535 CURRENT ISSUES IN LEARNING DISABILITIES
Current issues related to the education of children and adults with learning disabilities. Prerequisite: SPED 290 or consent of instructor. (2)

537 CURRENT ISSUES IN LANGUAGE DISORDERS
Current issues and approaches in assessing and remediating children with language disorders. Prerequisite: SPED 395 or consent of instructor. (2)

538 CURRENT ISSUES IN EARLY CHILDHOOD HANDICAPPED
Current issues related to the education of pre-school handicapped children. Prerequisite: SPED 490 or consent of instructor. (2)

539 ADMINISTRATION OF EARLY CHILDHOOD/SPECIAL EDUCATION PROGRAMS
In-depth study of the administration of early childhood programs with emphasis on remediation techniques and interdisciplinary approaches. Prerequisite: SPED 490. (2)

540 EARLY INTERVENTION PROGRAMS
Current practices in medical, therapeutic, and educational intervention techniques used in the rehabilitation of young, handicapped children. (2)

541 ASSESSMENT OF INFANTS AND PRESCHOOLERS
Use of appropriate tools and procedures in diagnosing and evaluating young children's needs, leading to relevant educational programming. (2)

570 APPLIED BEHAVIOR ANALYSIS FOR TEACHERS
A survey of the principles and techniques of applied behavior analysis. Includes behavior modification, self-control techniques, cognitive behavior modification, and research design. (2)

575 INTRODUCTION TO THE CONSULTANT TEACHER IN SPECIAL EDUCATION
Introduction to the principles and practices of a consulting teacher model in special education. Focus on instructional delivery appropriate for providing direct and indirect services to handicapped children in mainstream classrooms. (2)

576 COMMUNICATION SKILLS FOR THE CONSULTING TEACHER
Emphasis on the interpersonal skills necessary for the consulting teacher in special education. Exploration of variables involved in developing cooperation between consultants and regular classroom teachers. (2)

588 ADMINISTRATION OF SPECIAL EDUCATION PROGRAMS
Investigation of existing special education administrative units, pupil placement procedures, student staffings, program reimbursement procedures, and federal funding models. (3)

590 RESEARCH IN EARLY CHILDHOOL/HANDICAPPED
A combination of organized coursework and independent study in early childhood/handicapped. Specialized study in a selected topic. Prerequisite: SPED 536 or consent of instructor. (1)

591 RESEARCH IN SPECIAL EDUCATION
Review of current research on selected topics in special education. (1)

592 RESEARCH IN LEARNING DISABILITIES
A combination of organized coursework and independent study in learning disabilities. Specialized study in a selected topic. Prerequisite: SPED 535 or permission of instructor. (1)

593 RESEARCH IN BEHAVIOR DISORDERS
A combination of organized coursework and independent study in behavior disorders. Specialized study in a selected topic. Prerequisite: SPED 534 or permission of instructor. (1)

594 RESEARCH IN DEVELOPMENTAL DISABILITIES
A combination of organized coursework and independent study in developmental disabilities. Specialized study in a selected topic. Prerequisite: SPED 533 or permission of instructor. (1)

595 SPECIAL EDUCATION: INTERNSHIP
Internship in special education settings under the direction and supervision of classroom and university faculty. Prerequisite: Teaching credential and consent of instructor. (4)

597 INDEPENDENT STUDY
Projects of varying length related to educational issues or concerns of the individual participant and approved by an appropriate faculty member and the dean. (1-4)

598 STUDIES IN EDUCATION
A research paper or project on an educational issue selected jointly by the student and the graduate adviser. It will be reviewed by the student's graduate committee. (2)

599 THESIS
The thesis problem will be chosen from the candidate's major field of concentration and must be approved by the candidate's graduate committee. Candidates are expected to defend their thesis in a final oral examination conducted by their committee. (3-4)

Engineering

Engineers are often called the modern tool builders. The "tools" built by today's engineers have evolved from levers and pulleys to "iron horses," then to airplanes, electric power-generating plants, and computers. The evolution and development of tools is referred to as technology. Because technology is clearly significant in all aspects of our lives, engineers must be educated to deal with technology and its impacts on today's world. This statement represents the goal of engineering education at Pacific Lutheran University.

PLU's programs in engineering provide a strong base in mathematics, science, and engineering. Such a foundation will enable PLU graduates to adapt readily to future changes in technology. PLU programs are based on the premise that the engineering profession requires life-long learning.

In the development and implementation of technology, engineers are responsible for project conceptualization, design, study, construction, and maintenance. Such projects usually involve economics, personnel management, and administration. Often technical projects require communication with peers, managers, and government representatives. PLU is uniquely qualified to educate engineers for such responsibilities because it combines technical courses with the liberal arts curriculum.

PLU offers two Bachelor of Science (B.S.) degrees in engineering: Engineering Physics and Computer Engineering. With the PLU Engineering Physics program, concentrations are offered in Electrical Engineering and Mechanical Engineering. A minor in Electrical Engineering is also offered. The Computer Engineering program is administered jointly by the Department of Physics and Engineering and the Department of Mathematics and Computer Science, through the Computer Engineering Committee. The Engineering Physics and Engineering Science Programs

are administered by the Department of Physics and Engineering.

A third program is offered in Engineering Science, better known as the 3-2 program. The 3-2 engineering program consists of a 3-year course of study at PLU followed by a 2-year engineering emphasis at a different university. Upon completion, the student receives a B.S. in Engineering Science from PLU and an engineering degree from the second university. PLU currently has a 3-2 agreement with Columbia University in New York; 3-2 engineering programs can be arranged with Washington University in St. Louis and other universities.

FACULTY

From the Department of Physics and Engineering: **Clarke, Greenwood, Nornes, R. Parker, Tang, Taylor, Upton, Woo, Wrigley.**

The Computer Engineering Committee: **Spillman,** *chair;* **Brink, Hauser, R. Parker, Upton, Woo, (Paterson and J. Herzog,** *advisory).*

COMPUTER ENGINEERING

The Computer Engineering degree is a four-year, Bachelor of Science degree. Computer Engineering is a relatively new engineering program that has evolved out of the fast growing micro- and mini-computer technology. Computer Engineering combines courses from computer science and engineering, in particular electrical engineering. The degree program is administered by a committee of faculty from the Department of Physics and Engineering and from the Department of Mathematics and Computer Science. The integration of the faculty from these two departments is a strength of the Computer Engineering program.

As in Engineering Physics, the Computer Engineering curriculum initially offers general physics, introductory engineering, and calculus. The students then obtain a solid background in computer science, while gaining a knowledge of the means by which software interacts with hardware. A detailed understanding of the hardware is integral to the degree program.

B.S. MAJOR IN COMPUTER ENGINEERING: 16 semester hours: Mathematics 151, 152, 253, and either 331 or 335; 10 semester hours: Physics 147, 148, 153, 154, 163, 164; 17 semester hours from Engineering 161, 162, 271, 341, 347, 352, and 362 (or Computer Science 362); 12 semester hours from Computer Science 144, 270, 380; 13 semester hours: technical electives from Engineering 354, 491, Mathematics 345, 346, Physics 331, 332, Computer Science 344, 348, 367, 375, 385, 455, 467, 470, 480, 488, 491, 495. Technical electives must include four hours from Engineering 354, Mathematics 345, 346.

A typical computer engineering program is as follows:

Freshman	Physics 153, 154, 163, 164
	Engineering 161, 162
	Mathematics 151, 152
	Computer Science 144
Sophomore	Engineering 271, 352, 354
	Mathematics 253
	Computer Science 270, 362
Junior	Engineering 341, 347
	Computer Science 380
	Mathematics 335
	Technical Elective I
Senior	Technical Electives II, III

The following computer science courses are applicable toward this degree:

CSCI 144 **Introduction to Computer Science**
CSCI 270 **Data Structures**
CSCI 330 **Artificial Intelligence**
CSCI 348 **Modeling and Simulation**
CSCI 362 **Digital Logic**
CSCI 367 **Data Base Management**
CSCI 375 **Design and Analysis of Algorithms**
CSCI 380 **Assembly Language and Computer Organization**
CSCI 385 **Computer Architecture**
CSCI 386 **Distributed Systems**
CSCI 444 **Operating Systems**
CSCI 455 **Compilers**
CSCI 470 **Computer Aided Design and Digital Systems**
CSCI 480 **Microprocessors**
CSCI 488 **VLSI Design**
CSCI 490 **Seminar in Computer Science**
CSCI 491 **Independent Study**
CSCI 495 **Computer Science Research**

ENGINEERING PHYSICS

The Engineering Physics degree is a four-year, Bachelor of Science degree. This degree program might also be called General Engineering or Engineering Science. The name, Engineering Physics, reflects the historical development of this degree program at PLU and indicates its emphasis and strength because it has evolved from the physics degree program. The faculty is identical for both degree programs.

The Engineering Physics degree program provides a firm foundation in the physical concepts of engineering. Theoretical mathematics, applied mathematics, and physics courses constitute a significant part of the curriculum. Engineering courses are built upon this core of physics and mathematics. The engineering student may then emphasize electrical engineering or mechanical engineering course material and completes the educational experience with an individual (capstone) project.

B.S. DEGREE IN ENGINEERING PHYSICS:
Required supporting courses are Mathematics 151, 152, 253, Chemistry 115, Computer Science 240. 47-48 semester hours from Physics 153, 154, 163, 164, 223, 331, 356, 421, 422 and Engineering 161, 162, 354, 382; 4 courses from the engineering specialties: from the electrical specialty — 271, 341, 347, 352, 361; from the mechanical specialty — 231, 232, 351, 442. Physics 336 may be substituted for Engineering 232. Chemistry 341 may be substituted for Engineering 351.

A typical Engineering Physics program is as follows:

Freshman	Phyics 153, 154, 163, 164
	Engineering 161, 162
	Mathematics 151, 152
Sophomore	Engineering 231, 232 or Engineering 271, 352
	Engineering 354
	Physics 223
	Mathematics 253
Junior	Engineering 351, 271 or Engineering 341, 347, 231
	Engineering 382
	Physics 356
	Computer Science 240
Senior	Physics 331, 421, 422
	Chemistry 115

ENGINEERING SCIENCE

PLU offers the two four-year degrees described above, the Engineering Physics degree and the Computer Engineering degree. In addition, PLU offers the Engineering Science degree. The Engineering Science degree is a B.S. degree awarded by PLU. The student completes three years of study at PLU plus two years of engineering emphasis at another university. The student receives a second B.S. degree in an engineering discipline not offered by PLU. PLU has a formal 3-2 agreement with Columbia University in New York City where admission is automatic with a PLU recommendation. Washington University in St. Louis has a successful 3-2 program which has accepted many PLU engineering students. Transfers to other schools with

extensive engineering programs such as Stanford, Oregon State, Washington State, and the University of Washington have also been arranged.

The five-year, 3-2 Engineering Science program provides the opportunity to develop a liberal arts background and to begin college education in an atmosphere where the educational process gives attention to individual students. The introductory curriculum is the same as that for the Engineering Physics degree. This program is recommended for those students who have decided to pursue a career in an engineering specialty not offered at PLU.

During the first three years at PLU, the student must complete all general university core requirements, two interims, and the course requirements listed below.

B.S. DEGREE IN ENGINEERING SCIENCE

Required courses are Physics 153, 154, 163, 164, 223, Engineering 161, 162, 354, 382, Mathematics 151, 152, 253, Computer Science 144 or 240, Chemistry 115 (Chemistry 116 is recommended for students attending Columbia). 3 courses from engineering specialties: from the electrical specialty — 271, 341, 347, 352, 362; from the mechanical specialty — 231, 232, 351, 442. Physics 336 may be substituted for Engineering 232. Chemistry 341 may be substituted for Engineering 351.

A typical 3-2 Engineering Science program is as follows:

Freshman	Engineering 161, 162
	Physics 153, 154, 163, 164
	Mathematics 151, 152
Sophomore	Engineering 231, 232 or
	Engineering 271, 352
	Engineering 354
	Physics 223
	Mathematics 253
	Computer Science 144 or 240
Junior	Engineering 271 or 231
	Engineering 382
	Chemistry 115

ELECTRICAL ENGINEERING MINIOR

PLU offers a minor in electrical engineering. This minor has been of interest primarily to students majoring in physics, mathematics, and computer science. The technical courses required for the electrical engineering minor are similar to those taken for a major in engineering physics with an electrical engineering emphasis.

MINOR IN ELECTRICAL ENGINEERING: 20 semester hours from Engineering 161, 162, 271, 341, 347, 352, 354, 362; Physics 125, 126, 135, 136 or 153, 154, 163, 164; Mathematics 151, 152, 253; Computer Science 144 or 240.

COURSE OFFERINGS— ENGINEERING

161, 162 INTRODUCTION TO ENGINEERING

An introduction to the engineering profession and development of basic skills important to the profession, including problem solving, engineering design, and graphics. 161 offered I; 162 offered II (2,2)

231 STATICS

Fundamental engineering statics using vector algebra; conditions for equilibrium, resultant force systems, centroid and center of gravity, methods of virtual work, friction. Prerequisite: PHYS 153. I (2)

232 MECHANICS OF SOLIDS

Mechanics of deformable solid bodies; deformation, stress, constitutive equations for elastic materials, thermoelasticity, tension, flexure, torsion, stability of equilibrium. Prerequisite: EGR 231. II (4)

271 ELECTRICAL CIRCUITS I

Introduction to the fundamental concepts of DC circuits including Ohm's and Kirchoff's Laws and the function of inductive and capacitive elements. Prerequisite: PHYS 154. I (2)

341 INTRODUCTION TO ELECTRONICS

An introduction to the use and properties of semiconductors as related to electronic devices; diodes, transistors, FET's, operational amplifiers. Concurrent registration in 347 is required. Prerequisite: 271. II (2)

347 INTRODUCTION TO ELECTRONICS LABORATORY

Basic and intermediate laboratory exercises performed in conjunction with Introduction to Electronics. Concurrent registration in 341 is required. II (1)

351 THERMODYNAMICS

Concepts and equations of classical, macroscopic thermodynamics; thermodynamic cycles, flow and non-flow systems, properties and mathematical relations of pure substances, mixtures and solutions, phase transition and chemical reactions; an elementary treatment of statistical thermodynamics. Prerequisite: PHYS 154. I (4)

352 ELECTRICAL CIRCUITS II

Theory of electrical circuits including transient response, AC steady state — single and three phase, frequency and time domain analysis, computer analysis of steady state and transient response using SPICE. Laboratory work is part of the course. Prerequisite: 271. II (4)

354 ENGINEERING ANALYSIS

Introduction to vector and tensor calculus, functions of a complex variable, Laplace and Fourier transforms, and undetermined multipliers. Comprehensive and illustrative examples from the fields of electromagnetism, waves, transport, vibrations, and mechanics. May be taken as a package with PHYS 356. Prerequisite: MATH 253. II (4)

362 DIGITAL ELECTRONICS

Analysis of digital design techniques, including a review of combinational logic, flip flops, registers, counters, and timing circuits. II (4)

382 INTRODUCTION TO MATERIALS SCIENCE

Fundamentals of engineering materials including metals, polymers, ceramics, and semiconductors. The course focuses on how the useful properties of these materials can be altered by changing their microstructure. Prerequisites: PHYS 154, CHEM 115. II (4)

442 TRANSPORT: MOMENTUM, ENERGY, AND MASS

Unifying concepts of the transport of momentum, energy, and mass in planar, cylindrical and spherical geometries; mathematical aspects of fluid mechanics; boundary layers; transport coefficients-viscosity, thermal conductivity, mass diffusivity; an elementary treatment of turbulent flow. Prerequisite: 351 or consent of instructor. II (4)

491 INDEPENDENT STUDY: ELECTRICAL ENGINEERING SCIENCE

Selected topics of mutual interest to student and instructor. Enrollment is limited and open only to students who have discussed a proposed topic or course of study in considerable depth with instructor. Prerequisite: mutual interest (1-4)

492 INDEPENDENT STUDY: MECHANICAL ENGINEERING SCIENCE

See 491.

English

English offers excellent preparation for any future requiring integrative thinking, skill in writing, discernment in reading, an appreciation of human experience and aesthetic values, and the processes of critical and creative expression. Business, government, education, and publishing are areas where our graduates frequently make their careers.

Our program offers concentrations in literature, writing, and publishing. The English Department also supports the London Program and often offers an interim study tour to the British Isles.

FACULTY

P. Benton, *Chair;* M. Benton, Bergman, Cady, Campbell, Eyler, Hale, Jansen, G. Johnson, Jones, Klopsch, Marek, D. M. Martin, G. Martin, Rahn, Reigstad, Romalov, D. Seal. Assisted by Frye, L. Johnson, Leigh, Nelson, Uschuk. Distinguished Writers in Residence: 1985—Richard Murphy, 1986—Lesley Hazleton, 1987—Stephen Becker, 1988—Noelle de Chambrun, 1989—Patsy Sims, 1990—William Pitt Root.

ENGLISH MAJOR:
At least 32 hours in English beyond 101, including three surveys (241, 251, 252); at least one course in a historical period (342, 343, 381, 384, 389, 390, 391, 392); at least one course in a major author (382, 383, 440, 451, 452); and 12 hours of electives, excluding interim courses and internships.

All majors must complete at least two years of a foreign language at the university level, or the equivalent (See College of Arts and Sciences Foreign Language Requirement, Option I.)

Junior Review: During the junior year each major meets with a committee of departmental faculty to discuss interests and goals, and to plan for the remaining semesters in that student's program.

CERTIFICATE IN WRITING: Majors are encouraged to include courses in writing in their program. Those majors who take three writing courses beyond 101 and complete an approved portfolio of their work will receive a "certificate in writing."

CHILDREN'S LITERATURE: Students completing 363 and 8 hours from 362, 365, 366, or other approved courses (all with grades of B or higher) will be recognized for special competence in children's literature.

MINOR (EMPHASIS ON LITERATURE): 20 semester hours, (excluding 101 and courses for interim credit), of which at least 8 hours should be upper division. These courses should include 4 hours in American literature, 4 hours in British literature before 1700, 4 hours in British literature after 1700, and at least 4 additional hours in literature.

MINOR (EMPHASIS ON WRITING): 20 semester hours, (excluding 101 and courses for interim credit), of which at least 8 hours should be upper division. These courses should include 4 hours in British literature before 1700, 4 hours in American or British literature after 1700, and 12 hours in writing courses drawn from 201, 225, 227, 324, 327, 328, 366, 403, 421, or other approved courses in writing.

MINOR (EMPHASIS ON PUBLISHING AND PRINTING ARTS): 20 semester hours as follows:
1. An 8-hour core of three required courses (321, 322, 331).
2. Three elective courses (12 hours) from two or three of these groups:
   WRITING: Approved courses in English (201, 225, 227, 324, 327, 328, 366) or Communication Arts (283, 384, 388)
   MANAGEMENT: Approved courses in Business Administration (281, 282, 350, 364, 370, 475) or Computer Science (110/210, 144, 220)
   DESIGN: Approved courses in Art (226, 326, 370, 396, 398, 426, 470, 496) or English (332, if taken for 4 credit hours) or Communication Arts (380)
3. Approved practical experience (credit or non-credit) in an off-campus internship or with an on-campus publication.

See the brochure on this program for further details.

PROSPECTIVE TEACHERS: Students preparing to teach in junior or senior high school may earn either a Bachelor of Arts in English with certification from the School of Education, or a Bachelor of Arts in Education with a teaching major in English. See the School of Education section of this catalog for the additional requirements for certification or the Bachelor of Arts in Education.

COURSE OFFERINGS

AMERICAN LITERATURE

241 AMERICAN LITERATURE
342 TWENTIETH-CENTURY AMERICAN POETRY
343 TWENTIETH-CENTURY AMERICAN FICTION AND DRAMA
345 CANADIAN FICTION
440 SEMINAR—A MAJOR AMERICAN AUTHOR

BRITISH LITERATURE

251 ENGLISH LITERATURE: BEGINNINGS TO 1750
252 ENGLISH LITERATURE: AFTER 1750
381 STUDIES IN MEDIEVAL LITERATURE
382 CHAUCER AND HIS AGE
383 SHAKESPEARE
384 ENGLISH RENAISSANCE LITERATURE
389 RESTORATION AND EIGHTEENTH CENTURY ENGLISH LITERATURE
390 THE ENGLISH ROMANTIC MOVEMENT
391 VICTORIAN LITERATURE
392 TWENTIETH-CENTURY BRITISH LITERATURE
451 SEMINAR-A MAJOR BRITISH AUTHOR BEFORE 1750
452 SEMINAR-A MAJOR BRITISH AUTHOR SINCE 1750

GENRE AND SPECIAL STUDIES

216 POETRY
217 SHORT STORY
218 DRAMA
230 CONTEMPORARY LITERATURE
231 MASTERPIECES OF EUROPEAN LITERATURE
232 WOMEN'S LITERATURE
350 THE WRITER AS READER
363 CHILDREN'S LITERATURE
364 SPECIAL TOPICS IN CHILDREN'S LITERATURE

E

English

365 FANTASY AND FAIRY TALES
381 STUDIES IN MEDIEVAL LITERATURE
491, 492 INDEPENDENT READING AND RESEARCH
597 GRADUATE RESEARCH

All courses above fulfill the general university core requirement in literature.

WRITING, LANGUAGE, AND PUBLISHING

099 BASIC WRITING SKILLS
101 *COLLEGE ENGLISH
201 *INTERMEDIATE WRITING
225 *AUTOBIOGRAPHICAL WRITING
227 IMAGINATIVE WRITING I
321 THE BOOK IN SOCIETY
322 PUBLISHING PROCEDURES
324 *FREE-LANCE WRITING
327 IMAGINATIVE WRITING II
328 *ADVANCED COMPOSITION
331 THE ART OF THE BOOK I
332 THE ART OF THE BOOK II
351 THE WRITER'S CRAFT
366 WRITING FOR CHILDREN
403 MODERN ENGLISH GRAMMAR
421 TUTORIAL IN WRITING

*** Indicates courses that fulfill the general university writing requirement.**

099 BASIC WRITING SKILLS
An intensive review and practice of mechanics, the fundamentals of grammar, and the structure of sentences and paragraphs. Credits do not apply toward a degree, general university requirements, major, or minor. (2)

101 COLLEGE ENGLISH
Develops a student's powers to read, think, and write effectively. Emphasis on short papers and guided revision. Includes a unit on library research techniques. Fulfills general university writing requirement. I II (4)

201 INTERMEDIATE WRITING
Opportunities to practice and develop writing by exploring selected topics from various disciplines. Some emphasis on rewriting-focusing the material and adjusting the style for different audiences. (Prerequisite: 101 or its equivalent, Advanced Placement, or consent of instructor.) Fulfills general university writing requirement. I II (4)

216 POETRY
A study of poems and conventions of poetry from the Greek classics to modern projective verse. Intended to develop the reader's ability to respond with sensitivty and discrimination to a rich variety of poetic forms. Fulfills general university core requirement in literature. I (4)

217 SHORT STORY
Examines the development of short fiction, concentrating on themes and techniques of the genre. Includes stories by American, British, Continental, and Latin American writers. Fulfills general university core requirement in literature. I II (4)

225 AUTOBIOGRAPHICAL WRITING
Reading autobiography and writing parts of one's own, with an emphasis on how writing style and personal identity complement each other. Fulfills general university writing requirement. I II (4)

227 IMAGINATIVE WRITING I
A beginning workshop in writing poetry and short fiction. Includes a study of techniques and forms to develop critical standards and an understanding of the writing process. (Prerequisite: 101 or its equivalent, Advanced Placement, or consent of instructor.) Does not fulfill general university requirements. I II (4)

230 CONTEMPORARY LITERATURE
Emphasis on American fiction since 1950. Fulfills general university core requirement in literature. I (4)

231 MASTERPIECES OF EUROPEAN LITERATURE
Representative works of the literature of Western Europe, especially classical, medieval, and Renaissance. Fulfills general university core requirement in literature. I (4)

232 WOMEN'S LITERATURE
Fiction, poetry, and other literature in English (British, American, Canadian, Commonwealth) by women writers, with emphasis on the twentieth century. Includes an introduction to feminist theories of reading and writing. Fulfills general university core requirement in literature. (4)

241 AMERICAN LITERATURE
The continuity of themes and forms in American prose, poetry, and fiction from colonization to the First World War. Emphasis on major works of the 19th century. Fulfills general university core requirement in literature. I II (4)

251 ENGLISH LITERATURE: BEGINNINGS TO 1750
Emphasis on the continuity and variety of English literature from Beowulf through Neo-classicism and the early novel. Fulfills general university core requirement in literature. I (4)

252 ENGLISH LITERATURE: AFTER 1750
English literature, especially poetry, from the emergence of romanticism to the 20th century. Fulfills general university core requirement in literature. II (4)

321 THE BOOK IN SOCIETY
A critical look at the role of books in our history, society, and daily lives. Topics include: The Book Before Printing; the Printing Revolution and Emergence of the Publishing Industry; Paperbacks; Censorship and Manipulation; Children's Books; Technical and Ethical Horizons. I (2)

322 PUBLISHING PROCEDURES
A workshop introduction to the world of book publishing, involving students in decisions about what to publish and how to produce it. Editing, designing, and preparing a manuscript for production. Plans for marketing a finished product. II (4)

324 FREE-LANCE WRITING
A workshop in writing for publication, with primary emphasis on the feature article. Intended to help students produce writing that is informative and expressive; to enhance their sense of audience; and to introduce them to procedures for submitting for magazine publication. II (4)

327 IMAGINATIVE WRITING II
An advanced workshop in writing poetry and short fiction. Some attention will be given to procedures for submitting manuscript for publication. Does not fulfill general university requirements. I II (4)

328 ADVANCED COMPOSITION
A study of rhetorical principles used in writing persuasively and imaginatively. Required for certification by the School of Education. I II (4)

331 THE ART OF THE BOOK I
Exploration of the design and mechanical arts of fine bookmaking, focusing on historical models and methods and the contemporary renaissance they've inspired. Use of fine materials and hand processes to create printed, illustrated, and bound texts. I II (2)

332 THE ART OF THE BOOK II
Individual projects to explore further typography and fine bookmaking. Production of a small edition of an original text—selected, edited, designed, illustrated, printed, and bound by one or a team of students. I II (1-4)

342 TWENTIETH-CENTURY AMERICAN POETRY
Representative poets from the generation of Robert Frost and Ezra Pound to our contemporaries. a/y II (4)

343 TWENTIETH-CENTURY AMERICAN FICTION AND DRAMA
Literature and society to the 1950s, with emphasis on major authors between the Wars, including Hemingway, Faulkner, O'Neill. a/y II (4)

345 CANADIAN FICTION
Novels and short stories by Anglo-Canadians, with some attention to French-Canadian literature in translation. II (4)

350 THE WRITER AS READER
A course in which PLU's Distinguished Writer-in-Residence leads students through a series of readings to explore how a professional writer reads and how one's own writing benefits from close attention to literary texts. Fulfills general university requirement in literature, but not in writing. (4)

351 THE WRITER'S CRAFT
A master-class in which student writers study under PLU's Distinguished Writer-in-Residence. Close attention to student drafts in a workshop setting, with emphasis on the methods of the visiting writer. Includes considerable reading to establish context and standards. With the permission of the chair, this course may be repeated for credit. Meets neither the general university requirement in writing nor in literature. (4)

363 CHILDREN'S LITERATURE
An introduction to a rich literary tradition, with analysis in depth of such authors as H. C. Andersen, Tolkien, Lewis, Potter, Wilder, and LeGuin. I (4)

364 SPECIAL TOPICS IN CHILDREN'S LITERATURE
Content varies each year. Possible topics include genres, themes, historical periods, and traditions. May be repeated for credit with different topic. II (4)

365 FAIRY TALES AND FANTASY
Selected fairy tales are told, and various ways to interpret them are explored. Fantasy is studied as a genre, with emphasis on kinds of fantasies, such as pure fantasy, sword and sorcery, the detective novel, science fiction, and horror fiction. I (4)

366 WRITING FOR CHILDREN
A workshop in writing fiction and non-fiction for children and teenagers, with an introduction to the varieties of contemporary children's literature. Does not fulfill general university requirements. II (4)

381 STUDIES IN MEDIEVAL LITERATURE
Studies in the literature of Western Europe from 700 to 1500, excluding Chaucer. Consideration of genres, themes, and the place of literature in medieval life. a/y I (4)

382 CHAUCER AND HIS AGE
A study of Chaucer's major works, especially *The Canterbury Tales*, in their lively 14th century setting. Includes an introduction to the development of the English language. a/y II (4)

383 SHAKESPEARE
Ten to twelve representative plays. Recommended as background: 251. I (4)

384 ENGLISH RENAISSANCE LITERATURE
Studies the Golden Age of English literature. Selected poets from Wyatt to Marvell, including Sidney, Spenser, Shakespeare, Donne, and Jonson; selected playwrights from Kyd to Webster; selected prose from More to Bacon and Browne. I (4)

389 RESTORATION AND EIGHTEENTH CENTURY ENGLISH LITERATURE
A study of neo-classic writings and the developing social awareness of the preromantic age: Dryden and Pope to Johnson and Blake. Examination of the beginnings of the novel in Defoe, Richardson, Fielding, Smollett, and Sterne. II (4)

390 THE ENGLISH ROMANTIC MOVEMENT
A study of the romantic awakening in England: Blake, Wordsworth, Coleridge, Shelley, Keats, Byron, and others. Attention also to novelists of the period such as Austen and Scott. II (4)

391 VICTORIAN LITERATURE
Selected authors (including Carlyle, Tennyson, Dickens, and Hardy) and topics from a period of rapid and momentous social change. I (4)

392 TWENTIETH-CENTURY BRITISH LITERATURE
Selected playwrights from Shaw to Beckett; poetry of Yeats, Hardy, Thomas, and Auden; fiction of Joyce, Woolf, Lawrence, Greene, Lessing, and others. I (4)

403 MODERN ENGLISH GRAMMAR
A study of three major approaches to grammar: the traditional, the structural, and the transformational. Includes introduction to the history of the English language. I (4)

421 TUTORIAL IN WRITING
Guided work in an individual writing project. A plan of study must be approved before the student may register for the course. (1-4)

440 SEMINAR-A MAJOR AMERICAN AUTHOR
Concentrated study of the work, life, influence, and critical reputation of a major American author, including substantial library research. 1987-Dickinson. 1988-Poe, Hawthorne. 1989-Faulkner. I (4)

451 SEMINAR-A MAJOR BRITISH AUTHOR BEFORE 1750
Concentrated study of the work, life, influence, and critical reputation of a major British author from the Renaissance to the age of Fielding and Dr. Johnson, including substantial library research. 1987-Donne. 1989-Milton. a/y II (4)

452 SEMINAR-A MAJOR BRITISH AUTHOR SINCE 1750
Concentrated study of the work, life, influence, and critical reputation of a major British author from the age of Blake to the present, including substantial library research. 1988-Lawrence. 1989-Woolf, Mansfield, 1990-Conrad. II (4)

491, 492 INDEPENDENT READING AND RESEARCH
An intensive course in reading. May include a thesis. Intended for upper division majors. I II (1-4)

597 GRADUATE RESEARCH (1-4)

English as a Second Language

The Intensive English Language Institute (operated by the American Cultural Exchange) is an affiliate of PLU offering intensive English classes, which are designed to prepare international students for studies in U.S. colleges and universities. IELI also offers classes for students who are coming to study with the primary goal of improving their language skills. The institute is authorized to grant I-20 forms; however, admission to the institute does not constitute admission to the

English as a Second Language

university, and no transferable credit is given for institute courses.

The primary goal of the Intensive English Language Institute (IELI) at Pacific Lutheran University is to prepare students for successful academic careers at American Colleges and universities by providing them with a strong background in English and academic study skills. The skills-based curriculum covers grammar in two levels and speaking/listening, reading, and writing, in each of four levels:

ELEMENTARY INTERMEDIATE ADVANCED AUDIT/AUDIT REVIEW

When new students enter the Institute, they are given a series of placement tests. On the basis of these tests, students are placed in one of the levels (elementary, intermediate, or advanced) for each skill area, or in the 15-hour Audit/Audit Review course. Students progress in the use of English through four hours of language instruction each day, Monday through Friday. A typical IELI schedule might consists of Elementary Reading, Elementary Writing, Intermediate Grammar, and Intermediate Conversation, plus language lab—a total of more than 20 hours per week.

COURSES

READING (5 hours)—Elementary, Intermediate, and Advanced
WRITING (5 hours)—Elementary, Intermediate, and Advanced
GRAMMAR (5 hours)—Intermediate and Advanced
LISTENING/SPEAKING (5 hours)—Elementary and Intermediate, and Lecture Preparation.

LECTURE PREPARATION (5 hours)—A course covering note-taking skills, summarization, identifying main and supporting ideas of a lecture, and giving opinions about the lecture. Students complete a "mock" college-level academic course, including reading in a college text, taking quizzes and exams, and completing a special project for the course. (This course is a prerequisite for Audit/Audit Review.)

AUDIT/AUDIT REVIEW (15 hours)—The student and his/her ESL instructor will audit a course at PLU, taking notes on daily lectures, reading required texts, and taking quizzes and exams with other PLU students. During a second and third hour, the students go over the lecture notes from the course, discuss text and supplementary reading assignments, explore difficult or different concepts, prepare for exams, refine writing skills, and learn to write a college research paper. Completion of three advanced level courses is prerequisite to enrolling in this course.

LANGUAGE LABORATORY
Elementary and Intermediate — Help with listening, vocabulary, and other language skills.

A variety of electives are offered each semester. Call the office for specific information.

SPECIAL STUDIES (5-20 hours)—All levels
Courses are designed to help those who wish to improve their English for professional or personal reasons. Under certain circumstances, a less intensive schedule or private tutorials may be arranged.

TOEFL PREPARATION (2 hours)
This class can be taken as a separate course. It reviews grammar and vocabulary, gives practice in reading and listening comprehension, and covers test-taking skills and strategies.

CREDIT COURSES

Qualified advanced level students may request permission to take regular university classes for credit. This provides students an opportunity to earn credits toward their degree while completing their advanced courses in English as a second language.

Seminar sessions run concurrently with PLU's academic calendar and are 14 weeks long. There is a 4-week interim in January and a full semester's study during summer. Classes are small, usually 10-12 students, with a maximum of 18.

When students have met IELI's standards of proficiency—determined by exit examinations—in all skill areas of English, they are ready to do university level work, and the IELI staff assists in placing them in a suitable academic program. PLU's English language proficiency requirement for admission can be satisfied with a recommendation from the IELI director. A student must have a B or better in the Audit/Audit Review course to qualify for this recommendation. Students who are not planning to attend a college or university after their language studies are not required to take the 15-hour Audit/Audit Review course and will receive IELI's certificate of program completion after finishing the advanced level courses.

FACULTY

Zeller, *Director;* **Aver, Biggs, Duva, M. Espeseth, Lucas, Schaefer, Sladek.**

The faculty at IELI has extensive training and experience in teaching English as a Second Language, and all hold the terminal degree of M.A. in TESL or its equivalent. Having lived, travelled, and taught English in many countries throughout the world, both the faculty and staff have gained an awareness of other peoples, their languages, and their cultures.

To enhance formal educational experience, the following activities are also available to IELI students:

CONVERSATION PARTNERS: English language students are encouraged to sign up for a conversation partner with whom they can meet on a regular basis (once or twice a week) for coffee, lunch, or more extensive activities. The American students who participate in the Conversation Partners Program are often students who are preparing for careers in global studies, languages, education, and other fields. Some of these students have lived abroad or are from families who have hosted international students and *all* have expressed interest in learning more about other people and cultures. Conversation partners are recruited and screened by the Institute and receive orientation materials from IELI.

HOST FAMILIES: IELI has a long-established community-based host family program for students who wish to live with a U.S. family for one or more semesters. The American families—all screened by the Institute—provide students with room or room and board at reasonable rates. In addition to the standard bedroom furniture, the rooms are provided with a desk, chair, and good lighting; family rules are agreed upon in advance and a formal written agreement is drawn up. The student completes a questionnaire that indicates preferences such as: children in family, urban or suburban setting, likes and dislikes, etc. The host family is also given an opportunity to express preferences or expectations. This information is then used to place students in the home most suitable for both parties. Weekend and/or holiday visits with an American family can also be arranged.

COUNSELING: IELI assists its students with career choices, college placement, immigration matters, medical and dental referrals, and personal concerns.

ACTIVITIES: Special cultural and social activities are planned regularly for students. In addition, field trips add significantly to the cultural enrichment of the students. IELI students and staff take trips to Mt. Rainier, local museums of natural history, art galleries, zoos, children's day care centers, retirement homes, the Ports of Tacoma and Seattle, and the Seattle Center. IELI students can also participate in intramural sports activities such as soccer, volleyball, and basketball. Six tennis courts, a golf course, a swimming pool, and several gymnasiums give students additional opportunities for recreation.

The Intensive English Language Institute is located in Haavik House on the corner of 121st Street and 8th Avenue Court South.

Telephone Number: (206) 535-7325
FAX Number: (206) 535-8794

Environmental Studies Program

Students concerned about or wishing to enter graduate study and career programs in such fields as environmental science, environmental law, or resource management, may enroll in the Environmental Studies Program. A certificate will be awarded students completing requirements listed below, together with a departmental or school major program. Students interested in the Environmental Studies Program should schedule an appointment with the chair of the Environmental Studies Committee, and should fill out an application. The student and the chair will develop a tentative plan and the chair will appoint a three-member advisory committee. The committee consisting of representatives from each of the three major subject matter groupings will approve each student's course program and integrative experiences.

The following specific courses are required:

Earth Sciences 222	4 hours
Economics 150	4 hours
Business Administration 230	4 hours

As part of graduation requirements, all students complete either the distributive core or the Integrated Studies Program. Recommended core requirements include:

Distributive Core

Arts/Literature: Art 381 and one elective in literature	8 hours
Natural Sciences/Mathematics: Biology 111; Chemistry 104, 105; Computer Science 144; Earth Sciences 131, 202; Mathematics 128, 230; Natural Sciences 106	8 hours
Philosophy: 125; 225 plus 226 or 323 or 325 or 326 or 328; 324; 371; 381; 395; or 427	4 hours
Religion: 226, 365, and one elective from Biblical Studies or Integrative and Comparative Religious Studies	8 hours
Social Sciences: History 460; Political Science 101, 151, 345; Psychology 355; Sociology 101, 240, 331 (Economics 150 may also be counted as fulfilling a core requirement)	8 hours

OR

CORE II (Integrated Studies Program)

Integrated Studies 111-112, 221-222 or 223-224, 241-242 or 243-244, 351	28 hours

In the areas of Natural Sciences and Mathematics one additional course (4 hours) is required, which should be selected from those listed above under Distributive Core.

Integrative Experience—4 hours: During the senior year or at another approved time, all students participate in a study-research-action program designed to draw upon the broad background of the above courses and the expertise of their own major fields. Courses may include, but are not limited to, appropriate interim courses; departmental or interdisciplinary seminars; independent study or research courses; field experience and internship programs; cooperative education; employment or volunteer service within community agencies or organizations.

Environmental Studies Committee: Churney, *Chair;* **Benham, Bergman, Giddings, D. Hansen, Hansvick, Martinson, Miller, Stivers, Tonn.**

Global Studies Program

The Global Studies Program is a response to global trends which increasingly affect our lives. The program focuses on the formation and emergence of the modern world and its growing economic, cultural, political, and ecological interdependence. By combining academic learning with language skills and practical experience, the Global Studies Program provides students with the knowledge, perspectives, and skills they need to understand and to function effectively in today's world.

Global Studies Program

FACULTY

A committee of faculty administers this program: Kelleher, *Chair;* Barnowe, Bermingham, Carr, Guldin, Stivers, Swenson, Tonn, Toven.

GLOBAL STUDIES COMPLEMENTARY MAJOR

The Global Studies major is termed a "complementary" major because it is a second major in addition to a regular disciplinary major. Students electing the Global Studies major are required to declare a traditional disciplinary major before they declare a Global Studies major.

In addition, the Global Studies major is multidisciplinary, drawing both its courses and faculty from departments of the Divisions of Humanities, Natural Sciences, and Social Sciences and from the Schools of the Arts and Business Administration.

Students may not apply more than two courses (8 semester hours) from their primary major or from courses taken to fulfill general university core requirements to the complementary major. However, such special crediting of courses from the primary major to the complementary major must be approved by the Global Studies Committee chair.

MAJOR REQUIREMENTS

As the title of this program implies, it approaches the world as a whole in assessing both problems and solutions arising in this age of transition. The fundamental changes taking place in our contemporary world are studied systematically in the Global Studies Program's core courses while its five issue area concentrations allow students to choose one general world problem for specialized study. Students take a minimum of 32 semester hours balanced evenly between core requirements and an issue area concentration.

A. Global Studies Core (16 semester hours).

1. ANTHROPOLOGY/HISTORY/POLITICAL SCIENCE 210, **Global Perspectives** (4 semester hours). This course provides a conceptual basis for defining global issues, explaining historical trends giving rise to these issues, and analyzing alternative perspectives and related responses.

2. ANTHROPOLOGY 102, **Exploring Anthropology: Culture and Society** (4 semester hours). This course assists students in defining their own perceptions as derived from a specific cultural context and in assessing how their views relate to those of other people in this world.

3. HISTORY 211, **The World Since 1945** (4 semester hours). This course analyzes historical forces forming our contemporary world and the conflicts caused by the resulting clash of cultures, interests, and ideologies.

4. GLOBAL STUDIES SEMINAR, divided into GLOBAL STUDIES 410, **Global Futures: Theory and Methods** and 411, **Research Seminar** (2 semester hours each). The first segment analyzes alternative theories as to future directions of contemporary events. The second enables students to put into practice concepts, data, and perspectives learned during their course of study by producing original research using primary sources, either human or written. Field work for this last requirement may be done overseas while students are participating in a study abroad program. Permission and direction must be given by the program chair or by a designated Global Studies Committee member who know the student's capabilities and prior course work.

B. Issue Area Concentrations (16 semester hours).
Four courses must be taken from one of the five concentrations outlined below. Upon approval of the Chair, students may choose to take three courses from one concentration and one from another.

C. Students must demonstrate proficiency in a language relevant to their coursework and at a level consistent with Option 1 of the College of Arts and Sciences foreign language requirement. This may be accomplished through proficiency examination or through the equivalent of 16 semester hours of course work.

D. Experiential Component.
The general goals of this program entail both intellectual conceptualization and practical application. Students must be able to link theoretical analysis with experience in order to acquire the knowledge, skills, and perspectives needed in this interconnected yet diverse world. Such learning can only come through involvement; therefore students are encouraged to participate in an experiential program preferably overseas, but local internships are also possible. Credit equivalent to one course of the student's issue area concentration may be taken under the direction of a Global Studies faculty member.

ISSUE AREA CONCENTRATIONS

1. Third World Development
a. Required
Integrated Studies 245 - The Development of Third World Underdevelopment, or Integrated Studies 246 - Cases in Third World Development
b. Electives
Anthropology 340 - Cultures and Peoples of Asia
Anthropology 345 - Chinese Culture and Society
Anthropology 375 - Law, Politics and Revolution
Economics 341 - Economic Development: Comparative Third World Strategies
History 330 - Modern China
History 335 - Latin American History: Central America and the Caribbean
History 336 - Southern Africa
Integrated Studies 246 - Cases in Third World Development or Integrated Studies 245 - The Development of Third World Underdevelopment

2. International Trade
a. Required
Business Administration 340 - International Business
Economics 331 - International Economics
b. Electives
Business Administration 474 - International Marketing
Business Administration 475 - International Finance
Political Science 331 - Introduction to International Relations
Political Science 347 - Political Economy

3. International Relations
a. Required
Political Science 331 - Introduction to International Relations
b. Electives
Anthropology 375 - Law, Politics and Revolution
History 356 - American Diplomatic History
Integrated Studies 221 - The Experience of War
Political Science 338 - American Foreign Policy
Political Science 347 - Political Economy

4. Global Environment
a. Required
Earth Sciences 222 - Conservation of Natural Resources
b. Electives
At least 2 electives must be upper division courses. Independent studies are available upon the approval of the instructor and the Global Studies chair.
Biology 424 - Ecology
Biology 425 - Biological Oceanography
Chemistry 104 - Environmental Chemistry
Earth Sciences 341 - Energy and Mineral Resources for the Future
* Integrated Studies 241 - Energy, Resources and Pollution
* Integrated Studies 242 - Population and Hunger
Sociology 361 - Population and Development

5. Cultural Diversity
a. Required
Anthropology 360 - Ethnic Groups
b. Electives
At least 2 electives must be upper division courses. Independent Studies are available upon the approval of the instructor and the Global Studies chair.
Anthropology 340 - Cultures and Peoples of Asia
Anthropology 392 - Gods, Magic and Morals
Economics 381 - Comparative Economic Systems
Languages 271 - Literature and Society in Modern Europe
Languages 272 - Literature and Social Change in Latin America
Languages 322 - Latin American Civilization and Culture
Political Science 381 - Comparative Legal Systems
Music 432 - Music of the World's Peoples
Religion 131 - Religions of South Asia
Religion 132 - The Religions of the Far East
Religion 133 - The Religions of the West
Religion 364 - Liberation Theology
Religion 390 - Studies in History of Religions

* (If, as a result of the Integrated Studies Program's rotation policy, these courses are not taught for two years, a substitution may be made in consultation with and subject to the approval of the Global Studies Chair.)

GLOBAL STUDIES MINOR

1. Global Studies Core
   - A. Anthropology/History/Political Science 210, Global Perspectives (4 semester hours), required of all students.
   - B. Either Global Studies 410, Global Futures: Theory and Methods (2 semester hours) or a fourth course (4 semester hours) in the concentration. To be decided in consultation with the program chair.
2. Concentration (3 courses)
   - A. *The Developing World*
     - Anthropology 340—Cultures and Peoples of Asia
     - Anthropology 345—Chinese Culture and Society
     - Economics 341 - Economic Development
     - History 330—Modern China
     - History 335—Latin American History: Central America and the Caribbean
     - History 336—Southern Africa
     - Political Science 386—African Political Systems
     - Spanish 322—Latin American Civilization and Culture
     - Spanish 432—Twentieth Century Hispanic Literature (Spanish America)
   - B. *International Relations* (3 courses, one course from each section)
     1. Required
        - Political Science 331—Introduction to International Relations
     2. Electives
        - Anthropology 375—Law, Politics, and Revolution
        - History 356—American Diplomatic History
        - Integrated Studies 221—The Experience of War
        - Political Science 338—American Foreign Policy
        - Political Science 347 - Political Economy
   - C. *International Trade* (3 courses, one course from each section)
     1. Introduction
        - Economics 331—International Economics
     2. International Business
        - Business Administration 340—International Business
        - Business Administration 474—International Marketing
     3. Elective
        - Political Science 336—International Organization and Law
        - A second international business course is chosen in consultation with concentration adviser and the program chair.

COURSE OFFERINGS

410 GLOBAL FUTURES: THEORY AND METHODS (2)

411 RESEARCH SEMINAR (2)

Required of all students majoring in global studies. In the first semester (410), an analysis of major theories advanced by thinkers involved in the study of or attempts to change patterns of global interaction. Examination of both primary documents and secondary sources, learning how to read them and how to assess their worth, and discovering their methods of analysis. In the second semester (411), completion of a major research paper drawing on or adding to the theories and methods discussed in 410. Offered every two years. Prerequisite for 410: ANTH/HIST/POLS 210. Prerequisite for 411: 410. (2, 2)

History

Through the study of history at Pacific Lutheran University students gain an understanding and appreciation of the historical perspective. Opportunities for developing analytical and interpretative skills are provided through research and writing projects, internships, class presentations, and study tours. The practice of the historical method leads students off campus to their hometowns, to Europe or China or the American West, and to community institutions, both private and public. The department emphasizes individual advising in relation to both self-directed studies and regular courses. The university library holdings include significant collections in American, European, and non-Western history. The Nisqually Plains Room of the library specializes in Pacific Northwest community studies. Career outlets for majors and minors are either direct or supportive in business, law, teaching, public service, news media, and other occupations.

FACULTY

Martinson, *Chair;* **Bermingham, Browning, Carp, Clausen, Kraig, Nordquist.**

BACHELOR OF ARTS MAJOR: Minimum of 32 semester hours, including 4 hours-American field, 4 hours-European field, and 4 hours-non-Western field. Students are expected to work closely with the department's faculty advisers to insure the most personalized programs and instruction possible. Majors are urged to meet the foreign language requirement of the College of Arts and Sciences under either Option I or Option II. Those majors who are preparing for public school teaching can meet the state history certification requirement by enrolling in History 460. All senior majors are required to take four hours of seminar credit.

MINOR: 20 semester hours, 12 hours from courses numbered above 300. The minor in history emphasizes a "program focus" and a "program plan," which is arranged by the student in consultation with a departmental adviser.

BACHELOR OF ARTS IN EDUCATION: See School of Education.

COURSE OFFERINGS

Courses in the Department of History are offered in the following areas:

AMERICAN FIELD

251 COLONIAL AMERICAN HISTORY
252 NINETEENTH CENTURY AMERICAN HISTORY
253 TWENTIETH CENTURY AMERICAN HISTORY
352 THE AMERICAN REVOLUTION
354 THE AMERICAN CIVIL WAR
355 AMERICAN POPULAR CULTURE
356 AMERICAN DIPLOMATIC HISTORY
451 AMERICAN LEGAL HISTORY
460 WEST AND NORTHWEST
471 HISTORY OF AMERICAN THOUGHT AND CULTURE
494 SEMINAR: AMERICAN HISTORY

History

EUROPEAN FIELD

107, 108 HISTORY OF WESTERN CIVILIZATION
321 GREEK CIVILIZATION
322 ROMAN CIVILIZATION
323 THE MIDDLE AGES
324 RENAISSANCE
325 REFORMATION
328 NINETEENTH CENTURY EUROPE
329 EUROPE AND THE WORLD WARS: 1914-1945
332 ENGLAND: TUDORS AND STUARTS
334 MODERN GERMANY, 1848-1945
341 SEVENTEENTH CENTURY FRANCE
342 THE FRENCH REVOLUTION
495 SEMINAR: EUROPEAN HISTORY

NON-WESTERN FIELD

109 EAST ASIAN SOCIETIES
210 GLOBAL PERSPECTIVES
211 THE WORLD SINCE 1945
330 MODERN CHINA
333 REVOLUTIONARY RUSSIA
335 LATIN AMERICAN HISTORY: CENTRAL AMERICA AND THE CARIBBEAN
336 SOUTHERN AFRICA
340 MODERN JAPAN
496 SEMINAR: THE THIRD WORLD

ALL FIELDS

399 INTERNSHIP
401 WORKSHOPS
492 INDEPENDENT STUDY
501 GRADUATE WORKSHOPS
590 GRADUATE SEMINAR
591 DIRECTED STUDY
595 GRADUATE READINGS
598 RESEARCH PROJECT
599 THESIS

107, 108 HISTORY OF WESTERN CIVILIZATION
Analysis of institutions and ideas of selected civilizations. Mesopotamia, Egypt, the Hebrews, Greece, Rome, the rise of Christianity, and Medieval Europe in the first semester; Europe from the Renaissance to the present in the second semester. I II (4, 4)

109 EAST ASIAN SOCIETIES
A historical overview of the traditional cultures, traditions, and lives of the people of China and Japan. Discussion of the lives of peasants, emperors, merchants, and warriors in each society. Attention to the great technological and artistic developments in each society. (4)

210 GLOBAL PERSPECTIVES: THE WORLD IN CHANGE
A survey of global issues affecting the human condition in a rapidly changing and increasingly interdependent world: modernization and development; economic change and international trade; diminishing resources; war and revolution; peace and justice; and cultural diversity. These issues are examined in a multidisciplinary light using case studies drawn from non-Western and Western nations. Emphasis on the development of a global perspective which recognizes human commonalities as well as diversity in perceptions, values, and priorities. (Cross-referenced with ANTH 210 and POLS 210.) (4)

211 THE WORLD SINCE 1945
A historical survey on how Third World nations have sought independence in the post-World War II period. Emphasis on events in the Western world leading to World War II and the effects of that war on the Third World. Case studies of countries from Asia, Africa, Latin America, and the Middle East as examples of the diversity inherent in quests for independence. (4)

251 COLONIAL AMERICAN HISTORY
American institutions from colonial times to the 1790's; the growth of the colonies and their relationship to the British imperial system. (4)

252 NINETEENTH CENTURY AMERICAN HISTORY
From Jefferson to Theodore Roosevelt; interpretation of eras from social, political, economic, and biographical viewpoints. (4)

253 TWENTIETH CENTURY AMERICAN HISTORY
Trends and events in domestic and foreign affairs since 1900; affluence, urban growth, and social contrasts. (4)

321 GREEK CIVILIZATION
The political, social, and cultural history of Ancient Greece from the Bronze Age to the Hellenistic period. Special attention to the literature, art, and intellectual history of the Greeks. (Cross-referenced with CLAS 321) (4)

322 ROMAN CIVILIZATION
The history of Rome from the foundation of the city to A.D. 337, the death of Constantine. Emphasis on Rome's expansion over the Mediterranean and on its constitutional history. Attention to the rise of Christianity within a Greco-Roman context. (Cross-referenced with CLAS 322) (4)

323 THE MIDDLE AGES
Europe from the disintegration of the Roman Empire to 1300; reading and research in medieval materials. (4)

324 RENAISSANCE
Europe in an age of transition-1300 to 1500. (4)

325 REFORMATION
Political and religious crisis in the 16th century: Lutheranism, Zwinglianism, Anglicanism, Anabaptism, Calvinism, Roman Catholic reform; Weber thesis, the beginnings of Baroque arts. (4)

328 NINETEENTH CENTURY EUROPE
The expansion of European civilization from 1800 to 1914. (4)

329 EUROPE AND THE WORLD WARS: 1914-1945
World War I; revolution and return to "normalcy"; depression and the rise of fascism; World War II. (4)

330 MODERN CHINA
Chinese history from 1800 to the present. Emphasis on the Chinese revolution, why it happened, and what it meant for the people of China. Attention to China's relationship with the United States and the Soviet Union. (4)

332 ENGLAND: TUDORS AND STUARTS
Political, social, economic, legal, and cultural developments. (4)

333 REVOLUTIONARY RUSSIA
Post-Peter the Great Russia; the establishment of Czarist autocracy; the Great Reforms of the 19th century; the rise of the revolutionaries; Bolshevism, Lenin, and the Revolutions of 1917; the consolidation of the Soviet state. (4)

334 MODERN GERMANY, 1848-1945
The Revolutions of 1848 and unification of Germany; Bismarckian and Wilhemian empires; Weimar Republic and the rise of National Socialism; the Third Reich. (4)

335 LATIN AMERICAN HISTORY: CENTRAL AMERICA AND THE CARIBBEAN
Survey of the major aspects of Central American and Caribbean history from colonial to modern times. Use of selected case studies to illustrate the region's history. Study in inter-American relations. (4)

336 SOUTHERN AFRICA
Examination of the history of pre-colonial African kingdoms, Western imperialism, settler colonialism, and the African struggle for independence. Emphasis on the period since 1800. Focus on the countries of South Africa, Namibia, Angola, Mozambique, Zimbabwe, and on the issues of nationalism, racism, and revolution. (4)

340 MODERN JAPAN
Study of how Japan became the modern "miracle" in East Asia. Primary focus on traditions that enabled Japan to change rapidly, the role of the challenge of the West in that change, the industrialization of Japan, the reasons for war with the U.S., and the impact of the war on contemporary Japan and its social and economic institutions. (4)

341 SEVENTEENTH CENTURY FRANCE
Structure of society, development of absolutism, protest of popular classes, role of France in international affairs, origins of the Enlightenment. (2)

342 THE FRENCH REVOLUTION
Structure of society, origins and course of the Revolution, and its impact on France and Europe. (2)

352 THE AMERICAN REVOLUTION
The American Revolution as a series of essentially political events stretching from the Seven Years War in 1763 through Thomas Jefferson's defeat of John Adams in the Presidential election of 1800. The Colonists' initial resistance to the reorganization of the British Empire after 1763; the evolution of active resistance into revolution; the decision to declare independence; the experience of war; the struggle to establish legitimate and effective governments; the framing and ratification of the Constitution; and the Federalist-Republican battlesof the 1790s. Emphasis on the role of political thought and ideology in the development of republican government in the United States. (4)

354 THE AMERICAN CIVIL WAR
The Civil War era from the political crises of the 1850s through Reconstruction. Antebellum sectionalism; the collapse of the 2nd American Party System,; slavery; racism; secession; the military, political, and social aspects of the War itself; emancipation; and reconstruction. Emphasis on the Civil War as the central drama of U.S. history and consideration of its profound impact on 20th century social, political, and economic conditions. (4)

355 AMERICAN POPULAR CULTURE
Study of motion pictures, popular music, radio and television programs, comic strips, and paperback fiction. Insights into the values and ideas of American culture from watching it at play. Examination of popular entertainment arts and the ways they reflect and influence American attitudes and actions. No prerequisites. (4)

356 AMERICAN DIPLOMATIC HISTORY
The practice, function, and structure of American foreign policy with particular emphasis on the twentieth century. (4)

399 INTERNSHIP
A research and writing project in connection with a student's approved off-campus work or travel activity, or a dimension of it. Prerequisite: sophomore standing plus one curse in history, and consent of the department. (1-6)

401 WORKSHOPS
Workshops in special fields for varying periods of time. (1-4)

451 AMERICAN LEGAL HISTORY
Dimensions of American law as it relates to changing historical periods. (4)

460 WEST AND NORTHWEST
The American West in the 19th and 20th centuries. Frontier and regional perspectives. Interpretive, illustrative history, and opportunities for off-campus research. (4)

471 HISTORY OF AMERICAN THOUGHT AND CULTURE
Dimensions of American social and intellectual history. (4)

492 INDEPENDENT STUDY (1-4)

494 SEMINAR: AMERICAN HISTORY (4)

495 SEMINAR: EUROPEAN HISTORY (4)

496 SEMINAR: THE THIRD WORLD (4)

502 GRADUATE WORKSHOPS
Graduate workshops in special fields or areas for varying periods of time. (1-4)

590 GRADUATE SEMINAR
Selected topics as announced. Prerequisite: consent of the instructor. (1-4)

591 DIRECTED STUDY (1-4)

595 GRADUATE READINGS
Independent Study Card Required. (4)

598 RESEARCH PROJECT (4)

599 THESIS (4)

Division of Humanities

The Departments of English, Languages, Philosophy, and Religion offer a wide range of courses that explore language, literature, and belief, past and present, from around the world. As academic majors and minors, as integral components of professional programs, and as a means to realizing the excellence in oneself, studies in the humanities remain at the heart of a liberal education.

The primary commitment of the Division of Humanities is to excellent undergraduate instruction. Classes in the humanities emphasize the development of communication skills, the ability to analyze rigorously and evaluate fairly texts and ideas, and the critical examination of what it means to be human. The potential for creative service to the community is nurtured in a variety of ways, including internships in the Publishing and Printing Arts program, study abroad, case method studies, community teaching assignments, and writing workshops.

Faculty members of the division participate extensively in the Integrated Studies and Global Studies programs as well as provide leadership for the interdisciplinary Classics and Scandinavian Area Studies majors and for the Writing Center. The division also enriches campus life through the Distinguished Writer in Residence, Humanities Film Series, Foreign Language Week, public lectures, and collaborative projects with local school districts.

The division takes seriously the charge of the humanities, as described by one colleague, "to act humanely, compassionately, creatively in an ever-changing society." To that end, divisional faculty strive to serve as models for lifelong learning, inspired research, and good citizenship.

FACULTY

J. Rasmussen, *Divisional Dean;* **faculty members of the Departments of English, Languages, Philosophy, and Religion.**

As a division within the College of Arts and Sciences, the Division of Humanities offers programs in each constituent department leading to the B.A. degree. Course offerings and degree requirements are listed under:

ENGLISH	**PHILOSOPHY**
LANGUAGES	**RELIGION**

See also the sections of this catalog on Scandinavian Area Studies and International Education.

Integrated Studies Program

The Integrated Studies Program (Core II) is designed as an alternative mode of satisfying core curriculum requirements. Consisting of a constellation of interdisciplinary courses, the program explores a central theme—*The Dynamics of Change*—from a variety of academic perspectives. The program stresses critical thinking and writing. And it encourages the growth of camaraderie as students progress together through its sequences.

A brochure is available from the Admissions Office or the program coordinator in the Office of Special Academic Programs.

FACULTY

Selected from Anthropology, Art, Biology, Chemistry, Economics, English, History, Languages, Mathematics, Music, Philosophy, Physics, Political Science, Psychology, Religion, and Sociology.
Integrated Studies Committee: Oberholtzer, *Chair;* **Eyler, D. Hansen, LeJeune, D.M. Martin, McGinnis, N.C. Meyer, Youtz.**
Integrated Studies Coordinator: Carr.

REQUIREMENTS

1. SEQUENCE I: THE IDEA OF PROGRESS (2 courses, 111-112) Normally taken in the freshman year.
2. TWO OF THREE 200-LEVEL SEQUENCES (2 courses each, 4 total)
   SEQUENCE II (2 courses in the 220s):
   221: The Experience of War
   222: Prospects for War and Peace
   223: The Emergence of Mind and Morality
   224: The Brain, Consciousness, and Transcendence
   OR SEQUENCE III (2 courses in the 230s)
   231: Creating Gender
   232: Experiencing Gender
   233: Imaging the Self
   234: Imaging the World
   OR SEQUENCE IV (2 courses in the 240s)
   241: Energy, Resources, and Pollution
   242: Population, Hunger, and Poverty
   243: Technology and Computers
   244: Computers and Models
   245: The Development of Third World Underdevelopment
   246: Cases in Third World Development
3. CONCLUDING SEMINAR (1 course): 351
   Taken after or along with the final 200-level course.

TOTAL: SEVEN COURSES (28 hours)

ELECTIVE

1. 110: Freshman Seminar (2 hours)

Honors in Integrated Studies may be awarded upon application to students who have at least a 3.5 average in INTG courses, who present a portfolio of outstanding papers from 200-level INTG courses, who create an exemplary seminar project, and who are recommended by program faculty. Students selected for honors are encouraged to make a public, oral presentation of their seminar work. The Integrated Studies Committee will determine who qualifies for honors.

POLICIES AND GUIDELINES FOR CORE II

1. Students may begin in any sequence, although Sequence I (the required sequence) is usually taken first.
2. Because the sequences are designed as consecutive, two-course series, students should begin in the first course (fall), if possible. However, the second course may be taken before the first with the consent of the instructors.
3. Sequences may be taken concurrently and in any order.
4. As the program evolves, alternatives are being added under each sequence (II:220s, III:230s, IV:240s). Students should complete two courses that have been designed together (for example, 241-242 on "Technology and the Environment" or 221-222 on "War and Peace"). If necessary, however, *any* two courses from the same sequence series *may* be used with the permission of the program coordinator.
5. No more than two courses from any one sequence (II:220s, III:230s, IV:240s) may be counted toward the seven-course Core II requirement. Additional courses from a sequence may be taken as electives.
6. Not every 200-level sequence will be offered each year; generally four will be available in any given year.
7. The seminar (351) is taken as the concluding course in the program, either after or concurrently with the last course of the student's third sequence.
8. Students entering Core II with appropriate previous coursework at the college level may have certain requirements waived. Students with certain combinations of Core I courses, for example, may have 111 or 112 waived. See the program coordinator for details.
9. All Core II courses (except the seminar) may be taken as electives by any student.
10. Most Core II courses may be taken to fulfill certain Core I requirements, as indicated in the course descriptions, subject to the approval of the faculty.
11. Students transferring from Core II to Core I may use their Core II courses to meet certain Core I requirements after consulting with the program coordinator.
12. The Integrated Studies Program is directed by a seven-person committee of faculty representing the academic areas participating in the program. The committee elects a chair and is supported by the associate dean for special academic programs as program coordinator.

110 FRESHMAN SEMINAR

The Freshman Seminar is a small group, participatory introduction to university academic life through: (a) close relationships with other students and seminar faculty; (b) the exploration of activities like movies, plays, concerts, and community issues; (c) group conversation about the possibilities of integration; and (d) brief written assignments. The Freshman Seminar is a more personal way to travel through the fall semester mixing friendship and academic discovery. The seminar is an elective which does not fulfill general university core requirements. (2)

SEQUENCE I: THE IDEA OF PROGRESS (111-112)

A survey of Western culture from the Renaissance through the 19th century, emphasizing the interaction of religious, philosophical, and political beliefs with the emergence of new arts and sciences.

111 NATURE AND SUPERNATURE

A study of the emergence of modern science, the development of democratic political ideas, the renewal of the arts, and the reformulations of religious belief in the Renaissance, Reformation, and Enlightenment. The ideas and accomplishments of Luther, Galileo, Newton, Locke, and Hume are given special emphasis, together with developments in literature, the visual arts, and politics. Meets Core I requirements in philosophy or in religious studies (lines 2 or 3). I (4)

112 **FROM FINITE TO INFINITE**
Developments in literature and science, politics and industrialization in the 18th and 19th centuries. Emphasis is given to the influence of the Enlightenment, the American and French revolutions, the Romantic movement, the impact of Darwinism and Marxism. Prerequisite: 111 or permission. Meets Core I requirements in literature or in social sciences (line 1). II (4)

SEQUENCE II: HUMAN RESPONSIBILITY (Courses numbered in the 220s)

WAR AND PEACE (221-222)
This sequence explores the complexity of war and the difficulties of achieving and maintaining a just peace. It considers the fact of some important wars in our century, investigates the deeper causes of war, and raises the issues of personal and social ethics during a war and in a society that prepares for war in a time of peace. When taken as a whole, this two-course sequence meets the Core I requirement in social sciences (line 1) and either philosophy or religious studies (lines 2 or 3).

221 **THE EXPERIENCE OF WAR**
Essential background is established by studying the complex history of several major wars of our time (e.g., World War II, the Vietnam War, the conflict in the Middle East). Emphasis is placed on the personal experience of war, both as soldier and as civilian, through interviews, films, and literature. The ethical decisions individuals must make in war-time are considered as well as the pressures of our biological heritage and our idealistic causes. I (4)

222 **PROSPECTS FOR WAR AND PEACE**
A study of the institutions and situations (political, economic, religious, psychological, historical) that keep the modern world on the brink of war and make a stable, just peace so elusive. Consideration is given to pacifism and the "just war" tradition, as well as to the technology and politics of nuclear war and its balance of terror. Students complete an independent project on topics such as the draft, the economics of a military state, arms control, the competitions for resources, anti-colonialism and Marxism. Prerequisite: 221 or permission. II (4)

(223-224) **MIND AND BRAIN**
This sequence explores how specifically human qualities—including morality, sense of self, and the capacity for religious experience and belief—are rooted in our biology and to what extent we can transcend that physical heritage.

223 **THE EMERGENCE OF MIND AND MORALITY**
A survey of genetics and evolution, with emphasis on the brain and the emergence of social behavior in animals, prepares for a critical study of the claims of sociobiology that human culture and morality can be explained in terms of our biological origins. Meets Core I requirements in natural sciences (line 2) or philosophy. I (4)

224 **THE BRAIN, CONSCIOUSNESS, AND TRANSCENDENCE**
A study of the brain as the center of perception, emotion, consciousness, and knowledge. Includes a study of the brain's functions, an investigation of spiritual, mystical, and other self-transcending experiences, and an exploration of the relationship between mind and brain, materialistic and non-materialistic explanations, and the nature of personal commitment. Prerequisite: 223 or permission. Meets Core I requirements in social sciences (line 2) or philosophy. Prerequisite: 223 or permission. II (4)

SEQUENCE III: WORD AND WORLD (Courses numbered in the 230s)

231 **CREATING GENDER**
This course will trace the development in history and contemporary writing, of ideas about gender differences and similarities. Gender as a principle of social organization, a concept influencing intellectual inquiry and religious understanding, and a primary factor shaping individual identity will be explored. Contributions from theology, literature, biology, and anthropology will be examined with an eye toward how gender has served as the basis for inequality and equality, complementarity and subordination between men and women. A range of ideas about gender will be placed within the context of a succession of theoretical/philosophical movements from the Enlightenment to existentialism, psychoanalysis, Marxism and evolutionism. Meets Core I requirements in social sciences (line 1) or literature. I (4)

232 **EXPERIENCING GENDER**
This course examines the relevance that societies place on the concept of gender in different areas of life. Division of labor and power according to gender designations in kinship, employment, art, and health are discussed. Specific examples about the roles of both men and women in the family, world of work, expressive realms, and health and welfare are used. In each the variation within gender roles and interaction of the genders will be key. Course material drawn from studies, novels, music, and the visual arts. Meets Core I requirements in social sciences (line 2) or art. Prerequisite: 231 or permission. II (4)

IMAGING SELF AND WORLD (233-234)
This sequence explores how we come to know and partially create various kinds of self and world through the images of ordinary life and through their elaboration in the symbols of the arts and sciences. When taken as a whole, this two-course sequence meets the Core I requirements in art or literature and natural sciences (lines 1 or 3) or religious studies (line 3).

233 **IMAGING THE SELF**
A series of exercises in the visual and literary arts that reveal how the self is discovered and constructed in our daily world through many kinds of images, including dreams, costumes, songs, childhood memories, houses, church services, dances, television, poetry, sketching, and constructing models. The emphasis is on doing or making, followed by reflective analysis. I (4)

234 **IMAGING THE WORLD**
An exploration of how humans perceive, interpret, and shape their own worlds. Following an introduction to symbols, symbol systems, and the creating of meaning, the construction of world images in science and theology through myth, model, and paradigm are studied. The model of symbolic logic is built to organize language and thought. Science is then considered as a process of the application of logic to empirically gathered data. Views of a variety of scientists and philosophers on the way science is done and the way scientists come to know are considered. Theological language, experience, and use of myth and parable in theological models are examined. Finally, some images of the world through the eyes of poets are compared to these scientific and theological representations. Prerequisite: 233 or permission. II (4)

SEQUENCE IV: TECHNOLOGY AND THE ENVIRONMENT (Courses numbered in the 240s)

RESOURCES, POLLUTION AND POPULATION (241-242)
This sequence considers energy, natural resources, pollution, population and food issues. Scientific, social scientific, and ethical perspectives will be used to explore current problems, to project current trends into the future, and to suggest new possibilities. When taken as a whole, this two-course sequence meets the Core I requirements in natural sciences (lines 1 or 2), and either the social sciences (lines 1 or 2) or religious studies (lines 2 or 3) requirements.

241 **ENERGY, RESOURCES, AND POLLUTION**
Energy, natural resources, and pollution are the subject matter. Scientific, social scientific, and ethical methods will be studied and then applied to the practical and political problems of sustaining energy and natural resource production and limiting pollution with a maximum of justice and participative decision-making. I (4)

242 **POPULATION, HUNGER, AND POVERTY**
Population, food, and poverty are the subject matter. Methods learned in the first course will be reviewed and applied to the practical problems of sustaining food production and reducing population growth and poverty. A major Third World country, e.g., Mexico, will serve as a case study for class analysis and student projects. Prerequisite: 241 or permission. II (4)

TECHNOLOGY, COMPUTERS, AND SOCIAL CHANGE (243-244)
A study of modern technology, its historical context, its machines, and its consequences. The computer, as one in a long line of technologies, is the special focus. When taken as a whole, this two-course sequence meets the Core I requirement in natural sciences (line 3) and social sciences (line 1).

243 **TECHNOLOGY AND COMPUTERS**
Modern technology is the production of sweeping changes in Western civilization. The computer must be seen within the context of these changes. Thus the shift from traditional to technological society, the convergence of forces which produced the shift, and the consequences of the shift on institutions, ideas, and values will be the object of study. Once this context is established, students will study the computer, its creation and uses, what it is, and what it can and cannot do. I (4)

244 COMPUTERS AND MODELS

The modeling of social processes and the programming of models for the computer are two important tools used by planners in education, business, and government. The use of models and computers necessitates the making of assumptions and the reduction of reality. Two or three illustrative models will be developed to demonstrate the skills of modeling and programming and to assess advantages and limitations. Simultaneously, students will study the implications of using models and computers and the ethical and philosophic issues which emerge from their use. Returning to the larger context of technology, students will address the questions of technology, "out of control," artificial intelligence, the impacts of modern technology on the Third World, and the future. A student project will conclude the sequence. Prerequisite: 243 or permission. II (4)

THIRD WORLD DEVELOPMENT AND TECHNOLOGY (245-246)

This sequence is a study of the emergence of the Third World and the genesis of development and underdevelopment. When taken as a whole, this two-course sequence meets the Core I requirements in social sciences (line 1) and religious studies (line 3).

245 THE DEVELOPMENT OF THIRD WORLD UNDERDEVELOPMENT

This course traces the origins and growth of the concept "Third World" and the models, views, contexts, and approaches in interpreting this phenomenon. Particular attention is focused on understanding social and cultural changes in the Third World in terms of development/underdevelopment. Political, economic, literary and religous analyses will be used in trying to determine how the Third World thinks about itself. I (4)

246 CASES IN THIRD WORLD DEVELOPMENT

How people in the Third World think and act to bring about social change, and the value they give it, is the focus on this course. Building upon the theories and methods presented in the first course, issues such as education, health, population, resource management, urbanization, and industrialization will be examined using case studies. The case studies will be organized regionally so that common and distinctive features can be evaluated. Prerequisite: 245 or permission. II (4)

CONCLUDING SEMINAR

351 INTEGRATED STUDIES SEMINAR

A recapitulation and integration of themes from the previous sequences, with additional readings and discussion. Students investigate an individual topic from an interdisciplinary perspective, make a formal oral presentation, and complete a substantial paper. Prerequisite: 111-112 and two additional sequences. May be taken concurrently with the last course of the final sequence. I II (4)

Interim Program

The "interim" term of four weeks in January provides opportunity for focused and intensive study of a single subject or topic. Students are encouraged to choose courses outside their major fields, and together with their instructors to develop their potential for creativity and to broaden their intellectual horizons by exploring unfamiliar areas of study as well as by trying ways of learning or teaching to which they may not be accustomed. The range of academic offerings is wide and includes a variety of specially-designed courses in all major disciplines, as well as a number of interdepartmental courses and studies abroad. A separate catalog is published for the interim term.

The theme of the 1990 interim is "STRATEGIES FOR PEACE." A complete interim catalog will be available in the fall of 1989. The preliminary listing of courses to be offered in the 1990 interim is as follows:

ANTHROPOLOGY

302 **Vanished Peoples and Lost Civilizations: An Introduction to Popular Anthropology (4)**

ART

300 **Drawing in Mixed Media (4)**
301 **Sculpture in Mixed Media (4)**
303 **Multiple Views: Peace (4)**
310 **The Renaissance At Home: Art History in Florence and Rome (4)**
315 **Stained Glass (4)**
386 **Imagery and Symbolism (4)**

BIOLOGY

307 **Natural History of Hawaii (4)**
317 **Impact of Microbes: From Plagues to Possibilities (4)**

BUSINESS ADMINISTRATION

303 **Law and the Consumer (4)**
305 **Managers at Work (4)**
308 **Personal Financial Management (4)**
309 **The Time of Your Life: Living Fully in the Age of Information (4)**
311 **Modern Business Communications (4)**
313 **Managing Careers: Individual and Organizational Perspectives (4)**
315 **Gringos in Central America: The Economics, Politics, and Ethics of Doing Business with Central Americans (4)**
317 **The Baltic States: The Power of Peaceful Policies (4)**
319 **Business in China - 1990 (4)**
535 **Legal Aspects of the Management Process (4)**
590 **Managing Taxes (4)**

CHEMISTRY

115 **General Chemistry (4)**
210 **Nutrition, Drugs, and the Individual (4)**
310 **Australia Walkabout (4)**

COMMUNICATION ARTS

309 **Audio and Visual Imagination through Music Videos (4)**
311 **Morocco: Tour of the Kasbah (4)**

COMPUTER SCIENCE

144 **Introduction to Computer Science (4)**
317 **Computers in Education (4)**
385/590 **Computer Architecture (2)**
490/590 **Object - Oriented Programming (2)**

EARTH SCIENCES

301 **The Shape of the Land (4)**
305 **Mineralogy (4)**
307 **Natural History of Hawaii (4)**

ECONOMICS

150 Principles of Economics (4)
331 International Economics (4)

EDUCATION

300 Peace with Self: Understanding Procrastination and Perfectionism (2)
303 Interim in the Country: A Field Experience in Rural Education (4)
308 Conflict Resolution: Creating Interpersonal Peace (4)
318 Inner City - Multicultural Private Education Field Experience (4)
319 School Practicum: Reading (4)
401A Workshop in Art Methods for the Elementary School (1)
401B Workshop in Music Methods in the Elementary School (1)

SPECIAL EDUCATION

313 Gifted Children (2)
399 Practicum in Special Ed (1-2)
403 Parent/Professional Partnerships in Special Ed (2)

ENGLISH

101 College English (4)
217 Short Stories (4)
307 The Search for Peace in God's Silence: The Films of Ingmar Bergman (4)
310 Australia Walkabout (4)
312 Angry Young Men: British Literature in the 1950s (4)
314 On The Road Again: Reading and Writing About Travel (4)

HISTORY

303 Holocaust: The Destruction of the European Jews (4)
304 The Women Who Settled the West, 1830-1920 (4)
306 The Vietnam War and American Society (4)
324 The Renaissance (4)

LANGUAGES

300 Elementary German (4)
301 Intensive Chinese: An Introduction to the Chinese Language and Culture (4)
302 The Silent World: An Experience in Deaf Awareness (4)
303 Glasnost or Cold War: East-West Relations in the Far North (4)
316 The Myth of Napoleon (4)
422 Republic and Renaissance in Weimar Germany (4)

MATHEMATICS

311 Morocco: Tour of the Kasbah (4)
313 Mathematical Strategies for Financial Peace (4)

MUSIC

300 London! A Cultural Tour (4)
302 Beginning Choir (4)
303 The Peaceable Community: January at Holden Village (4)
305 Beginning Band (4)
306 The Chimes of Freedom: Music of Social Consciousness (4)
308 Intensive Study and Performance of Vocal Jazz Music
309 Intensive Study and Performance of Instrumental Jazz Music (4)
310 Choral Sight Reading (4)
311 A Guide to Classical Music (4)
315 Inner Peace: With a Song in My Heart (4)
317 History of Organ Building (2)
318 Songs of Norway (4)

NATURAL SCIENCES

201 History of Science to the Scientific Revolution (4)

NURSING

312 The Surgical Experience (4)
314 What's a Computer Doing in Health Care? (2)

PHILOSOPHY

101 Philosophical Issues (4)
101 Philosophical Issues: Constructing a World View (4)
301 The Trial of Socrates: Atheist, Fascist, Corruptor of Youth? (4)
302 Logic and Science in the Service of Justice: Current Forensic Science in Sherlock Holmes' London (4)
323 Health Care Ethics III: Infants and Children (1)
352 Aesthetics (4)

PHYSICAL EDUCATION

100 Personalized Fitness Program (1)
192 Intermediate Tennis (1)
202 Beginning Golf (1)
204 Bowling (1)
208 Skiing (1)
213 Personal Defense (1)
224 Low Impact Aerobics (1)
227 Weight Training (1)
253 Co-ed Volleyball (1)
301 Interim on the Hill (4)
304 Work and Leisure in Peaceful Coexistence (4)
308 Sports Motivation (2)
311 Family Centered Childbirth (4)
315 Body Image (4)
317 Caribbean Sailing and Navigation (2)

PHYSICS

305 The Art of Electronics (4)

POLITICAL SCIENCE

303 World War III: Explorations into the Unthinkable (4)
306 Lawyers in Film, TV, and Literature (4)

RELIGION

111 The Bible in the British Museum and English Cathedral (4)
303 The Peaceable Community: January at Holden Village (4)
330 Old Testament Studies: Biblical Archaeology (4)

STATISTICS

231 Introductory Statistics (4)

International Programs

PLU's international programs encourage students to expand their understanding of humanity's global condition in a changing and increasingly interdependent world. Multi-focused international programs provide opportunities for on-campus study of global issues and of the world's regions, cultures, and societies. Global issues include, for example, modernization and development; global resources and trade; and peace, justice, and human rights. Cultural foci are Africa, Asia, Europe, Latin America, the Middle East, and Scandinavia, among others. Off-campus study of these issues and regions is made possible by diverse opportunities for study abroad and international student exchange.

To pursue a program in international or intercultural studies, students may enroll in courses offered by departments such as Languages, Political Science, and History, or choose among the special multi-disciplinary programs listed below which offer majors and minors in international studies.

General information about PLU's international programs is available from the Study Abroad Office.

GLOBAL STUDIES

Students interested in diverse cultures and international, global issues may undertake a multi-disciplinary major or minor program designed to reflect their geographic, thematic, or disciplinary interests.

A. **MAJOR.** The Global Studies major is termed a "complementary" major because it is taken as a second major in addition to a regular disciplinary major. For specific information see the Global Studies section of this catalog.

B. **MINOR.** The theoretical orientation and requirements parallel those for the major and are detailed in the Global Studies section of this catalog.

Courses credited toward a minor cannot be credited toward a major. Interim and new courses approved by the Global Studies Committee may be included in the various clusters.

SCANDINAVIAN AREA STUDIES

The Scandinavian Area Studies major is a flexible program in which the study of Scandinavia is enhanced through a cross-disciplinary approach. For specific information see the Scandinavian Area Studies section of this catalog.

STUDY ABROAD

To encourage students to expand their visions of the world, PLU makes available various opportunities to study and travel in other countries. Students are encouraged to spend the summer, semester, interim, or full academic year abroad, either in a purely academic setting or in an experiential setting. The Study Abroad Office has information on study, work, and travel in foreign countries to assist students in selecting appropriate programs. The interdependence of all nations of the world and the need to gain basic knowledge of peoples, their cultures, and their interrelationships cannot be overemphasized in the late 20th century. With this focus in mind, PLU supports several categories of programs.

a. PLU-sponsored program:

(1) **Independent Liberal Arts Colleges Abroad**

(a) **England:** Students may choose to spend a semester studying in London through PLU's London Program. This program is hosted by the Independent Liberal Arts Colleges Abroad (ILACA), a consortium of Pacific Northwest schools including PLU, Gonzaga University, the University of Puget Sound, Whitman College, and Willamette University. Offered in both fall and spring semesters, the London Program provides students with a study experience in one of the most exciting cities of the world. Courses taught both by Northwest professors with experience in London and by native British professors make extensive use of museums, cultural activities, and sites of London. Students live with British families and commute by subway to classes. Several excursions take students outside London for a look at other parts of England. Additionally, during spring semester a second program site is available to students in Watford, England. More emphasis is given to social science offerings in the Watford program.

(b) **Spain:** PLU, along with other schools in the ILACA consortium, sponsors a one-semester program at the University of Alicante during the spring semester each year. Located three miles outside Alicante, the university provides an excellent setting for a semester designed for advanced study in Spanish language and culture. A minimum of two years of Spanish language study is required for participation. Students live with Spanish families, take special classes at the university in the morning, and can participate in the same extra-curricular resources as the regular Spanish students. These opportunities include auditing regular university classes, lectures, clubs, language exchanges, sports, films and theater.

(2) **Reciprocal Programs**

PLU currently offers seven exchange programs. These academic programs provide a limited number of exchanges each year. In all cases, the PLU student is integrated into the local university and culture. PLU students pay normal PLU tuition fees and may use financial aid.

(a) **Norway:** PLU students may participate in an exchange program with Adger College in Kristiansand, Norway. Criteria used for selection of participants include proficiency in a Scandinavian language, a strong academic record, motivation, and personal adaptability. PLU students live in university housing and study Norwegian language and literature. This is a full academic year program.

(b) **Norway:** In addition to the program in Kristiansand, PLU students may participate in an exchange with Nordland College in Bodo, Norway. Scandinavian language proficiency is required for this full year program.

(c) **Sweden:** A student exchange program between PLU and the University of Linkoping began in the fall of 1982. Criteria used in the selection of participants include proficiency in a Scandinavian language, a strong academic record, motivation,

and personal adaptability. PLU students live in dormitories and study Scandinavian history, modern Scandinavian literature, Scandinavian political and social structure, and Swedish language. This is a full academic year program.

(d) **People's Republic of China—Zhongshan University:** PLU students may spend a full year in the People's Republic of China through an exchange with Zhongshan University in Guangzhou (Canton). At Zhongshan, students live in university housing and take four courses in Mandarin Chinese as well as a topical survey of Chinese culture and an independent study. Students should have had at least one year of Chinese language before applying.

(e) **People's Republic of China—Chengdu University of Science and Technology:** Students may spend a semester or year at Chengdu University of Science and Technology (CUST) in Chengdu. At CUST, in addition to classes in Mandarin and Chinese culture, students may take assorted science courses that are taught in English. A PLU professor will accompany the group and teach one of the courses. Extensive study tours are included. Fluency in Mandarin is not required.

(f) **Republic of China (Taiwan):** PLU students may spend a year studying at Tunghai University, a Christian university in Taichung. Applicants must be mature and flexible, and well prepared by course work and life experiences. Fluency in the Chinese language is not required. Students may study in a variety of disciplines at Tunghai University.

(g) **Tanzania:** In a consortium effort with other colleges and universities of The American Lutheran Church, PLU offers a six-month exchange opportunity at the Institute of Development at the University of Dar es Salaam in Tanzania. Following an orientation, students depart as a group for London, then Arusha and Dar es Salaam, Tanzania. Students may select from among a wide offering of courses at the Institute of Development.

(3) **Denmark's International Studies (DIS)** provides for semester, year-long, or summer study in English in Copenhagen. The instructors are Danish, representing faculty from nearby universities and schools. This program is Europe's largest study center for American students, allowing a wide variety of course offerings in liberal arts, international business, and architecture and design. A rich immersion in Danish culture is provided through living with the Danes, daily contact with Danish faculty, and optional language instruction. PLU students live with a Danish family. PLU credit is available directly through the DIS Program.

(4) **Institute of European Studies (IES)/Institute of Asian Studies (IAS)** offers semester, year-long, or summer study at various centers throughout the world. PLU students may choose to study in London or Durham, England; Paris or Nantes, France; Milan, Italy; Madrid, Spain; Freiburg, West Germany; Vienna, Austria; Mexico City, Mexico; Tokyo or Nagoya, Japan; and Singapore. Studies include a combination of local university courses and classes taught expressly for Institute students. Courses are taught in the language of the country where the center is located, except in Singapore, Nagoya, Tokyo, Vienna, and the European Common Market program in Freiburg, where instruction is in English. In all other cases, PLU students need to be conversant in the language of the country. Living arrangements vary from full room and board to independent housing. Each center allows for integration into the local culture through housing, student activities, field trips, and travel. Scholarships are available to qualified students at all IES/IAS centers.

(5) **Other Opportunities**

(a) **University of Oslo, Oslo, Norway** — Applicants must have one year of college Norwegian and have junior standing at the program start date. The "Oslo Year" incorporates Norwegian language, literature, and culture and is an excellent opportunity for the Scandinavian Studies student.

(b) **Cuernavaca, Mexico**—Fall and spring semester programs are offered in Cuernavaca. The fall semester, "Human Services in Latin American Context," focuses on the issues facing Latin America in the areas of education and social services. The spring program, "Program in Global Community," studies the issues related to Global Justice and Human Liberation in light of the Christian proclamation. Some Spanish language background is advised for both programs.

(c) **The School for Field Studies** provides summer and semester environmental field research courses throughout the world, immersing students directly in the eco-system they are studying and teaching the skills they will need to address critical environmental issues. Program sites include: Kenya (wildlife biology), Virgin Islands (marine biology, coral reef ecology), Australia (biogeography), Alaska (harbor seals, bald eagles), Ecuador (medicinal botany), North Atlantic (humpback whale ecology), Switzerland (endangered species), Costa Rica (deforestation), Panama (primate biology), Hawaii and Gulf of Mexico (dolphin biology), Germany (acid rain).

(d) **University of Lancaster, Lancaster, England** — This semester of full year program allows students to be integrated into a British University. There are over 500 courses offered by the University and special consideration is given to American students in pre-medical and other pre-professional fields.

(6) **Service Learning Programs (Experiential Education).** Rather than studying abroad in a traditional classroom setting, a student may prefer to spend a semester in a "classroom without walls." Through ties with several universities and educational programs, PLU will help the student arrange an experience that combines academic pursuits with study, observation, and social service in non-traditional settings. Service Learning program sites inlcude Britain, Ecuador, and Jamaica. Summer, fall, and spring programs are available in each country.

(7) **International Cooperative Education (Work/Study).** A unique opportunity to become acquainted with the work, language, and culture of a foreign country is provided through the International Cooperative Education Program. At present, ten-week summer work stations are available in England, Germany, Turkey, Thailand, Japan, and China.

In most locations, one or two years of a foreign language are required. Students successfully completing the screening process are provided a work contract for their stay and depart only after securing both employment and housing. Participants take a 2-credit International Work and Study course in the spring as preparation for the summer. During the ten-week program, which extends from mid-June through August, participants complete a 4-credit independent study, which is to be supervised by PLU instructors. The student's monthly salary depends on the position and the country.

(8) **Study Tours.**

(a) **Interim.** PLU also emphasizes travel courses during the January interim. Preliminary notices about the tours are available in April or May of each year, and the final sign-up is in November. Students should contact the instructor of each tour or the interim director for more information.

(b) Summer. PLU often offers travel courses during the summer. Coordinating offices for these tours include Summer Studies, Alumni, and Q Club. Also on file in the Study Abroad Office is information on summer study and travel programs around the world.

b. In addition to the PLU-sponsored programs, there are countless other opportunities for study abroad. Many U.S. colleges and universities have programs throughout the world, and PLU students may study through these programs by special arrangement. Information and application forms for several programs are available in the Study Abroad Office. Credtis awarded by an accredited U.S. college or university are transferable to PLU. However, PLU financial aid cannot be transferred to other colleges. Credits transferred to PLU after a study abroad experience sponsored by a U.S. accredited college or university will be recorded with a letter grade. Credits for studies directly in a foreign university will be recorded as pass/fail.

c. PLU students who plan to study directly in a foreign school (not in a program sponsored by a college in the U.S.A.) must be sure to file a letter of intent with the study abroad director and with the chair of their major department *before* leaving PLU. This letter must include what classes will be taken, where and for what length of time they will study abroad, and how the foreign experience

will relate to their academic program. On the basis of this information, plus a record of lectures attended and examinations completed, academic credit may be given by PLU. Students are advised to save all papers and other materials relating to coursework taken abroad. These efforts are necessary because foreign schools do not provide transcripts. All credits transferred to PLU will be pass/fail. PLU reserves the right to require examinations covering the subjects studied.

Foreign Languages

It is recommended that, before embarking, students acquire a solid foundation in the language of the country where they will be studying. Students may, with the assistance of the chair of the Department of Languages and the study abroad director, prepare a written request for academic credit in recognition of their advanced facility in a foreign language.

Financial Aid

Financial aid is available to qualified students who are studying through PLU-sponsored programs. Government loans can apply toward affiliated programs and other specially arranged programs.

General Information

In all cases, a student who is considering study in another country should first discuss plans with the study abroad director and, before departing, complete a leave of absence form from the Office of the Registrar. This will facilitate return to PLU at the conclusion of a foreign study program.

Attendance at a foreign university does *not* waive graduation requirements of PLU.

Languages

Learning foreign languages opens windows to the world. Meeting another people brings us to understand their culture, their hopes, and the way they see us. We discover how their language helps shape their world-view. And as we become able to think and live within that language, we gain the experience to look through their window back at our own culture. Knowledge of foreign languages has always been a mark of an educated person, and today foreign languages are as important as ever.

Knowing a foreign language can open doors to new experiences and challenging careers. A foreign language is useful and often necessary for careers in education, law, government services, medicine, and journalism. Knowing a foreign language can provide more flexibility in choosing a profession and can allow greater mobility within in. Students considering a career in education should note that the demand for foreign language teachers continues to rise.

The department encourages students to study abroad as part of their undergraduate programs. Cooperation with foreign universities insures a range of such opportunities in Austria, China, Denmark, France, Germany, Mexico, Norway, Spain, and Sweden. Language students may also earn credit in the International Cooperative Education Program, which places students in summer jobs in several European countries.

Majors are available in Classics, French, German, Norwegian, Scandinavian Area Studies, and Spanish. Minors are offered in French, German, Greek, Latin, Norwegian, and Spanish. Instruction in Chinese and American Sign Language is also given. Through a special arrangement, PLU students may enroll in Japanese language courses at the University of Puget Sound.

FACULTY

Webster, *Chair;* **R. Brown, DeSherlia, Faye, Hua, M. Jensen, Predmore, Rasmussen, Snee, R. Swenson, Toven. Assisted by Kollock, Sharon, Wu.**

LITERATURE CORE REQUIREMENT: The department offers literature courses in English translation, as well as in the original language. All such courses meet the general university literature requirement (Core I).

PLACEMENT IN LANGUAGE CLASSES: There are no departmental prerequisites for the study of foreign languages. Students with previous experience in a language may qualify for placement into intermediate or advanced courses. To determine the appropriate level, students take the language placement examination at the beginning of the fall semester and consult with the appropriate faculty member.

Potential majors are encouraged to obtain as much high school preparation as possible. Those qualifying for advanced placement may be allowed to waive certain major or minor requirements.

BACHELOR OF ARTS MAJORS: Requirements for the various majors are listed below under the individual languages. Transfer students will normally take 16 or more of their major hours at PLU.

PROSPECTIVE TEACHERS: A full range of teaching majors and minors is offered. The required professional methods courses is Languages 445. Students preparing to teach in junior or senior high school may earn either a Bachelor of Arts degree in French, German, or Spanish along with certification from the School of Education, or a Bachelor of Arts in Education degree with a teaching major in French, German, or Spanish. In Scandinavian Studies, an elementary teaching major and secondary and elementary teaching minors are available.

See the School of Education section of this catalog for the certification requirements and the Bachelor of Arts in Education requirements.

HONORS MAJOR: Requirements for an honors major in languages are as follows: (1) a major in one foreign language; (2) a minor in a second foreign language; (3) one year of study at the college level of a third foreign language; (4) the second or third language must be a classical language; (5) a minimum grade point average of 3.5 in all courses taken in PLU's Department of Languages; (6) at least one departmentally approved term abroad; and (7) presentation of a senior paper to the department.

MINOR PROGRAMS: Requirements for the various minors are listed below under the individual languages. At least 8 semester hours must be taken in residence.

COURSE OFFERINGS

Courses in the Department of Languages are offered in the following general fields in addition to elementary, intermediate, and advanced language:

CULTURAL HISTORY

A. In English
Classics 250—Classical Mythology
Classics 321—Greek Civilization
Classics 322—Roman Civilization
Scan 150—Introduction to Scandinavia
Scan 322—Contemporary Scandinavia
Scan 323—The Vikings
Scan 324—The Emigrants

B. In Respective Language
French 321—French Civilization and Culture
German 321—German Civilization to 1750
German 322—German Civilization Since 1750
Spanish 321—Spanish Civilization and Culture
Spanish 322—Latin American Civilization and Culture

LITERATURE

A. In English
Languages 271—Literature and Society in Modern Europe
Languages 272—Literature and Social Change in Latin America
Chinese 371—Chinese Literature in Translation
Classics 250—Classical Mythology
Scan 250—Masterpieces of Scandinavian Literature
Scan 421—Ibsen and Strindberg
Scan 422—Twentieth Century Scandinavian Literature

B. In Respective Language
French 421, 422—Masterpieces of French Literature
French 431, 432—Twentieth Century French Literature
German 421—German Literature from the Enlightenment to Realism
German 422—Twentieth Century German Literature
Spanish 421, 422—Masterpieces of Hispanic Literature
Spanish 431, 432—Twentieth Century Hispanic Literature

LANGUAGES

100 ENGLISH FOR NON-NATIVE SPEAKERS
Intensive study and practice in reading, writing, and speaking English. Focus on the writing process, with particular emphasis on revising and editing. Critical reading, basic research skills, conversation, and cultural orientation will also be stressed. Does not meet general university requirement in writing. Tally card required. I II (4)

271 LITERATURE AND SOCIETY IN MODERN EUROPE
Reading and discussion of works in English translation by authors like Flaubert, Ibsen, and Th. Mann, who exemplify Realism and Naturalism in various European literatures. Emphasis on social themes, including life in industrial society, the changing status of women, and class conflict. No prerequisite. Satisfies the general university core requirement in literature. (4)

272 LITERATURE AND SOCIAL CHANGE IN LATIN AMERICA
Readings in English translation of fiction from modern Latin America. Discussions focus on social and historical change and on literary themes and forms. Authors include major figures like Carlos Fuentes, Mario Vargas Llosa, Gabriel Garcia Marquez, and Jorge Luis Borges. No prerequisite. Satisfies the general university core requirement in literature. (4)

276 INTERNATIONAL WORK AND STUDY
An orientation for foreign study, service learning, or work abroad. Through individual projects the political and economic systems, geography, artistic heritage, and ethical traditions of countries where students will live, receive detailed study. Coping with culture shock and the idiosyncrasies of daily living are also emphasized. (2)

445 METHODOLOGY OF TEACHING FOREIGN LANGUAGES
Theory and techniques of foreign language teaching; emphasis on developing proficiency in a second language; attention paid to special problems in the individual languages. (2)

491, 492 INDEPENDENT STUDY (1-4)

597, 598 GRADUATE RESEARCH (2-4)

CHINESE

101, 102 ELEMENTARY CHINESE
Introduction to Mandarin Chinese. Basic skills in listening, speaking, reading, and writing. Laboratory practice required. I, II (4, 4)

201, 202 INTERMEDIATE CHINESE
Develops further the ability to communicate in Chinese, using culturally authentic material. Laboratory practice required. Prerequisite: 102 or equivalent. I, II (4, 4)

351 COMPOSITION AND CONVERSATION
Review of grammar with emphasis on idiomatic usage; reading of contemporary authors as models of style; conversation on topics of student interest. Conducted in Chinese. Prerequisite: 202 or equivalent. I (4)

371 CHINESE LITERATURE IN TRANSLATION
An introduction to the most important works and writers of the Chinese literary tradition, from early times to the modern period. Poetry, prose, drama, and fiction will be included. Slide and film presentations supplement the required readings. No knowledge of Chinese required. (4)

CLASSICS

The Classics Program is a cooperative effort among the Departments of Languages, History, Philosophy, Religion, and Art. Its goal is to unite the "heart of the liberal arts" with the mind, through history and philosophy, and the soul, through religion, and to embellish this trinity of themes with the visual experience of art.

This interdepartmental major requires the completion of 40 semester hours, including at least one year of one of the classical languages and two of the other (Greek and Latin). The remaining courses are selected from the list below in consultation with the program coordinator.

Latin 101-202-Elementary
Latin 201-202-Intermediate
Greek 101-102-Elementary
Greek 201-202-Intermediate
Art 110-Introduction to Art
Art 180-History of Western Art I
Art 386-Imagery and Symbolism
Classics 250-Classical Mythology
Classics 321-Greek Civilization
Classics 322-Roman Civilization
English 231-Masterpieces of European Literature
Philosophy 331-Ancient Philosophy
Religion 211-Religion and Literature of the Old Testament
Religion 212-Religion and Literature of the New Testament
Religion 221-Ancient Church History
Religion 330-Old Testament Studies
Religion 331-New Testament Studies
Independent Study Courses
Selected Interim Courses

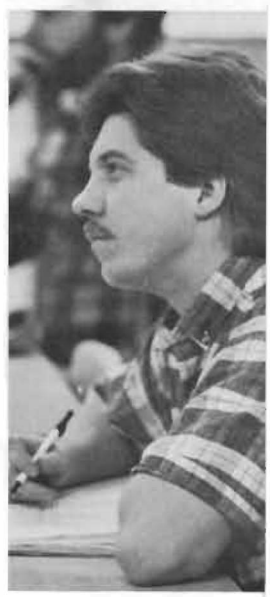
Students are expected to become familiar with the reading list for that part of the program (art, literature, history, philosophy, or religion) in which their interest lies.

The program is designed to be flexible. In consultation with the Classics Committee, a student may elect a course or courses not on the classics course list.

250 CLASSICAL MYTHOLOGY
Introduction to classical mythology; study of the major myths of Greece and Rome through the texts of Homer, Hesiod, the Greek tragedians, Appollonius, Vergil, and Ovid; emphasis on the traditions of mythology, going back to pertinent Mesopotamian and Hittite materials, and forward to influences of classical myths on later literature and arts; attention to modern interpretations of ancient myths. All readings in English; satisfies the general university core requirement in literature. (4)

321 GREEK CIVILIZATION
The political, social, and cultural history of Ancient Greece from the Bronze Age to the Hellenistic period. Special attention to the literature, art, and intellectual history of the Greeks. (Cross-referenced with HIST 321) (4)

322 ROMAN CIVILIZATION
The history of Rome from the foundation of the city to A.D. 337, the death of Constantine. Emphasis on Rome's expansion over the Mediterranean and on its constitutional history. Attention to the rise of Christianity within a Greco-Roman context. (Cross-referenced with HIST 322) (4)



GREEK
Minor in Greek: 20 semester hours, which may include 101-102.

101, 102 **ELEMENTARY GREEK**
Basic skills in reading classical, *koine*, and patristic Greek. I, II (4, 4)

201, 202 **INTERMEDIATE GREEK**
Review of basic grammar; reading in selected classical and New Testament authors. I, II (4, 4)

491, 492 **INDEPENDENT STUDY** (2-4)

LATIN
Minor in Latin: 20 semester hours, which may include 101-102.

101, 102 **ELEMENTARY LATIN**
Basic skills in reading Latin; an introduction to Roman literature and culture. I, II (4, 4)

201, 202 **INTERMEDIATE LATIN**
Review of basic grammar; selected readings from Latin authors. I, II (4, 4)

491, 492 **INDEPENDENT STUDY** (2-4)

FRENCH

Major in French: A minimum of 32 semester hours beyond 101-102, including 201-202, 321, 351-352 and three 400-level courses.

Minor in French: 20 semester hours, excluding 101-102 and including 201-202, 351, and two additional upper division courses.

101, 102 **ELEMENTARY FRENCH**
Essentials of pronunciation, intonation, and structure; basic skills in listening, speaking, reading, and writing. Laboratory attendance required. I, II (4, 4)

201, 202 **INTERMEDIATE FRENCH**
Review of basic grammar; development of vocabulary and emphasis on spontaneous, oral expression. Reading selections which reflect France's cultural heritage and society. Laboratory attendance required. I, II (4,4)

321 **CIVILIZATION AND CULTURE**
Present-day France as reflected in current literature, periodicals, television and films, written compositions and oral reports; conducted in French. Prerequisite: 202. (4)

351, 352 **COMPOSITION AND CONVERSATION**
Advanced grammar, stylistics, composition, and conversation on current topics; conducted in French. Prerequisite: 202. I, II (4, 4)

421, 422 **MASTERPIECES OF FRENCH LITERATURE**
Authors representative of major periods from the Middle Ages through the nineteenth century; the style and structure and the moral and artistic intentions of such authors as Rabelais, Montaigne, Moliere, Corneille, Pascal, Voltaire, Rousseau, Hugo, and Baudelaire. Prerequisite: 202. I, II a/y (4, 4)

431, 432 **TWENTIETH CENTURY FRENCH LITERATURE**
Selected twentieth century writers from France and other francophone countries. May include Gide, Camus, Sartre, Beckett, Aimee Cesaire, and Anne Hebert. Prerequisite: 202. I, II a/y (4, 4)

491, 492 **INDEPENDENT STUDY** (2-4)

GERMAN

Major in German: A minimum of 32 semester hours beyond 101-102, including 201-202, 321-322, 351-352, and two 400-level courses.

Minor in German: 20 semester hours, excluding 101-102 and including 201-202, 351, and two additional upper division courses.

101, 102 **ELEMENTARY GERMAN**
Introduction to the German language. Basic skills of oral and written communication in classroom and laboratory practice. Use of materials reflecting contemporary German life. Meets five hours weekly. I, II (4, 4)

201, 202 **INTERMEDIATE GERMAN**
Continued practice in oral and written communication in classroom and laboratory. Use of materials which reflect contemporary life as well as the German cultural heritage. Meets four hours weekly. I, II (4, 4)

321 **GERMAN CIVILIZATION TO 1750**
From the Middle Ages to the Enlightenment. A survey of German culture and its expression in creative works of art, music and literature, with particular emphasis on Martin Luther and the Protestant Reformation. Conducted in German. Prerequisite: 202. I a/y (4)

322 **GERMAN CIVILIZATION SINCE 1750**
From the Enlightenment to the present. This survey covers representative works and trends in German politics, philosophy, literature, art and music, with emphasis on the Age of Goethe and Beethoven. Conducted in German. Prerequisite: 202. II a/y (4)

351, 352 **COMPOSITION AND CONVERSATION**
Intensive review of grammar with emphasis on idiomatic usage; use of contemporary authors as models of style. Conversation on topics of student interest. Conducted in German. Prerequisite: 202 or equivalent. I, II (4, 4)

421 **GERMAN LITERATURE FROM THE ENLIGHTENMENT TO REALISM**
Representative works of German literature from about 1750 to 1890, including *Sturm und Drang*, Classicism and Romanticism. Reading will include such authors as Goethe, Schiller, Buchner and Keller. Prerequisite: 202. I a/y (4)

422 **TWENTIETH CENTURY GERMAN LITERATURE**
Representative works from Naturalism to the present, including Expressionism and Socialist Realism. Readings will cover works from both east and west, and will include such authors as Brecht, Kafka, Thomas Mann, Rilke and Seghers. Prerequisite: 202. II a/y (4)

451 **ADVANCED COMPOSITION AND CONVERSATION**
Emphasis on idiomatic German using newspapers and other current sources for texts. Strongly recommended for students planning to obtain a credential to teach German in public secondary schools. Students should take this course in the junior or senior year. Conducted in German. Prerequisite: 352. (4)

491, 492 **INDEPENDENT STUDY** (2-4)

NORWEGIAN

Major in Norwegian: A minimum of 32 semester hours, including 101-102, 201-202, 351-352, and Scandinavian 421 or 442.

Minor in Norwegian: 20 semester hours, which may include 101-102.

101, 102 **ELEMENTARY NORWEGIAN**
Introduces the students to the pleasure of speaking, reading, and writing a foreign language. These skills are developed through a conversational approach, using songs and other cultural materials. I, II (4, 4)

201, 202 **INTERMEDIATE NORWEGIAN**
Develops a command of the language while further acquainting students with the Norwegian cultural heritage. Reading selections introduce Norwegian folklore and daily life. I, II (4, 4)

351 **CONVERSATION AND COMPOSITION**
Increases student ability for self-expression, both orally and in writing. Contemporary materials are selected as models of style and usage. Prerequisite: 202 or equivalent. I (4)

352 **ADVANCED CONVERSATION AND COMPOSITION**
Emphasizes the finer points of structure, style, and good taste. Prerequisite: 351 or equivalent. II (4)

491, 492 **INDEPENDENT STUDY** (2-4)

SCANDINAVIAN

Major in Scandinavian Area Studies: 40 semester hours: A cross-disciplinary approach to the study of Scandinavia. See the section of this catalog on Scandinavian Area Studies.

150 INTRODUCTION TO SCANDINAVIA
An overview of the Nordic countries, highlighting contributions in art and music and the cultural life of Denmark, Finland, Iceland, Norway, and Sweden. The roads to parliamentary democracy and current issues in the five nations are also outlined. (2)

250 MASTERPIECES OF SCANDINAVIAN LITERATURE
A survey of major authors and works from the Scandinavian countries, beginning with the prose and poetry of the Viking Age. The contributions of Hans Christian Andersen, Knut Hamsun, Selma Lagerlof, and others are discussed. All readings in English translation. Satisfies the general university core requirement in literature. (4)

322 CONTEMPORARY SCANDINAVIA
Neutrality and occupation; the emergence of the welfare state; social reforms, planned economies, and cultural policies; Scandinavia and the European community. Readings in the original for majors; class conducted in English. a/y (4)

323 THE VIKINGS
The world of the Vikings; territorial expansion; interaction of the Vikings with the rest of Europe. In English. (2)

324 THE EMIGRANTS
The mass emigration from Scandinavia to North America; reasons for the exodus; life in the new homeland. In English. (2)

421 IBSEN AND STRINDBERG
The great writers of nineteenth century Scandinavian literature—Henrik Ibsen and August Strindberg—are studied against the backdrop of their time and the work of other authors who contributed to the breakthrough of modern forms and themes. Emphasis on drama. Class conducted in English; readings in translation for non-majors. Satisfies the general university core requirement in literature. a/y (4)

422 TWENTIETH CENTURY SCANDINAVIAN LITERATURE
Recent trends in Scandinavian literature are illustrated by leading writers like Isak Dinesen, Tarjei Vesaas, and Par Lagerkvist. Emphasis on prose fiction and poetry. Class conducted in English; readings in translation for non-majors. Satisfies the general university core requirement in literature. a/y (4)

491, 492 INDEPENDENT STUDY (1-4)

SIGN LANGUAGE

101, 102 SIGN LANGUAGE
An introduction to the structure of American Sign Language and to the world of the hearing-impaired. Basic signing skills and sign language vocabulary; fingerspelling; the particular needs and problems of deaf people. Material presented through demonstrations, drills, mime, recitals, lectures, and discussions. I, II (4, 4)

SPANISH

Major in Spanish: A minimum of 32 semester hours beyond 101-102, including 201-202, 321, 322, 351-352, and two 400-level courses.

Minor in Spanish: 20 semester hours, excluding 101-102 and including 201-202, 351, and two additional upper division courses.

101, 102 ELEMENTARY SPANISH
Essentials of pronunciation, intonation, and structure; basic skills in listening, speaking, reading, and writing. Laboratory attendance required. I, II (4, 4)

201, 202 INTERMEDIATE SPANISH
A continuation of elementary Spanish; reading selections which reflect the Hispanic cultural heritage as well as contemporary materials. Laboratory attendance required. I, II (4, 4)

321 CIVILIZATION AND CULTURE
Historic and artistic elements which have shaped Spanish thought and behavior from the beginnings to the present; conducted in Spanish. Prerequisite: 202. I (4)

322 LATIN AMERICAN CIVILIZATION AND CULTURE
Historic, artistic, literary, sociological, and geographic elements shaping the development of the Spanish-speaking New World. Both Hispanic and non-Hispanic elements will be studied. Prerequisite: 202 or equivalent. II (4)

351, 352 COMPOSITION AND CONVERSATION
Advanced grammar, stylistics, and composition; conversation based on everyday situations, current events, and pertinent literary selections. Conducted in Spanish. Prerequisite: 202 or equivalent. I, II (4,4)

421, 422 MASTERPIECES OF HISPANIC LITERATURE
All genres of major literary works from the *Poema del Cid*, to 1898; forces which produced the literature; appreciation of literature as a work of art. Prerequisite: 202. I, II a/y (4, 4)

431 TWENTIETH CENTURY LITERATURE OF SPAIN
Drama, novel and essay of Spain from the "Generation of 1898" to the present. Prerequisite: 202 or equivalent. (4)

432 MODERN SPANISH-AMERICAN LITERATURE
Development of the literature of Mexico, Central and South America from the "Modernista" movement (1888) to the present. Emphasis on period will vary. (4)

491, 492 INDEPENDENT STUDY (2-4)

Legal Studies Program

Legal Studies is an interdisciplinary degree program focusing on the nature of law and judicial processes. Consistent with the purposes of the American Legal Studies Association, the Legal Studies Program at PLU provides alternative approaches to the study of law from the academic framework of the social sciences, the humanities, business, and education. The program emphasizes the development of a critical understanding of the functions of law, the mutual impacts of law and society, and the sources of law. Students in Legal Studies pursue these goals through courses,

directed research, and internships in offices and agencies involved in litigation and legal processes.

FACULTY

Atkinson, *Director;* **Brue, Carp, Dwyer-Shick, Jobst, MacDonald, Menzel.**

BACHELOR OF ARTS MAJOR: 32 semester hours.

1. *Required courses* (12 hours):
   Introduction to Legal Studies (POLS 170)
   Judicial Process (POLS 371)
   Legal Research (POLS 374)
2. *General electives* (8 hours): Two courses from the following:
   American Legal History (HIST 451)
   Comparative Legal Systems (POLS 381)
   Philosophy of Law (PHIL 328)
   Sociology of Law (SOC 351)
3. *Special electives* (12 hours): Three courses from the following (also, courses in group 2 not taken to fulfill general elective requirements may be used to fulfill special elective requirements in group 3):
   Business Law (BA 435)
   Civil Liberties (POLS 373)
   Constitutional Law (POLS 372)
   Industrial Organization and Public Policy (ECON 371)
   Internship in Legal Studies (POLS 471)
   Law and Society (BA 230)

MINOR: 20 semester hours, including Political Science 170 and four additional courses selected in consultation with the program director.

Marriage and Family Therapy

The Marriage and Family Therapy program is a graduate program leading to the M.A. in Social Sciences. For further information, consult the Graduate Catalog.

COURSE OFFERINGS

500 HUMAN DEVELOPMENT

Individual personality development, normal and abnormal manifestations, over the life span. The course, which is integrated with systems content, also surveys how personality relates to social relationships, especially within the family. (4)

501 GRADUATE WORKSHOPS

Graduate workshops in special fields or areas for varying periods of time. (1-4)

503 SYSTEMS APPROACH TO MARRIAGE AND FAMILY THERAPY

An introduction to the systems theory approach for treatment strategy and intervention. Exploration of the family life cycle and family systems oriented assessment models. Strategies for initial interviews, hypothesis formulation, designing a strategy of intervention, and the process of termination. (4)

504 FAMILY DEVELOPMENT

The study of family interaction from a developmental viewpoint. The course explores how family life cycle stages are affected by divorce, remarriage, ethnicity, feminist issues, and other unplanned events. Students participate in a one-hour lab in the Family and Children's Center. (4)

507 COMPARATIVE MARRIAGE AND FAMILY THERAPY

Intensive comparative study of the theoretical rationale of the prominent schools of thought within the field of marriage and family therapy. Studies include the range of strategies, techniques and research of structural, behavioral communication, and analytical approaches to marriage and family therapy. (4)

510 HUMAN SEXUALITY AND SEX THERAPY

Basic principles and strategies of treatment for the six most common sexual dysfunctions. The nature of sexual health, a brief review of anatomy and physiology of the sexual response, and the biological and psychological determinants of sexual dysfunction. (2)

511 PSYCHOSOCIAL PATHOLOGY: RELATIONSHIP TO MARRIAGE AND THE FAMILY

The assessment of psychosocial pathology and its relationship to family interpersonal structures and dynamics. Exploration of the treatment techniques and assumptions of leading family therapists regarding such psychosocial dysfunctions as divorce, family violence, delinquency, psychosomatic symptoms, drug addiction, and disturbed adolescents. (4)

512 PROFESSIONAL STUDIES IN MARRIAGE AND FAMILY THERAPY

Professional ethics and Washington State laws which affect clinical practice are studied, including family law, legal responsibilities, rules of confidentiality and interprofessional cooperation. Further study explores licensure, certification, and the role of professional organizations. (3)

519 PRACTICUM I (4)

521 PRACTICUM II (2)

523 PRACTICUM III (2)

525 PRACTICUM IV (4)

The four semesters of practica are part of a continuous process toward developing specific therapeutic competencies in work with marriages and families. The practica present a competency-based program in which each student is evaluated regarding: 1) case management skills; 2) relationship skills; 3) perceptual skills; 4) conceptual skills; and 5) structuring skills.

520 THEORY I (2)

522 THEORY II (2)

524 THEORY III (2)

The three semesters of theory taken in conjunction with 519, 521, and 523 constitute an in-depth study of one approach toward marriage and family therapy with an emphasis on applying theory in practice.

590 **GRADUATE SEMINAR**
Selected topics as announced. Prerequisite: consent of the instructor. (1-4)

591 **DIRECTED STUDY (1-4)**

595 **GRADUATE READINGS**
Independent study card required. (4)

598 **RESEARCH PROJECT (4)**

599 **THESIS (4)**

Mathematics

Mathematics is a many-faceted subject that is extremely useful in its application, but at the same time is fascinating and beautiful in the abstract. It is an indispensable tool for industry, science, government, and the business world, while the elegance of its logic and beauty of form have intrigued scholars, philosophers, and artists since earliest times.

The mathematics program at Pacific Lutheran University is designed to serve five main objectives: (1) To provide backgrounds for other disciplines, (2) to provide a comprehensive pre-professional program for those directly entering the fields of teaching and applied mathematics, (3) to provide a nucleus of essential courses which will develop the breadth and maturity of mathematical thought for continued study of mathematics at the graduate level, (4) to develop the mental skills necessary for the creation, analysis, and critique of mathematical topics, and (5) to provide a view of mathematics as a part of humanistic behavior.

FACULTY: Mathematics and Computer Science

Brink, *Chair;* **Batker, Beaulieu, Benkhalti, Blaha, Dollinger, B. Dorner, C. Dorner, Edison, Hauser, J. Herzog, M. Herzog, N. C. Meyer, C. L. Nelson, G. Peterson, Rosenfeld, Scott, Spillman, Yiu.**

BEGINNING CLASSES

Majors in mathematics, computer science, and other sciences usually take Math 151 and 152 (calculus). Those who have had calculus in high school may omit Math 151 and enroll in 152 after consultation with a member of the departmental faculty. Those who have less mathematics background may enroll in Math 111 or Math 112, then Math 140 before taking 151. A placement test is used to assist in proper placement in beginning math classes.

Business majors usually take Math 128. Those wishing a stronger background should take Math 151 and Math 230 (or 331) in place of Math 128.

Others choose from Math 115, 128, 140, or 151 or Computer Science 110-210 or 144 depending on their interests and levels of preparation.

Remedial: Math 91 (Intermediate Algebra) is available for those who are not ready for other classes. Math 91 does not count toward graduation requirements.

MATHEMATICS MAJOR

The foundation of the mathematics program for majors is the four semester calculus and linear algebra sequence, Math 151, 152, 253, and 331. These courses are usually taken in sequence the first four semesters. Students with a calculus background in high school may receive advanced placement into the appropriate course in the sequence. Upper division work includes courses in modern algebra, analysis, statistics, applied mathematics, and topology. Students planning graduate work should complete 434 and 436.

Students majoring in mathematics are encouraged to include work in computer science. Since many careers involve applying mathematics to other areas, it is a good idea to pick one or more subjects outside mathematics for additional study (perhaps leading to a minor). While many subjects are appropriate, some of the more common ones are economics, business, physics, engineering, chemistry, and biology.

A typical major program in mathematics is as follows:

Freshman year:	Math 151, 152 (or 162) Computer Science 144
Sophomore year:	Math 253, 331 Physics 153, 154 (if not taken earlier)
Junior & Senior years:	Math 433, 434, 455, 456, 486 and other electives from mathematics and computer science.

BACHELOR OF ARTS MAJOR: Minimum of 28 semester hours in mathematics courses, including 151, 152 (or 162), 253, 331, 433, 455, 486, and either 434 or 456. The choice between 434 or 456 may be replaced by taking 8 semester hours from 321, 341, 345-346, 351, and 490. Required supporting: Computer Science 144, which should be taken in the freshman year. 8 semester hours in physics are strongly recommended. 230, 323 and 446 may not be counted toward the major.

BACHELOR OF SCIENCE MAJOR: 40 semester hours in mathematics courses numbered above 150, including 151, 152, 253, 331 and 486 and at least 20 additional semester hours of upper division mathematics courses. 12 hours of the upper division requirements must come from 433, 434, 455, and 456. Required supporting: Computer Science 144, which should be taken in the freshman year; Physics 153-154 together with labs 163-164. Physics 356 or Computer Science 348 or 570 may be substituted for one course of upper division mathematics. 230, 323 and 446 may not be counted toward the major.

BACHELOR OF ARTS IN EDUCATION: See School of Education.

MINOR IN MATHEMATICS: 20 semester hours of mathematics courses, including 151, 152, 253, and 8 hours of upper division mathematics courses. Strongly recommended: Computer Science 144 or 110. Interim courses and 323 and 446 may not be counted toward the mathematics minor.

MINOR IN STATISTICS: See Statistics section of this catalog.

COURSE OFFERINGS

A grade of C or higher is strongly recommended in all prerequisite courses. A placement test may be required before registering for beginning mathematics courses if prerequisites have not been completed at PLU.

91 **INTERMEDIATE ALGEBRA**
A review of high school algebra: solving linear and quadratic equations, factoring, simplifying expressions, exponents and graphing. Designed for students whose mathematical preparation is inadequate for Math 128 or Math 111. Does not count toward graduation requirements. I (4)

Mathematics

99 DIRECTED STUDY IN FUNDAMENTAL MATHEMATICS
Designed for students who need further help with the basics in mathematics to prepare them for higher level courses. Enrollment by arrangement with instructor. Does not count toward graduation requirements. (1-4)

111 COLLEGE ALGEBRA
A review of algebra emphasizing problem solving skills and applications to business problems. This class is appropriate as preparation for Math 128 or 112 (and then 140). Prerequisite: Two years of high school algebra or Math 91. I II (2)

112 PLANE TRIGONOMETRY
Trigonometric and inverse trigonometric functions, identities, graphing, solution of triangles; logarithmic and exponential functions and other tools such as complex numbers. For students who are proficient in algebra but do not know trigonometry. Prerequisite: at least two years of high school algebra. I II (2)

115 INTRODUCTION TO THE WORLD OF MATHEMATICS AND COMPUTERS
A study of mathematics and computers in the modern world with a wide variety of applications and a historical perspective. This class is designed for students without extensive knowledge of mathematics, but who want to acquire a basic understanding of the nature of mathematics and computers. Not intended for majors in science or mathematics or computer science. Some BASIC and/or LOGO programming is included. Prerequisite: one year of high school algebra. I II (4)

128 MATHEMATICS FOR BUSINESS AND THE BEHAVIORAL SCIENCES
Matrix theory and linear programming, introduction to differential and integral calculus. Concepts are developed stressing applications. This course is primarily for business administration majors but is open to all students interested in business, economics, and behavioral science applications. Prerequisite: two years of high school algebra or Math 111 or equivalent. I II (4)

140 FUNCTIONS, ANALYTIC GEOMETRY AND PROBABILITY
Problem solving and analytic geometry are emphasized. Topics include systems of equations, matrices, induction, the binomial theorem, and probability (including an introduction to expected value and standard deviation). Additional topics may be selected from inequalities, trigonometry, complex numbers, and the theory of equations. This course will also prepare students for calculus and computer science. Prerequisites: Math 111 and 112 or equivalent high school material. I II (4)

151 ANALYTIC GEOMETRY AND CALCULUS
Analytic geometry, functions, limits, derivatives and integrals with applications. Prerequisite: Math analysis or precalculus in high school or Math 140 or equivalent. I II (4)

152 ANALYTIC GEOMETRY AND CALCULUS
Applications and techniques of integration, transcendental functions, polar coordinates, improper integrals, and infinite sequences and series. Prerequisite: 151. I II (4)

162 HONORS CALCULUS II
Same content as Math 152 with emphasis on challenging material and independent work. Prerequisite: Math 151 and consent of instructor. Substitutes for Math 152 in all prerequisites and requirements. Math 152 and 162 cannot both be taken for credit. (4)

199 DIRECTED READING
Supervised study of topics selected to meet the individual's needs or interests; primarily for students awarded advanced placement. Admission only by departmental invitation. (1-2)

230 MATRIX ALGEBRA
A survey of matrix algebra and determination with applications, such as linear programming. A first look at abstract methods including some techniques of proof. Prerequisite: 151. I II (2)

245 DISCRETE STRUCTURES
Provides the mathematical background necessary for upper division work in computer science. Sets, relations, functions combinatorics, probability and graph theory and their relation to topics in computer science. Techniques of logical reasoning including methods of quantified logic, deduction, induction, and contradiction will be taught and applied throughout the course. Prerequisite: 152. I II (4)

253 MULTIVARIABLE CALCULUS AND DIFFERENTIAL EQUATIONS
An introduction to vectors, multidimensional calculus, partial differentiation, vector analysis, differential equations, and applications. Emphasis on using these topics as tools for solving physical problems. Prerequisite: 152. I II (4)

321 GEOMETRY
Foundations of geometry and basic theory in Euclidean, projective, and non-Euclidean geometry. Prerequisite: 152 or consent of instructor. I (4)

323 MODERN ELEMENTARY MATHEMATICS
Concepts underlying traditional computational techniques; a systematic analysis of arithmetic; an intuitive approach to algebra and geometry. Intended for elementary teaching majors. Prerequisite to EDUC 326. Prerequisite: consent of instructor. I II (4)

331 LINEAR ALGEBRA
Vectors and abstract vector spaces, matrices, inner product spaces, linear transformations. Proofs will be emphasized. Prerequisite: 152. I II (4)

334 ANALYSIS OF VARIANCE AND EXPERIMENTAL DESIGN
Random sampling, factors which destroy experimental design, one-way analysis of variance, two-way analysis of variance, factored design, block and latin square design. Students will also critique published experiments and perform an experimental design project. Prerequisite: STAT 231 or equivalent. a/y II 1990-91 (2)

341 MATHEMATICAL STATISTICS I
Introduction to probability (sample spaces, discrete and continuous distributions, expectations), Chebyshev's inequality, special distributions (binomial, Poisson, normal, gamma and chi square), statement of Central Limit Theorem, sampling distributions, multivariate, marginal and conditional distributions, confidence intervals, t-test, F-tests, hypothesis testing, survey of analysis of variance and regression. Prerequisite: 152. I (4)

342 MATHEMATICAL STATISTICS II
Statistical estimators and their properties, limiting distributions, moment generating functions and proof of Central Limit Theorem, convergence in probability and convergence in distribution, consistency, sufficient statistics and Lehmann-Sheffe Theorem, Bayesian statistics, order statistics and nonparametric methods, random walks, Markov chains and introduction to continuous time stochastic processes. Prerequisite: 341. a/y II 1989-90 (4)

345 INTRODUCTION TO NUMERICAL ANALYSIS
Numerical theory and applications in the areas of solutions of equations, linear systems, interpolation, and approximation. Prerequisite: 152 and (144 or 110) or consent of instructor. II (2)

346 NUMERICAL ANALYSIS
Continuation of 345, including numerical theory and applications in the areas of matrix theory, numerical differentiation and integration, and solution of differential equations. Prerequisites: 253 and 345 or consent of instructor. II a/y 1989-90 (2)

351 DIFFERENTIAL EQUATIONS
An introduction to differential equations emphasizing the applied aspect. First and second order differential equations, boundary-value and eigenvalue problems, power series solutions, nonlinear differential equations, numerical methods, the LaPlace transformation. Prerequisite: 253. II a/y 1990-91 (4)

381 SEMINAR IN PROBLEM SOLVING
This course is designed to improve advanced problem solving skills in mathematics. A goal of the course is participation in the Putnam Mathematics Competition. Students will work on problems from past mathematical competitions and other sources; they will present solutions to the group and discuss problem solving techniques. Pass/Fail only. Students may take this course more than once. Prerequisite: Math 152 or consent of instructor. I (1)

433 GROUP THEORY AND DISCRETE MATHEMATICS
Group theory with applications to discrete mathematics. Prerequisite: 331. I (4)

434 ABSTRACT ALGEBRA
A continuation of the algebraic topics from 433. Topics may include groups, rings, modules, fields, field extensions and linear algebra. Prerequisite: 433. a/y 1989-90 II (4)

446 MATHEMATICS IN THE SECONDARY SCHOOL
Methods and materials in secondary school math teaching. Basic mathematical concepts; principles of number operation, relation, proof, and problem solving in the context of arithmetic, algebra, and geometry. Prerequisite: 253 or 331 or equivalent. I (2)

455, 456 MATHEMATICAL ANALYSIS
Extended treatment of topics introduced in elementary calculus. Prerequisite: 253 and 331. 455 offered I each year; 456 offered II a/y 1990-91 (4.4)

486 SENIOR SEMINAR
Discussion of methods for communicating mathematical knowledge. Oral and written presentation by students of information learned in research under the direction of an assigned professor. Required of all senior mathematics majors seeking a B.A. or B.S. degree. Students take this course during their last two semesters before graduation and will receive an In Progress (IP) grade at the end of the first semester. Presentations will be given and grades assigned in the following semester. Prerequisites: Senior math major or consent of department chair. I II (2)

490 TOPICS IN MATHEMATICS
Selected topics from the list below or of current interest. II (1-4)

a. **Combinatorics**
Elementary counting methods, inclusion-exclusion principle, recurrence relations, generating functions, introduction to Polya counting theory and Ramsey theory. Prerequisite: 152 and either 230 or 331.

b. **Complex Analysis**
Complex numbers, functions of a complex variable, contour integration, Cauchy Integral Theorem, power series, residues. Prerequisite: 253.

c. **Graph Theory**
Paths, cycles, trees, planar graphs, Hamiltonian graphs, coloring, 4-color theorem, digraphs, applications. Prerequisite: 152 and either 230 or 331.

d. **Group Representations**
Introduction to groups, point groups, space groups, representations of groups, applications to problems in physics and physical chemistry. Prerequisite: 331. II 1991

e. **Number Theory**
Prime numbers, divisibility, modular arithmetic, introduction to Diophantine equations, applications. Prerequisite: 152.

f. **Operations Research**
Optimization problems, linear programming, network flow analysis, stochastic models, queueing theory. Prerequisite:152 and either 230 or 331.

g. **Partial Differential Equations**
Solutions and behavior of LaPlace, wave and heat equations, Fourier series and integrals, LaPlace transform. Prerequisite: 253.

h. **Stochastic Processes**
Properties of random variables and distributions, Markov chains, random walks, Poisson processes, birth and death processes. Prerequisite: 341 or consent of instructor.

i. **Topology**
Metric spaces, topological spaces, continuity, compactness, connectedness, homotopy. Prerequisite: 253 or 331. II 1990

j. **Transform Methods**
Transform methods, including continuous and discrete Fourier transforms, fast Fourier transforms, applications. Prerequisites: 152 and 331.

491, 492 INDEPENDENT STUDY
Prerequisite: consent of department chair. I II (1-4)

597, 598 GRADUATE RESEARCH
Open to master's degree candidates only. Prerequisite: consent of department chair. I II (1-4)

Music

The study of music is, in these times of stress and rapid change, a type of investment that can provide enduring satisfaction.

The staff and facilities of Pacific Lutheran University are such that students may pursue studies in many branches of music leading to academic degrees as well as lifelong enjoyment. Degree programs include the Bachelor of Arts, the Bachelor of Fine Arts, the Bachelor of Music, and the Master of Music, which is offered with concentration in either conducting, composition, education, or performance. The Bachelor of Arts in Education with a major in music is offered for those intending to become teachers in the public schools.

Both the undergraduate and graduate programs are accredited regionally and nationally. Pacific Lutheran University is an associate member of the National Association of Schools of Music.

PLU music graduates find places for themselves as teachers of music in public and private schools and colleges, and as conductors, composers, private teachers, and classroom teachers. A considerable number contribute greatly to church worship as organists, choir directors, or full-time ministers. Some have found satisfying careers in music merchandising, others in concert management. Still others, with emphasis on performance, are in opera and on the concert stage, as well as in popular entertainment, vocally and instrumentally.

Facilities include space and instruments for individual practice and recital. Private study in keyboard is available in piano, organ, and harpsichord. Other private study includes voice and all string, wind, and percussion instruments, taught by regularly performing musicians. Professional-quality experience is available to qualified performers in band, orchestra, choir, jazz, and chamber ensembles.

Exposure to musical literature is to be gained not only through intensive course work in history and literature, but also in attendance at the large number of concerts annually presented by the performing organizations as well as by students, faculty, and guest artists in recital.

It must be emphasized that music majors form but a part of the multi-faceted program of music at PLU. All students are eligible to audition for the performing organizations and constitute perhaps half of the membership. Introductory music courses during both the regular semesters and the interim are designed for exploration and self-fulfillment.

Music

FACULTY

Robbins, *Chair*; Bleecker, Dahl, Farner, Frohnmayer, Gard, Grieshaber, Gurevich, Harmic, Hoffman, C. Knapp, Kracht, L. Meyer, O'Neal, B. Poulshock, Sparks, Tremaine, Vaught Farner, Youtz; assisted by Agent, Dobbs, Eby, Field, Habedank, Harty, Kauble, S. Knapp, Moore, Nierman, Odegard, N. Poulshock, Pressley, Shapiro, Terpenning, Timmerman, Wall.

For introductory courses to the field of music, see the descriptions of Music 101, 102, 103, and 104.

Students intending to major in music should begin the major music sequences in the first year. Failure to do so may mean an extra semester or year to complete the major program.

Following is the program for all entering freshmen who intend to major in music:

Courses	Fall	Spring
Theory: 121, 122, 123, 124	4	3
Music History: 130		4
Ear Training: 125, 126	1	1
Private Instruction:	1	1
Large Ensemble (performance majors in some area may postpone this)	1	1
Physical Education	1	1
General University Requirements	4	4

MUSIC MINOR

MINOR: 22 semester hours, including Music 121, 123, 125; Music 126; Music 122, 124 or 127; 4 hours of Private Instruction (Music 202-219); 4 hours of Ensemble (Music 360-384); one of the following: Music 101, 102, 103, 104, 130, 230, 439 — or two of the following: Music 331, 335, 353, 354, 431, 432, 436, 437, 438; 1 hour of music elective.

UNDERGRADUATE MUSIC MAJOR DEGREES

ENTRANCE AUDITION: To be admitted to a music major program, prospective students must audition for the music faculty.

Music majors should fill out a declaration of major form during their first semester of enrollment in the program and be assigned to a music faculty adviser.

Only grades of "C-" or better in music courses may be counted toward a music major. Courses in which the student receives lower than a "C-" must be repeated unless substitute course work is authorized by the department.

MUSIC CORE: The following core is required in all music degree programs:

Theory: 121, 122, 123, 124, 223	9 hours
Music History: 130, 230	8 hours
Ear Training: 125, 126, 225, 226	4 hours
20th Century: 227	3 hours
	24 hours

The Music Core is fundamental to the pursuit of the music major and should be completed in sequence in the first four semesters of study. Music Core requirements must be fulfilled by enrollment in specific courses and may not be taken by means of independent study.

KEYBOARD PROFICIENCY: Basic keyboard skills are required in all music majors (B.M., B.M.E., B.M.A., B.A.). Attainment of adequate keyboard skills is 1) adjudicated by the Keyboard Proficiency Jury, administered each term and 2) for Bachelor of Music and Bachelor of Music Education students, a prerequisite to their sophomore juries (see below). Consult the Music Student Handbook for details.

MUSIC MAJOR JURIES: Students pursuing Bachelor of Music and Bachelor of Music Education degrees are required to pass sophomore and degree recital juries. Consult the Music Student Handbook for details.

BACHELOR OF ARTS MAJOR: Maximum of 40 semester hours including Music Core (24 hours), plus 4 hours of ensemble; 4 hours of literature/theory electives from 327-335, 423-439; 8 hours of private instruction. Keyboard proficiency required. In addition to requirements listed above, candidates for the B.A. degree must meet the foreign language/alternative requirement in the College of Arts and Sciences.

BACHELOR OF MUSIC EDUCATION:
Bachelor of Music in Education—K-12 Choral
Bachelor of Music in Education—K-12 Instrumental (Band Emphasis)
Bachelor of Music in Education—K-12 Instrumental (Orchestra Emphasis)
Consult the School of Education section of this catalog.

BACHELOR OF MUSIC EDUCATION— K-12 CHORAL

Music †	Core	24
Music 360-363	Large Ensemble	7
204/404/420**	Private Instruction: Voice	6(6 semesters*)
240†	Foundations of Music Education	3
248†	Guitar Laboratory	1
340†	Fundamentals of Music Education	2
342†	Materials in K-9 Music	2
345†	Basic Conducting	2
348†	Practicum in Music Education	1
421/422†	Advanced Keyboard Skills I/II	2
442†	Methods in K-9 Music	2
443†	Methods and Materials for Secondary Choral Music	2
445†	Advanced Conducting	2
453†	Vocal Pedagogy	2
	Total	58

Keyboard proficiency required.
Sophomore and degree juries required.
† Prerequisite for student teaching.
* Consecutive fall/spring semesters.
** Half recital.

BACHELOR OF MUSIC EDUCATION— K-12 INSTRUMENTAL (BAND EMPHASIS)

Music †	Core	24
Music 370/371/380	Large Ensemble	7
375/376	Jazz Ensemble	1
240†	Foundations of Music Education	3
245†	Percussion/Brass Laboratory	1
241/242†	String Laboratory	2
243/244†	Woodwind Laboratory	2, 4
246†	Brass Laboratory	1
326†	Orchestration	2
340†	Fundamentals of Music Education	2
345†	Basic Conducting	2
348†	Practicum in Music Education	1
2--/4--420**	Private Instruction	6(6 semesters*)
444†	Methods and Materials for School Band Music	3
445†	Advanced Conducting	2
	Total	58

Keyboard proficiency required.
Sophomore and degree juries required.
† Prerequisite for student teaching.
* Consecutive fall/spring semesters.
** Half recital.

BACHELOR OF MUSIC EDUCATION— K-12 INSTRUMENTAL (ORCHESTRA EMPHASIS)

Music †	Core	24
Music 370/371/380	Large Ensemble	7
381	Chamber Ensemble	1
240†	Foundations of Music Education	3
245†	Percussion/Brass Laboratory	1
241/242†	String Laboratory	2
243/244†	Woodwind Laboratory	2, 4
246†	Brass Laboratory	1
326†	Orchestration	2
340†	Fundamentals of Music Education	2
345†	Basic Conducting	2
348†	Practicum in Music Education	1
2--/4--420**	Private Instruction	6(6 semesters*)
445†	Advanced Conducting	2
454†	Methods and Materials for String Teachers	3
	Total	58

Keyboard proficiency required.
Sophomore and degree juries required.
† Prerequisite for student teaching.
* Consecutive fall/spring semesters.
** Half recital.

BACHELOR OF MUSICAL ARTS

Music	Core	24
Music 370/380/	Large Ensemble	6
2--/4--	Private Instruction	8
345	Basic Conducting	2
423	Form I	2
	Theory Electives	4
	Jazz Theory	
	Counterpoint, Adv. Counterpoint	
	Orchestration	
	Composition	
	Arranging	
	Form II, III	
	Performance Electives	4
	Private Instruction	
	Ensembles	
	Laboratory Classes	
	Pedagogy Classes	
	Improvisation	
	Electronic Music Practicum	
	Accompanying	
	Organ Improvisation	
	Advanced Keyboard Skills	
439	Senior Seminar: Topics in Music Literature	4
	Music Electives	8
	Total	62

Keyboard proficiency required.
In one cognate field, at least three courses beyond the introductory level.

BACHELOR OF MUSIC

Bachelor of Music in Instrumental Performance
Bachelor of Music in Organ Performance
Bachelor of Music in Piano Performance
Bachelor of Music in Vocal Performance
Bachelor of Music in Composition
Bachelor of Music in Church Music

BACHELOR OF MUSIC—INSTRUMENTAL PERFORMANCE

Music	Core	24
Music 370/371/		
380	Large Ensemble	8
323	Counterpoint	2
326	Orchestration	2
345	Basic Conducting	2
2/4	Private Instruction	22(8 semesters*)
420**		
381	Chamber Ensemble	4
384	Contemporary Arts Ensemble	1
423	Form I	2
424 or 425	Form II or III	2
445	Advanced Conducting	2
439	Senior Seminar: Topics in Music Literature	4
	Total	75

Keyboard proficiency required.
Sophomore and degree juries required.
* Consecutive fall/spring semesters.
** Half recital.

Violin/Viola majors will take an additional 2 semester hour of Music 491 Independent Study: String Pedagogy. Recommended: Music 324 Advanced Counterpoint.

BACHELOR OF MUSIC—ORGAN PERFORMANCE

Music	Core	24
	Ensemble (to include Chamber Ensemble)	5
323	Counterpoint	2
324	Advanced Counterpoint	2
331	Music of J.S. Bach	2
335	Church Music	2
345	Basic Conducting	2
352	Organ Improvisation	1
384	Contemporary Arts Ensemble	1
203/403	Private Instruction: Organ	18(8 semesters*)
420**		
218	Private Instruction: Harpsichord	2 (2 semesters)
423	Form I	2
424 or 425	Form II or III	2
436	History of Organ Building	2
437	Masterpieces of Sacred Music	2
438	Hymnology and Music of the Liturgy	2
439	Senior Seminar: Topics in Music Literature	4
	Total	75

Keyboard proficiency required.
Sophomore and degree juries required.
* Consecutive fall/spring semesters.
** Full recital.

BACHELOR OF MUSIC—PIANO PERFORMANCE

Music	Core	24
Music	Large Ensemble	2
323	Counterpoint	2
324	Advanced Counterpoint	2
345	Basic Conducting	2
202/402/ 420**	Private Instruction: Piano	22(8 semesters*)
218	Private Instruction: Harpsichord	1
351	Accompanying***	2
383	Two Piano Ensemble	2
384	Contemporary Arts Ensemble	1
423	Form I	2
424 or 425	Form II or III	2
431	History of Piano Literature and Performance	2
451	Piano Pedagogy***	4
439	Senior Seminar: Topics in Music Literature	4
421	Advanced Keyboard Skills I	1
	Total	75

Keyboard proficiency required.
Sophomore and degree juries required.
* Consecutive fall/spring semesters.
** Full recital.
***Piano performance majors may elect additional emphasis in accompanying or pedagogy. Those seeking emphasis in accompanying shall elect two additional hours of Music 351 and shall accompany two full vocal or instrumental recitals. Those seeking emphasis in pedagogy shall elect four additional hours of Music 451.

BACHELOR OF MUSIC—VOCAL PERFORMANCE

Music	Core	24
360-363	Large Ensemble	8
323	Counterpoint	2
345	Basic Conducting	2
204/404/ 420**	Private Instruction: Voice	19(8 semesters*)
253	Diction I	1
254	Diction II	1
353	Solo Vocal Literature	2
354	History of Music Theater	2
366	Opera Workshop	2
421/422	Advanced Keyboard Skills I/II	2
423	Form I	2
424 or 425	Form II or III	2
453	Vocal Pedagogy	2
439	Senior Seminar: Topics in Music Literature	4
	Total	75

Keyboard proficiency required.
Sophomore and degree juries required.
* Consecutive fall/spring semesters.
** Full recital.
Recommended: Music 324 Advanced Counterpoint
PE 241 Modern Dance
COMA 250 Fundamentals of Acting

BACHELOR OF MUSIC—COMPOSITION

Music	Core	24
	Large Ensemble	2
249	Electronic Music Laboratory	1
323	Counterpoint	2
324	Advanced Counterpoint	2
326	Orchestration	2
327	Composition (private study)	16
345	Basic Conducting	2
2/4	Private Instruction: Principal Instrument	6
384	Contemporary Arts Ensemble	2
421/422	Advanced Keyboard Skills I/II	2
423	Form I	2
424	Form II	2
425	Form III	2
432	Music of the World's People	2
445	Advanced Conducting	2
439	Senior Seminar: Topics in Music Literature	4
	Total	75

Keyboard proficiency required.
Sophomore and degree juries required.

BACHELOR OF MUSIC—CHURCH MUSIC

Music	Core	24
360-363	Choral Ensemble	6
203/403 or 204/404	Principal Instrument (Organ or Voice)	14(8 semesters*)
420**		
204/404 or 203/403	Secondary Instrument (Voice or Organ)	4(4 semesters*)

352 or 421	Organ Improvisation or Advanced Keyboard Skills I	1
323	Counterpoint	2
324	Advanced Counterpoint	2
331	Music of J.S. Bach	2
335	Church Music	2
345	Basic Conducting	2
381	Chamber Ensemble	1
384	Contemporary Arts Ensemble	1
423	Form I	2
424 or 425	Form II or III	2
437	Masterpieces of Sacred Music	2
438	Hymnology and Music of the Liturgy	2
445	Advanced Conducting	2
439	Senior Seminar: Topics in Music Literature	4
	Total	75

Keyboard proficiency required.
Sophomore and degree juries required.
* Consecutive fall/spring semesters.
** Full recital.
Strongly Recommended: Additional religion courses beyond the required courses of Core I or II.

MASTER OF ARTS IN MUSIC DEGREE

Consult the *Graduate Catalog* for details of the Master of Arts in Music program.

COURSE OFFERINGS

101 INTRODUCTION TO MUSIC
Introduction to music literature with emphasis on listening, structure, period, and style. Designed to enhance the enjoyment and understanding of music. Not open to majors. I (4)

102 UNDERSTANDING MUSIC THROUGH MELODY
Introduction to the musical arts through exploration of melody as a primary musical impulse in a variety of musical styles. Designed to enhance the enjoyment and understanding of all music through increased sensitivity to melody. Not open to majors. II (4)

103 HISTORY OF JAZZ
Survey of America's unique art form: jazz. Emphasis on history, listening, structure, and style from early developments through recent trends. Meets Core I requirement in arts/literature, line 1. II (4)

104 MUSIC AND TECHNOLOGY
Survey of the impact of technology on the musical arts, from the evolution of musical instruments and the acoustic space through the audio/video/computer technology of today. Meets Core I requirement in arts/literature, line 1. I (4)

121 THEORY AT THE KEYBOARD I
Laboratory application of principles learned in 123 Theory I. Corequisite: 123. I (1)

122 THEORY AT THE KEYBOARD II
Continuation of 121. Corequisite: 124. II (1)

123 THEORY I
An introduction to the workings of common-practice music, beginning with scales, keys, intervals and triads and culminating in four-part chorale writing and elementary formal analysis. Corequisite: 121. I (3)

124 THEORY II
A continuation of 123. Corequisite: 122. II (2)

125 EAR TRAINING I
Development of aural skills in simple rhythmic dictation, intervals, sightsinging using progressive exercises consisting of short melodies. I (1)

126 EAR TRAINING II
Continued development of aural skills in sight-singing, melodic and rhythmic dictation. Elementary harmonic dictation. II (1)

127 JAZZ THEORY
Introduction to the theoretical basis of jazz, including melodic, harmonic, and formal aspects as well as ear training. Prerequisite: 123, 125, or consent of instructor. a/y I (3)

130 HISTORY I
The evolution of Western music in the Classic and Romantic eras. Prerequisite: 123. II (4)

201 BEGINNER'S PIANO
Group instruction for beginning pianists. I, II (1)

202 PRIVATE INSTRUCTION: PIANO (1-4)

203 PRIVATE INSTRUCTION: ORGAN (1-4)

204 PRIVATE AND CLASS INSTRUCTION: VOICE (1-4)

205 PRIVATE INSTRUCTION: VIOLIN/VIOLA (1-4)

206 PRIVATE INSTRUCTION: CELLO/BASS (1-4)

207 PRIVATE INSTRUCTION: FLUTE (1-4)

208 PRIVATE INSTRUCTION: OBOE/ENGLISH HORN (1-4)

209 PRIVATE INSTRUCTION: BASSOON (1-4)

210 PRIVATE INSTRUCTION: CLARINET (1-4)

211 PRIVATE INSTRUCTION: SAXOPHONE (1-4)

212 PRIVATE INSTRUCTION: TRUMPET (1-4)

213 PRIVATE INSTRUCTION: FRENCH HORN (1-4)

214 PRIVATE INSTRUCTION: TROMBONE (1-4)

215 PRIVATE INSTRUCTION: BARITONE/TUBA (1-4)

216 PRIVATE INSTRUCTION: PERCUSSION (1-4)

217 PRIVATE AND CLASS INSTRUCTION: GUITAR (1-4)

218 PRIVATE INSTRUCTION: HARP (1-4)

219 PRIVATE INSTRUCTION: HARPSICHORD (1-4)

1 Credit
Fall and Spring Semesters: One half-hour private or two one-hour class lessons per week in addition to daily practice. Interim: Two 45-minute lessons per week in addition to daily practice. Summer: 6.5 hours of instruction TBA in addition to daily practice.

2-4 Credits
Fall and Spring Semesters: Two half-hour lessons per week in addition to daily practice. Summer: 13 hours of instruction TBA in addition to daily practice.

Students in piano, voice, and guitar may be assigned to class instruction at the discretion of the music faculty. Special fee in addition to tuition.

221 KEYBOARD PROFICIENCY
Development of keyboard literacy and skills requisite for majoring in music. May be repeated for credit. I, II (1)

223 THEORY III
Systematic study of emergent theoretical constructs from the 18th and 19th century as represented in literature of that period. I (2)

225 EAR TRAINING III
Advanced aural skills through extended rhythms and melodies. Emphasis on harmonic dictation. I (1)

226 EAR TRAINING IV
Sight-singing, including pan-tonal melodies. Harmonic dictation of modulatory chord progressions involving chromatic alteration. Advanced rhythmic dictation. II (1)

227 20TH CENTURY MUSIC
The evolution of Western art music in the 20th century from early developments to current trends, including study of emergent theoretical constructs. Prerequisites: 223, 231. II (3)

230 HISTORY II
The evolution of Western music from the early Christian era through the Middle Ages, Renaissance, and Baroque eras. Prerequisite: 123. I (4)

240 FOUNDATIONS OF MUSIC EDUCATION
Introduction to the basic of teaching music, including philosophy, content, student characteristics, and the nature and organization of musical learning. For students preparing to become music specialists (music education majors only). I (3)

241-242 STRING LABORATORY
Methods and materials of teaching and playing string instruments in the public schools. I, II (1, 1)

243-244 WOODWIND LABORATORY
Methods and materials of teaching and playing woodwind instruments in the public schools. I,II (1, 1)

245 PERCUSSION/BRASS LABORATORY
Methods and materials of teaching and playing percussion and brass instruments in the public schools. I (1)

246 BRASS LABORATORY
Continuation of brass instrument instruction from Music 245. II (1)

248 GUITAR LABORATORY
Methods and materials of teaching and playing guitar in the public schools. I (1)

249 ELECTRONIC MUSIC LABORATORY
A laboratory experience dealing with materials and methods of elementary electronic music synthesis. Real-time experience in the electronic music studio, as well as discussion of various popular synthesizers, electronic music aesthetics, and the use of electronic instruments in secondary education. II (1)

253 DICTION I
Rules and techniques of accurate pronunciation, enunciation, and projection of Italian and German; class discussions, performances, and critiques. a/y I (1)

254 DICTION II
Rules and techniques of accurate pronunciation, enunciation, and projection of French; class discussions, performances, and critiques. a/y II (1)

323 COUNTERPOINT
Introduction to the concept, historical evolution and compositional craft of counterpoint. Major emphasis on eighteenth century style of Bach and his contemporaries. a/y I (2)

324 ADVANCED COUNTERPOINT
Advanced techniques of fugue writing. Further analysis of 18th, 19th and 20th century contrapuntal music. Introduction to Schenker (reductionist) analysis. a/y II (2)

326 ORCHESTRATION
The range, transposition, sound, and technical characteristics of instruments. Notation, scoring, and arranging for conventional and unique instrument groupings. Prerequisite: 223. a/y (2)

327 COMPOSITION
A systematic approach to contemporary musical composition; students create and notate works for solo, small and large ensembles. May be repeated for additional credit. Special fee in addition to tuition. (1-4)

328 ARRANGING
Study of orchestrational techniques applied to commercial music. Prerequisite: 326 or consent of instructor. a/y I (2)

331 MUSIC OF JOHANN SEBASTIAN BACH
A study of selected works representing each of the primary areas of the creative genius of J.S. Bach. a/y (2)

335 CHURCH MUSIC
Survey of choral music related to the church year suitable for the parish choir. Particular emphasis on building the parish music library. a/y (2)

340 FUNDAMENTALS OF MUSIC EDUCATION
Offered spring semester for students planning to be music specialists, this course provides detailed planning of curricula for various musical skills at different grade levels. Group, individual, and small group instruction, sectionals and large group management also discussed. Evaluation, grading, written notices, objectives, goals, course goals, and IEP's for special education, observation of a class at two different situations, interviewing for a job, working with parents, faculty, administration, and community. Prerequisite: 240. II (2)

341 MUSIC FOR CLASSROOM TEACHERS
Methods and procedures in teaching elementary school music as well as infusing the arts in the curriculum. Offered for students preparing for elementary classroom teaching (non-music education majors). II (2)

342 MATERIALS IN K-9 MUSIC
Study of skill acquisitions, music concepts, and analyzing the range of available resources, including ethnic music and computer assisted instruction. Offered for students preparing to become music specialists (music education majors only). Prerequisite: 240, 340. I (2)

344 BEGINNING JAZZ IMPROVISATION
Introduction to small group jazz performance emphasizing individual improvisation in a variety of jazz styles. a/y I (1)

345 BASIC CONDUCTING
Introduction to basic patterns, gestures, and conducting techniques; application to appropriate vocal and instrumental scores. I (2)

348 PRACTICUM IN MUSIC EDUCATION
Field experience including observation and limited teaching in the schools. Discussion and analysis complements field work. Prerequisite: 340; recommended EDUC 251 or 253. I (1)

349 ELECTRONIC MUSIC PRACTICUM
Application of electronic techniques to compositional process. Assigned studio time on a regular basis. Prerequisite: 249. (1-3)

351 ACCOMPANYING
Practice in accompanying representative vocal and instrumental solo literature from all periods. Special fee in addition to tuition. (1)

352 ORGAN IMPROVISATION
Basic techniques of improvisation, particularly as related to hymn tunes. a/y (1)

353 SOLO VOCAL LITERATURE
Survey of solo vocal literature. a/y (2)

354 HISTORY OF MUSIC THEATER
A general survey of the evolution of "Drama per Musica" from opera to musical comedy including a depth study of selected scores. a/y (2)

360 CHOIR OF THE WEST
A study of a wide variety of choral literature and technique through rehearsal and performance of both sacred and secular music. Auditions at the beginning of fall semester. (1)

361 UNIVERSITY CHORALE
A study of choral literature and technique through rehearsal and performance of both sacred and secular music. Emphasis on individual vocal and musical development through choral singing. Auditions at the beginning of fall semester. (1)

362 UNIVERSITY MEN'S CHORUS
The study and performance of repertoire for men's voices. Emphasis on individual vocal and musical development. (1)

363 UNIVERSITY SINGERS
The study and performance of repertoire for women's voices. Emphasis on individual vocal and musical development. (1)

365 CHAPEL CHOIR
Repertoire experience with appropriate literature for ongoing church music programs of a liturgical nature. Regular performances for University Chapel Worship. Participation without credit available. (1)

366 OPERA WORKSHOP
Production of chamber opera and opera scenes. Participation in all facets of production. Prerequisite: consent of instructor. (1)

368 CHORAL UNION
Rehearsal and performance of major works in the choral/orchestral repertoire. Open to the community as well as PLU students; membership by audition. Special fee in addition to tuition. (1)

370 WIND ENSEMBLE
Study and performance of selected wind and percussion literature using various size ensembles. Membership by audition. (1)

371 CONCERT BAND
Study of selected band literature through rehearsal and performance. Designed especially for the non-major; no audition necessary. Prerequisite: having played instrument through at least junior year of high school or consent of instructor. (1)

375 UNIVERSITY JAZZ ENSEMBLE
Study of selected big band literature through rehearsal and performance. Membership by audition. (1)

376 JAZZ LABORATORY ENSEMBLE
Study of the basic style of playing jazz through rehearsal and performance. Membership by audition. (1)

378 VOCAL JAZZ ENSEMBLE
Study of selected vocal jazz literature through rehearsal and performance. Membership by audition; concurrent registration in 360, 361, 362, or 363 required. (1)

380 UNIVERSITY SYMPHONY ORCHESTRA
Study of selected orchestral literature through rehearsal and performance. Membership by audition. (1)

381 CHAMBER ENSEMBLE
Reading, rehearsal, and performance of selected instrumental chamber music. Prerequisite: consent of instructor. (1) Section A-String; Section B-Brass; Section C-Woodwind; Section D-Early Instruments.

382 CONTEMPORARY DIRECTIONS ENSEMBLE
Public and laboratory performance of contemporary music. (1)

383 TWO PIANO ENSEMBLE
Techniques and practice in the performance of two-piano and piano duet literature; includes sight reading and program planning. (1)

384 CONTEMPORARY ARTS ENSEMBLE
A performance ensemble integrating all the arts—literary, visual and performing. Original performance pieces are conceived, developed and performed by the ensemble using techniques from story and song to electronics and video. Prerequisite: consent of instructor. (1)

401 PRIVATE INSTRUCTION: JAZZ (1-4)

402 PRIVATE INSTRUCTION: PIANO (1-4)

403 PRIVATE INSTRUCTION: ORGAN (1-4)

404 PRIVATE INSTRUCTION: VOICE (1-4)

405 PRIVATE INSTRUCTION: VIOLIN/VIOLA (1-4)

406 PRIVATE INSTRUCTION: CELLO/BASS (1-4)

407 PRIVATE INSTRUCTION: FLUTE (1-4)

408 PRIVATE INSTRUCTION: OBOE/ENGLISH HORN (1-4)

409 PRIVATE INSTRUCTION: BASSOON (1-4)

410 PRIVATE INSTRUCTION: CLARINET (1-4)

411 PRIVATE INSTRUCTION: SAXOPHONE (1-4)

412 PRIVATE INSTRUCTION: TRUMPET (1-4)

413 PRIVATE INSTRUCTION: FRENCH HORN (1-4)

414 PRIVATE INSTRUCTION: TROMBONE (1-4)

415 PRIVATE INSTRUCTION: BARITONE/TUBA (1-4)

416 PRIVATE INSTRUCTION: PERCUSSION (1-4)

417 PRIVATE INSTRUCTION: GUITAR (1-4)

418 PRIVATE INSTRUCTION: HARP (1-4)

419 PRIVATE INSTRUCTION: HARPSICHORD (1-4)

420 PRIVATE INSTRUCTION: DEGREE RECITAL (1-4)

1 Credit
Fall and Spring Semesters: One half-hour private lesson per week in addition to daily practice. Interim: Two 45-minute lessons per week in addition to daily practice. Summer: 6.5 hours of instruction TBA in addition to daily practice.

2-4 Credits
Fall and Spring Semesters: Two half-hour private lessons per week in to daily practice. Summer: 13 hours of instruction TBA in addition to daily practice.

Special fee in addition to tuition.

421/422 ADVANCED KEYBOARD SKILLS I/II
Focused study of specialized keyboard skills required in various music major programs. Sections offered for particular types of music students. Prerequisite: Successful completion of the Keyboard Proficiency Jury and B.M. or B.M.E. Jury. a/y (1, 1)

423 FORM I
Advanced analysis of literature from Classic, Early and Middle Romantic styles in representative genres and media. II (2)

424 FORM II
Advanced analysis of literature from late Romantic, Impressionist, and Nationalistic styles in representative genres and media. Prerequisite: 423. a/y I (2)

425 FORM III
Advanced analysis of literature from Modern and Contemporary styles in representative genres and media. Prerequisite: 423. a/y I (2)

427 ADVANCED ORCHESTRATION/ARRANGING
Continuation of 326 or 328 on an individual basis. Prerequisite: 326 or 328. May be repeated for additional credit. Special fee in addition to tuition. (1-2)

431 HISTORY OF PIANO LITERATURE AND PERFORMANCE
A study of representative piano compositions of all periods. a/y (2)

432 MUSIC OF THE WORLD'S PEOPLE
Introduction to ethnomusicology; techniques of studying music within cultural contexts. In-depth case studies of one American Indian musical culture, followed by music of urban American blues, Ghanian, Black American, Balkan, Russian, and Indian styles. Includes field study project of one musical culture. a/y (2)

436 HISTORY OF ORGAN BUILDING
A two-fold study, involving both the technical evolution of the pipe organ (key-actions, windchest designs, pipework varieities and construction, the organ case) as well as the historical evolution of the various concepts of tonal design as these relate to the performance of organ literature. a/y (2)

437 MASTERPIECES OF SACRED MUSIC LITERATURE
A survey of Judeo-Christian music through the study of representative major vocal/choral works. a/y (2)

438 HYMNOLOGY AND THE MUSIC OF THE LITURGY
A survey of Christian hymnody, considered from both a musical and poetic viewpoint. Also considered will be the concept and performance of music for the liturgy, both historic and contemporary, primarily from the Roman, Anglican, and Lutheran traditions. a/y (2)

439 SENIOR SEMINAR: TOPICS IN MUSIC LITERATURE
Directed study of selected topics in music literature. Prerequisite: senior standing. Open to juniors for non-degree credit. I (4)

442 METHODS IN K-9 MUSIC
Orff-Schulwerk and Kodaly techniques for upper elementary and middle school children. Offered for students preparing to become music specialists (music education majors ony). Prerequisite: 342. II (2)

443 METHODS AND MATERIALS FOR SECONDARY CHORAL MUSIC
The organization and administration of the secondary school music curriculum with particular attention to the needs of the choral program. Organization, management, teaching methods, rehearsal techniques, and choral literature appropriate for the various age and experience levels of students in grades 7-12. II (2)

444 METHODS AND MATERIALS FOR SCHOOL BAND MUSIC
The organization and administration of the secondary school music curriculum with particular attention to the needs of the band program. Organization, management, teaching methods, rehearsal techniques, and wind-percussion literature appropriate for the various age and experience levels of students in grades 4-12. Prerequisite: 340, 348. II (3)

445 ADVANCED CONDUCTING
Refinement of patterns, gestures, and conducting techniques; application to appropraite vocal and instrumental scores. Prerequisite: 345. Section A—Instrumental; Section B—Choral. II (2)

451 PIANO PEDAGOGY
Teaching techniques for prospective teachers of piano, including techniques of private and class piano instruction. Methods and materials from beginning through advanced levels. (2) Section A—Basic; Section B--Lower Elementary; Section C—Upper Elementary; Section D—Advanced.

453 VOCAL PEDAGOGY
Physiological, psychological, and pedagogical aspects of singing. a/y (2)

454 METHODS AND MATERIALS FOR STRING TEACHERS
Methods and techniques of teaching strings to all ages and levels, from the beginner to the advanced student. Special emphasis on the physiological and psychological approach to the instrument. Study of string pedagogy in the classroom as well as individual instruction. Prerequisite: 340, 348 or consent of instructor. II (3)

491, 492 INDEPENDENT STUDY
Prerequisite: consent of instructor. May be repeated for additional credit. (1-4)

502 PRIVATE INSTRUCTION: PIANO (1-4)

503 PRIVATE INSTRUCTION: ORGAN (1-4)

504 PRIVATE INSTRUCTION: VOICE (1-4)

505 PRIVATE INSTRUCTION: VIOLIN/VIOLA (1-4)

506 PRIVATE INSTRUCTION: CELLO/BASS (1-4)

507 PRIVATE INSTRUCTION: FLUTE (1-4)

508 PRIVATE INSTRUCTION: OBOE/ENGLISH HORN (1-4)

509 PRIVATE INSTRUCTION: BASSOON (1-4)

510 PRIVATE INSTRUCTION: CLARINET (1-4)

511 PRIVATE INSTRUCTION: SAXOPHONE (1-4)

512 PRIVATE INSTRUCTION: TRUMPET (1-4)

513 PRIVATE INSTRUCTION: FRENCH HORN (1-4)

514 PRIVATE INSTRUCTION: TROMBONE (1-4)

515 PRIVATE INSTRUCTION: BARITONE/TUBA (1-4)

516 PRIVATE INSTRUCTION: PERCUSSION (1-4)

517 PRIVATE INSTRUCTION: GUITAR (1-4)

518 PRIVATE INSTRUCTION: HARP (1-4)

519 PRIVATE INSTRUCTION: HARPSICHORD (1-4)

520 PRIVATE INSTRUCTION: CONDUCTING (1-4)

1 Credit
Fall and Spring Semesters: One half-hour private lesson per week in addition to daily practice. Interim: Two 45-minute lessons per week in addition to daily practice. Summer: 6.5 hours of instruction TBA in addition to daily practice.

2-4 Credits
Fall and Spring Semesters: Two half-hour private lessons per week in addition to daily practice. Summer: 13 hours of instruction TBA in addition to daily practice.

Special fee in addition to tuition.

527 COMPOSITION
A systematic approach to contemporary music composition; students create, notate, and perform works for solo, small and large ensembles. May be repeated for credit. (1-4)

529 TOPICS IN MUSIC THEORY
a/y summer only. (4)

532 MUSIC BIBLIOGRAPHY AND RESEARCH TECHNIQUES
Survey of the main research tools available for advanced work in music. a/y summer only. (2)

539 TOPICS IN MUSIC HISTORY
a/y summer only. (4)

545 SEMINAR IN ADVANCED CONDUCTING
Directed study of selected scores for large and small ensembles, vocal and instrumental. May be repeated for credit. (2)

549 ELECTRONIC MUSIC SYNTHESIS
Directed study of electronic music literature, techniques, and composition. May be repeated for credit. (1-2)

551 ACCOMPANYING
Practice in accompanying representative vocal and instrumental solo literature from all periods. Accompanying in performance will be required. Special fee in addition to tuition. (1)

560 CHOIR OF THE WEST
A study of choral ensemble rehearsal techniques with emphasis on score analysis. (1)

561 UNIVERSITY CHORALE
A study of choral ensemble rehearsal techniques with emphasis on vocal pedagogy in the rehearsal. (1)

565 OPERA WORKSHOP
Production of chamber opera and opera scenes. Participation in all facets of production. Prerequisite: consent of instructor. (1)

568 CHORAL UNION
Rehearsal and performance of major works in the choral/orchestral repertoire with emphasis on score analysis. Special fee in addition to tuition. (1)

570 WIND ENSEMBLE
A study of band rehearsal techniques with emphasis on score analysis. (1)

575 UNIVERSITY JAZZ ENSEMBLE
A study of jazz ensemble rehearsal techniques with emphasis on stylistic considerations. (1)

578 VOCAL JAZZ ENSEMBLE
Study of vocal jazz ensemble rehearsal techniques with emphasis on stylistic considerations. Membership by audition; concurrent registration in 560 or 561 required. (1)

580 UNIVERSITY SYMPHONY ORCHESTRA
A study of orchestra ensemble rehearsal techniques with emphasis on score analysis. (1)

581 CHAMBER ENSEMBLE
Analysis, rehearsal, and performance of selected instrumental chamber music. Prerequisite: consent of instructor. (1) Section A—String; Section B—Brass; Section C-Woodwind; Section D—Early Instruments. (1)

583 CONTEMPORARY DIRECTIONS ENSEMBLE
Public and laboratory performance of contemporary music. Emphasis on score analysis. (1)

583 TWO-PIANO ENSEMBLE
Performance of two-piano and piano duet literature, including score analysis. (1)

584 CONTEMPORARY ARTS ENSEMBLE
A multi-arts ensemble with emphasis on composition techniques, repertoire, and performance. (1)

590 GRADUATE SEMINAR
a/y summer only. (1-4)

596 RESEARCH IN MUSIC (1-4)

599 THESIS (2-4)

Division of Natural Sciences

Science education at Pacific Lutheran University is directed both toward undergraduate preparation of future science professionals and toward the creation of critical scientific awareness for liberally educated citizens in all walks of life.

Science must be taught as fundamental principles, groups of concepts, bodies of knowledge, and means for survival. Holistic solutions to global problems require the ability to interrelate technical knowledge and human values.

Concern for how science is used must not obscure the motivation for pursuit of the best scientific work: the joy of trying and succeeding, the joy of discovery and understanding.

FACULTY

J. Herzog, *Divisional Dean;* **faculty members of the Departments of Biology, Chemistry, Earth Sciences, Mathematics and Computer Science, and Physics and Engineering.**

As a division within the College of Arts and Sciences, the Division of Natural Sciences offers programs in each constituent department leading to the B.A. and B.S. degrees and to the B.S. in Medical Technology. M.A. and M.S. degrees in Computer Science are also offered. Course offerings and degree requirements are listed under:

BIOLOGY
CHEMISTRY
COMPUTER SCIENCE
EARTH SCIENCES
ENGINEERING
MATHEMATICS
PHYSICS

See also the sections of this catalog on the Environmental Studies Program and on the Health Sciences (under Pre-professional Programs).

Courses suitable for meeting Core I requirements in Natural Sciences/Mathematics may be found within each department or below:

COURSE OFFERINGS

106 COSMOS, EARTH, AND LIFE
Consideration of the beginnings, evolution, and possible fates of the universe as revealed by present evidence. The formation and development of planet earth, geologic processes through geologic time. The impact of civilization on global resources. The atomic and molecular view of chemical prerequisites for life. The origin and formation of the atmosphere and potential threats of altering its constituents. Study of the development and diversification of life by focusing on unifying concepts and control systems. Laboratory experiences to reinforce understanding of how hypotheses are built and critically tested. Fulfills Natural Sciences/Mathematics core requirement, line 1 or 2. (4)

201 HISTORY OF SCIENCE THROUGH THE SCIENTIFIC REVOLUTION
A global survey of the history of science from ancient times through the scientific revolution of the 17th century. Study of the areas of astronomy, biology, medicine, physics, geology, chemistry, mathematics, and technology; their relations to each other; their development over time. Laboratory demonstrations of selected experiments. Discussion of the relation of science to the rest of society. Fulfills Natural Sciences/Mathematics core requirement, line 1, 2, or 3. (4)

202 HISTORY OF SCIENCE SINCE THE SCIENTIFIC REVOLUTION
Continuation of 201. A global survey of the history of science from the scientific revolution to the present. Fulfills Natural Sciences/Mathematics core requirement, line 1, 2, or 3. (4)

206 DESCRIPTIVE ASTRONOMY
Stars and their evolution, galaxies and larger structures, cosmology, and the solar system. Emphasis on observational evidence. Evening observing sessions. No prerequisite courses in science or mathematics. Fulfills Natural Sciences/Mathematics core requirement, line 1 or 2. a/y. II 1989-90 (4)

School of Nursing

Nursing offers opportunities for a rewarding professional career. It affords a wide choice of location, environment, and type of service. The physical, mental, social, and spiritual health of people is a universal concern, and those prepared to help others maintain their good health are in constant demand.

The School of Nursing is a professional school which combines professional and liberal arts studies in assisting students to develop a sense of responsibility for acquiring the attitudes, knowledge, and skills necessary for meeting nursing needs of individuals, groups, and communities.

Degree programs within the School of Nursing include the Bachelor of Science in Nursing for both basic and registered nurse students and the Master of Science in Nursing with areas of concentration in nursing administration, school nursing, and a clinical specialty.

Education Staff Associate certification for School nurses is individually designed through a consortium consisting of a school district, related

professional associations, and Pacific Lutheran University (subject to Washington State certification requirements).

Workshops and short courses for nurses and others involved in health care are offered through the Continuing Nursing Education Program.

The basic program is designed for students with no previous preparation in nursing. Graduates who successfully complete the program are eligible to write the State Board of Nursing examination for licensure as registered nurses. They are prepared for beginning positions in professional nursing in hospitals and other health agencies. There is a special sequence for registered nurse students, graduates from diploma or associate degree programs, who wish to earn the Bachelor of Science in Nursing degree. The program provides a foundation for graduate study in nursing.

Under the direct supervision of its faculty members, the School uses facilities of hospitals, health agencies, and schools in the community to provide optimal clinical learning experience for its students.

The School of Nursing is accredited by the Washington State Board of Nursing and by the National League for Nursing. It is a charter member of the Western Council on Higher Education for Nursing.

FACULTY

Kellmer, *Dean;* **Aikin, Carpenter, Egan, Fanslow, Goodwin, Gough, C. Hansen, Herman-Bertsch, Hirsch, Kirkpatrick, Klisch, Kottal, L. Olson, Page, Rhoades, Schultz, Stiggelbout, Yumibe; Assisted by Crow-Shambach and Mahoney.**

ADMISSION AND CONTINUATION POLICIES

Students seeking admission to either the basic program or the sequence for registered nurses must make formal application to both the university and the School of Nursing.

Applications for admission to the School of Nursing are accepted twice during the year. Students desiring admission to either fall or spring semester of the following academic year should submit applications between January 1 and February 15. Additional applications from students wishing to be considered for any remaining admissions for the spring semester should be submitted by September 15. Applications are reviewed only if the applicants have been admitted to PLU and have provided official transcripts as requested by the School of Nursing Admissions Committee.

Students accepted to begin the nursing sequence in either fall or spring semester, and who have applied by the February 15 deadline, are selected for both terms and notified by May 1. Students are admitted to the term of their choice insofar as it is possible. Deferred admission to the next term may be necessary. Additional selection for the spring semester is made in the fall with notification by November 1. Late applicants are considered on a space available basis.

With satisfactory progress, six semesters are required to complete the sequence of nursing courses leading to the Bachelor of Science in Nursing. All potential or pre-nursing students are urged to seek early academic advisement through the School of Nursing Office in order to enroll for appropriate prerequisites and thereby avoid unnecessary loss of time.

The School of Nursing reserves the right to request withdrawal of nursing students who fail to demonstrate academic or clinical competence or who fail to maintain professional conduct. Unsafe practice constitutes grounds for immediate dismissal from the clinical component.

Minimal criteria for admission to or continuation in the School of Nursing are as follows:

1. Admission to the university. Applicants must have been admitted to Pacific Lutheran University before consideration of their application to the School of Nursing. Admission to the university does not guarantee admission to the School of Nursing.
2. Completion of or current enrollment in Psychology 101 (Introduction to Psychology) and three of the following: Biology 201 (Introductory Microbiology), Biology 205, 206 (Human Anatomy and Physiology), Chemistry 105 (Chemistry of Life). The remaining courses will be completed after enrolling in the nursing program; however, both Biology 205 and 206 must be completed before enrollment in Nursing 253, 263, and 273. Students need to plan their schedules accordingly.
3. Completion of a minimum of 26 semester credit hours. Some of these may be in progress at the time of application.
4. A minimum grade of 2.00 (C) in all required nursing and prerequisite courses. A student receiving a grade point of less than 2.00 in any course which is a prerequisite for a nursing course may not continue in that nursing course until the prerequisite course is repeated with a grade point of 2.00 or above.
5. A minimum cumulative grade point average of 2.33.
6. Physical health and stamina necessary to withstand the demands of nursing.
7. Emotional stability sufficient to cope with the stresses inherent in learning and practicing nursing.
8. Completion of a math proficiency test before or during the second semester of the nursing program with a minimum score of 80% on each section (prerequisite to entry into the third semester of the nursing program). Tests will be administered by the testing center with the student responsible for the nominal cost of each test. Students receiving a grade of less than 80% may not continue in the nursing sequence until the prerequisite test is repeated with a grade of 80% or above. Students who do not have two years of high school algebra are advised to enroll for intermediate algebra.
9. Entering students are required to have completed two high school years of one foreign language (or the equivalent) and two years of college preparatory mathematics (or the equivalent), excluding courses in computer science. If these requirements have not been met, one year of foreign language and a course in intermediate algebra or above on the college level will be required.
10. Progression in the nursing sequence is dependent upon satisfactory performance (a grade of C or higher) in the prerequisite nursing courses. Nursing majors may have no more than 4 semester credit hours of non-nursing courses to be completed at the time of enrollment in the final semester of nursing courses.

HEALTH

Nursing students are responsible for maintaining optimal health and are teachers of health. Physical examinations, x-rays, and immunizations are required before admission to the clinical areas, and periodically thereafter, and are the responsibility of students. All students must carry personal health insurance.

ADDITIONAL COSTS

In addition to regular university costs, students must provide their own transportation between the university campus and the clinical laboratory areas beginning with the first nursing course. Available public transportation is limited, so provision for private transportation is essential. Students are required to carry professional liability insurance in specified amounts during all periods of clinical experience. This is available under a group plan at a nominal cost to the student. Health examination fees, student uniforms (approximately $250.00) and equipment (wristwatch, scissors, stethoscope) are also the responsibility of the student.

Standardized testing fees of approximately $30.00, payable directly to the School of Nursing, are assessed at the time of enrollment in the final semester of nursing studies.

BASIC PROGRAM

The curriculum plan and its implementation are designed to foster growth and to encourage initiative and self-direction on the part of students. In addition to nursing requirements, students are expected to meet university requirements. Nursing courses are sequential in nature and all have prerequisites. Students interested in the Bachelor of Science in Nursing degree should contact the School of Nursing on entering the university to avoid time loss.

The School of Nursing reserves the right of curriculum modification and revision as long as it does not hinder the students' progress toward graduation.

For spring semester enrollment the curriculum generally follows the fall semester format with modifications as necessary to assure completion of all prerequisite courses by the time they are needed. A schedule of courses is developed individually with each student who begins nursing courses in the spring semester. Nursing courses must be taken concurrently and in sequence as indicated in the sample curriculum, and, if enrolled full-time, normally extend over six semesters.

School of Nursing

FIRST YEAR-Pre Nursing

Fall Semester	
Biology 205	4
Psychology 101	4
English 101	4
GUR/Core	4
Physical Education 100	1
	17
Interim (optional)	0-4
Spring Semester	
Chemistry 105	4
GUR/Core (Religion)	4
Biology 206	4
Elective	4
Physical Education	1
	17

SECOND YEAR

Fall Semester	
Biology 201	4
GUR/Core	4
Psychology 335	4
Nursing 212	2
Nursing 222	2
Physical Education	1
	17
Interim	
Elective	4
	4
Spring Semester	
Nursing 253	3
Nursing 263	3
Nursing 273	3
GUR/Core	4
Physical Education	1
	14

THIRD YEAR

Fall Semester	
Nursing 322	2
Nursing 324	4
Nursing 333	3
Nursing 342	2
Sociology 330	4
	15
Interim (optional)	0-4
Spring Semester	
Nursing 352	2
Nursing 362	2
Nursing 372	2
Nursing 382	2
Nursing 392	2
GUR/Core	4
	14

FOURTH YEAR

Fall Semester	
Nursing 423	3
Nursing 433	3
Nursing 436	3
Nursing 453	3
GUR/Core	4
	16
Interim	
Elective	4
	4
Spring Semester	
Nursing 462	2
Nursing 472	2
Nursing 473	3
Nursing 474	4
	11

*GUR = general university requirement

A minimum of 128 semester credit hours is required for the baccalaureate degree.

REGISTERED NURSE SEQUENCE

The registered nurse sequence is arranged to accommodate working nurses. Either full-time or part-time enrollment is possible. With full-time study, the program may be completed in 16 months starting in September with graduation one year from the following December. Registered nurses may enroll in 200 and 300 level non-clinical nursing courses out-of-sequence. Prospective students are encouraged to seek early advisement in order to reduce time spent in completing prerequisites and facilitate progress.

TRANSFER CREDIT

Registered nurses who began their higher education at other accredited colleges or universities may apply for admission with advanced standing. A grade point average of 2.33 is required by the School of Nursing. A minimum grade of C in college courses is required for transfer of credit. A maximum of 64 semester (96 quarter) credit hours of community college work is transferable. A quarter credit hour is equivalent of two-thirds a semester credit hour. To qualify as degree candidates, students must take the final 32 semester hours in residence at PLU.

ADVANCED PLACEMENT (Non-Nursing)

Advanced placement may be available through College Board or departmental examinations. Inquiries should be directed to the Office of Admissions or the department or school offering the particular subject.

PREREQUISITES

Prerequisite courses are available at most junior or community colleges. Course equivalency sheets are available. Transfer with junior standing (60 semester credit hours) reduces the *Religion and the *Interim requirements from 8 to 4 semester credit hours each.

Students over 25 years of age are exempt from the *Physical Education requirement.

Prerequisite courses to be competed before enrollment in the nursing sequence include:

	Semester Credit Hours
Biology 205, 206 (Human Anatomy and Physiology)	8
Biology 201 (Introductory Microbiology)	4
Chemistry 105 (Chemistry of Life)	4
Sociology 330 (The Family)	4
Psychology 101 (Introduction to Psychology)	4
Psychology 335 (Development: Infancy to Maturity)	4

General University Requirements include:

	Semester Credit Hours
Anthropology/History/Political Science	4
Fine Arts	4
English 101	4
Literature	4
Philosophy (not logic)	4
*Religion (4 semester hours must be taken at PLU)	8
*Interim	4 or 8
*PE	2 or 4
Electives (as needed for graduation)	4 or more

CHALLENGE EXAMINATIONS — NURSING

The NLN Mobility Tests are used to challenge the following courses:

NURS 322/324	Psychosocial Nursing
NURS 333/342	Physiological Nursing
NURS 352/362	Nursing in the Childbearing years
NURS 372/382	Nursing of Children

The fee for courses challenged is one-fourth tuition. The cost of NLN mobility tests is paid by students. Students must successfully pass the NLN Mobility Tests to receive credit for courses. NLN tests may be taken twice if necessary. If a satisfactory passing grade is not achieved RN/BSN students must then take the course with the basic students.

FULL-TIME ENROLLMENT PLAN — 16 MONTHS

The following sequence is designed to facilitate progress through a 16 month sequence.

TC	-	Transferred in for credit for ADNs, waived for diploma RNs.
E	-	Enroll
C	-	Challenge
T	-	Transfer
( )	-	Semester credit hour
SCH	-	Semester credit hour

FALL SEMESTER

			SCH
NURS 212	Introduction to the Health Care System	E	2
NURS 222	Self Care Competencies	TC	2
NURS 253	Commonalities in Nursing Care	TC	3
NURS 263	Health Assessment	T, C, or E	3
NURS 273	Pathophysiology	T or E	3
NURS 322	Psychosocial Nursing: Clinical	C	2
NURS 324	Psychosocial Nursing: Theory	E	4
Elective		E	4

INTERIM

Enroll for 4-5 SCH depending upon need.

SPRING SEMESTER

NURS 333	Physiological Nursing I	C	3
NURS 342	Physiological Nursing I: Clinical	C	2
NURS 352	Nursing in the Childbearing Years	C	2
NURS 362	Nursing in the Childbearing Years: Clinical	C	2
NURS 372	Nursing of Children	C	2
NURS 382	Nursing of Children: Clinical	C	2
NURS 392	Nursing Research	E	2
SOCI 330	or elective	E	4

Enroll for all senior level courses.

SUMMER

NURS 423	Physiological Nursing II	3
NURS 433	Physiological Nursing II: Clinical	3
NURS 436	Community Health Nursing: Families	3
NURS 453	Community Health Nursing: Clinical	3

FALL

NURS 462	Leadership in Nursing	2
NURS 472	Issues and Trends in Nursing	2
NURS 473	Community as Client	3
NURS 474	Nursing Synthesis	4
Elective		4

PART-TIME SEQUENCE

The following is a sample part-time sequence designed for individuals wishing to extend the program.

Year 1			Year 2		
FALL		**SCH**	**FALL**		**SCH**
NURS	212	2	NURS	333	3
	222	2		342	2
	263	3		352	2
	273	3		362	2
			Religion		4
INTERIM			**INTERIM**		
Elective		4			
SPRING			**SPRING**		
NURS	322	2	NURS	372	2
	324	4		382	2
SOCI	330	4		392	2
			PSYC	335	4
Year 3			**Year 4**		
FALL			**FALL**		
NURS	423	3	NURS	462	2
	433	3		474	4
SPRING			**SPRING**		
NURS	436	3	NURS	472	2
	453	3		473	3

MASTER OF SCIENCE IN NURSING

Consult the Graduate Catalog for details of the program leading to the degree of Master of Science in Nursing and/or contact the School of Nursing Graduate Program (535-8872).

SCHOOL NURSE CERTIFICATION

Contact the School of Nursing School Nurse Program (535-8872).

WORKSHOPS AND SHORT COURSES

Contact the School of Nursing Continuing Nursing Education Program (535-7683.

COURSE OFFERINGS

100 MEDICAL TERMINOLOGY

Study of over 350 word elements and the application of those terms in understanding over 10,000 complex medical words in their appropriate context. Application of these terms to anatomical and pharmacological references. (1)

212 INTRODUCTION TO THE HEALTH CARE SYSTEM

Socio-cultural, political, economic, ethical, and legal issues influencing contemporary health care. Focus on major health problems and health care delivery systems. Historical perspectives and trends in professional nursing and nursing education. Open to non-majors. Prerequisite: Sophomore standing. (2)

222 SELF CARE COMPETENCIES

Factors contributing to healthy life styles and personal responsibility for health maintenance. Nursing roles in health promotion including stress management, nutrition, self medication, and substance abuse. Framework for effective communication skills and helping relationships. Open to non-majors. Prerequisites: Sophomore standing, consent of instructor. (2)

253 COMMONALITIES IN NURSING CARE

Introduction to the use of the nursing process and psychomotor skills in client care. Emphasis on the role of the professional nurse in implementation of the nursing process. Selected clinical experience with adults in extended care facilities. Prerequisites: Admission to the School of Nursing, BIOL 201, 205, 206; NURS 212, 222. (3)

263 HEALTH ASSESSMENT

Health assessment of children and adults. Emphasis on interviewing skills and physical, developmental, and psychosocial assessment techniques as part of the nursing process. Prerequisites: BIOL 205, 206, CHEM 105, NURS 212, 222. (3)

273 PATHOPHYSIOLOGY

Pathophysiological concepts associated with human responses to real and potential threats to health. Immune response, reaction to injury and infection, pain, disturbances of circulation and respiration, neurological dysfunction and abnormal cell growth as clinical manifestations of selected disorders organized around a framework of categories of human functioning. Open to non-majors. Prerequisites: BIOL 201, 205, 206. (3)

322 PSYCHOSOCIAL NURSING: CLINICAL

Clinical application of the nursing process to promote optimal mental health for clients along the mental health-illness continuum. Emphasis on implementing a variety of therapeutic techniques and nursing interventions including therapeutic communication. Prerequisites: Prior or concurrent enrollment in NURS 324. (2)

324 PSYCHOSOCIAL NURSING

Use of the nursing process in the promotion of mental health for clients along the mental health-illness continuum. A holistic approach to understanding a variety of nursing interventions and other contemporary therapeutic modalities in the treatment of clients with mental health problems. Introduction to selected acute and chronic psychiatric disorders. Prerequisites: 253, 263, 273. (4)

333 PHYSIOLOGICAL NURSING I

Basic interruptions in the bio-psychosocial processes with resultant health deviations. Focus on selected pathophysiologic disorders of adults with nursing interventions to facilitate adaptation and restoration to maximum level of wellness. Holistic approach to meeting needs of clients and families. Teaching and learning strategies for health promotion, restoration, and maintenance. Prerequisites: 253, 263, 273. (3)

342 PHYSIOLOGICAL NURSING I: CLINICAL

Clinical application of concepts of pathophysiology and psychopathology to the care of adult clients in hospital settings. The nursing process as framework for professional practice. Prerequisites: Prior or concurrent enrollment in 333. (2)

352 NURSING IN THE CHILDBEARING YEARS

Individual and family adaptations throughout the pregnancy cycle. Physiological and psychosocial-cultural aspects of childbearing. Prerequisites: 322, 324, 333, 342; SOCI 330 (2)

362 NURSING IN THE CHILDBEARING YEARS: CLINICAL

Clinical application of maternal newborn theory and skills in hospital, clinic, community and home environments. Prerequisites: Prior or concurrent enrollment in 352. (2)

372 NURSING OF CHILDREN

Nursing and health care of children from infancy through adolescence. Childhood needs, childbearing practices, and parental roles. Prerequisites: 322, 324, 333, 342, SOCI 330. (2)

382 NURSING OF CHILDREN: CLINICAL

Clinical application of pediatric theory and skills in acute, primary care, and community facilities. Prerequisites: Prior or concurrent enrollment in 372. (2)

392 NURSING RESEARCH
Introduction to the research process and basic research skills. Includes purposes of nursing research, problem identification, hypothesis generation and testing, research design, critique process and use of research in nursing. Prerequisites: 322, 324, 333, 342. (2)

423 PHYSIOLOGICAL NURSING II
Selected complex pathophysiological disorders of a life threatening or chronically disabling nature in adults. Nursing interventions based on understanding the bio-psycho-social disruptions and means of restoring balance to attain optimal level of functioning. Prerequisites: 322, 324, 333, 342, 352, 362. (3)

433 PHYSIOLOGICAL NURSING II: CLINICAL
Clinical application of bio-psycho-social, cultural, and spiritual concepts in the care of adult clients in acute care settings. Use of the nursing process and emphasis on cognitive, interpersonal, and psychomotor/technological skills. Prerequisites: Prior or concurrent enrollment in 423. (3)

436 COMMUNITY HEALTH NURSING: FAMILIES
Application of family theory and nursing models to the analysis of needs and care of family clients in community settings. Identification of major public health problems, levels of prevention, health seeking behaviors, health screening, and nursing management of high-risk families. Prerequisites: 322, 324, 333, 352, 362. (3)

453 COMMUNITY HEALTH NURSING: CLINICAL
Clinical application of professional and technical skills in the care of families in community health agencies. Implementation of complex nursing interventions in the home and ambulatory care settings. Refinement of interviewing and case management skills. Opportunity for independent judgment and decision making. Prerequisites: Prior or concurrent enrollment in 443. (3)

462 LEADERSHIP IN NURSING
Analysis of professional roles and functions in health care delivery systems. Evaluation of the impact of organizational structures on professional nursing practice. Leadership and management styles, concepts of power and authority. Prerequisites: Seniorstanding in nursing. (2) (first offered spring 1990)

472 ISSUES AND TRENDS IN NURSING
Analysis and evaluation of the impact of selected socio-economic, ethico-legal, and political aspects on professional nursing practice. Professional issues including entry level, credentialing, quality asurance, ethical decision-making and life-long learning. Prerequisites: Senior stand ing in nursing. (2) (first offered spring 1990)

473 COMMUNITY AS CLIENT
Nursing strategies for problem solving in community or public health environments. Focus on community assessment, health planning, application of the change process, and health education for high-risk groups. Prerequisites: 436, 453, prior or concurrent enrollment in 462, 472, and senior standing in nursing. (3) (first offered spring 1990)

474 NURSING SYNTHESIS
Synthesis of critical thinking, independent judgment, decision making, technical and leadership skills in the delivery of health care in acute or chronic situations. Prerequisites: 423, 433, prior or concurrent registration in 462 and 472, senior standing in nursing. (4) (first offered spring 1990)

491, 492 INDEPENDENT STUDY
Prerequisite: Permission of the dean. (1-4)

501 SCHOOL NURSING PRACTICUM I
Integration of content from area of concentration into practice. (2)

520 ROLE DEVELOPMENT OF SCHOOL NURSE SPECIALIST
Development and implementation of the school nurse specialist role in school settings. (3)

521 INTRODUCTION TO SCHOOL NURSING
Focus on the total assessment of school age children and adolescents, including exceptionality. Application of the nursing process to problems common to the K-12 age group and prevalent in the school environment. Nurses' roles in the development and implementation of school health programs. (4)

522 SCHOOL NURSING II
Focus on special problems in the K-12 age groups. Development of specific programs to assist students and teachers in preventive aspects and identification of other professional and community resources for support and treatment. Prerequisite: 501, 521. (3)

531 ORGANIZATIONAL THEORY AND DEVELOPMENT
Theories of nursing administration planning and policy; structural factors; influences on health care such as political process, change, technology, environment; team building; conflict management, risk management; trends in management of health care systems. (3)

532 STRATEGIES FOR NURSING LEADERSHIP
Role analysis and role development. Choosing a leadership style in a practice framework. Power and politics. Quality assurance and emergent issues. (3)

533 NURSING ADMINISTRATION PRACTICUM
Integration of content from area of concentration into practice. (6)

551 PHYSIOLOGY IN HEALTH AND ILLNESS
Advanced pathophysiological concepts related to major body systems. (3)

552 ROLE DEVELOPMENT OF CLINICAL NURSE SPECIALIST
Development and implementation of the clinical nurse specialist role in selected health care settings. (3)

553 ADVANCED NURSING CONCEPTS I
Focus on advanced concepts impacting nursing and client care in the acute care setting. Application and evaluation of the nursing process to acute care practice using crisis theory as the framework. (3)

554 ADVANCED NURSING CONCEPTS II
Focus on advanced concepts impacting nursing and client care in the chronic care setting. Application and evaluation of the nursing process to chronic care practice using crisis theory as the framework. (3)

555 ADVANCED NURSING CONCEPTS PRACTICUM
Clinical experience in advanced nursing practice in selected settings. (3)

571 RESEARCH IN NURSING I
The research process, overview, and application to nursing practice. Professional nurses' role. Use of research to improve nursing practice. (2)

572 RESEARCH IN NURSING II
The research process and the nurse's role in using the research process toward the solution of nursing problems. Proposal development. (2)

573 MODELS AND THEORIES OF NURSING
Facts, concepts, models, theories, and values relevant to advanced nursing practice. Testing of theories in practice. (2)

574 ISSUES AND TRENDS IN HEALTH CARE
Major issues impacting on nursing and the health care system. (2)

599 THESIS
Synthesis of research components in the execution of a research project. (3)

The following courses are being phased out and will be offered for the last time fall 1989.

464 LEADERSHIP IN NURSING
Analysis of health care delivery systems. Emphasis on leadership and economic aspects affecting health professionals and consumers. Prerequisites: 424, 434, 444; concurrent enrollment in 478. (4)

478 SENIOR PRACTICUM
Clinical application and synthesis of professional and technical skills in hospitals, health agencies, or other community settings. Prerequisites: 424, 434, 444; concurrent enrollment in 464. (8)

Philosophy

Philosophy is the parent academic discipline that gave birth to today's variety of arts and sciences. It examines basic issues in all fields and explores connections among diverse areas of life. In philosophy the most fundamental and enduring of questions are addressed: How can human beings gain knowledge about their world? What limits are there to that knowledge? What is the ultimate nature of the universe? In particular, what is the nature of the human person, and what role or purpose is ours? How should we live? Are there moral, aesthetic, and religious values that can be adopted rationally and used to guide our decisions? Study in philosophy acquaints students with major rival views of the world, encourages them to think precisely and systematically, and helps them to see life critically, appreciatively, and whole.

FACULTY

Myrbo, *Chair,* **Arbaugh, Cooper, Huber, Menzel, Nordby.**

USES OF PHILOSOPHY

Courses in philosophy meet the needs of a variety of students: (1) those who desire some knowledge of philosophy as a basic element in liberal education; (2) those who wish to pursue some special interest, for example, in ethics, science, religion, the history of thought, or the ideas of particular men or peoples; (3) those who wish to support their work in other fields, for example, literature, history, religion, the sciences, education, or business; (4) those who plan to use a major in philosophy as preparation for graduate or professional study in another field, for example, theology, medicine, or law; and (5) those who plan to do graduate work in philosophy itself, usually with the intention of teaching in the field.

Undergraduate study in philosophy does not train one specifically for a first job. It does provide exposure to important perspectives, as well as basic skills in interpretation, critical thinking and problem solving, research, analysis, and writing. These—usually coupled with specialized training in other disciplines—fit one for a great variety of positions of vocational responsibility. In most careers, persons with the highest potential for advancement are not those with the most specialized training, but those with the perspective, flexibility and depth, and skills in thought and communication provided by a liberal study such as philosophy.

SUPPORTING PROGRAMS IN PHILOSOPHY FOR OTHER FIELDS

Students using philosophy to support primary work in other fields may elect a minor or major or some other combination of courses of interest. On approval of the department, one course (4 hours) in another field of study may be used for the philosophy major if it has a direct relationship to the student's individual philosophy program.

Both how philosophy relates to a variety of careers and what specific programs of study are recommended to support work in other disciplines are described in separate brochures available in the departmental office. These include business, computer science, education, fine arts, health professions, law and public policy, social work, social and natural sciences, and theological studies.

A DISTINGUISHED PROGRAM

PLU's department of philosophy offers a distinctive course of studies. The permanent faculty all hold the doctorate, have studied at leading institutions in this country and abroad, and have participated in professional programs in the United States and Europe. All students, especially majors and minors, receive individual attention and assistance.

INTERIM OFFERINGS

Special interim courses at PLU explore a variety of philosophical topics. Courses are innovative and unusual, often interdisciplinary in nature, and involve students in the expertly guided exploration of issues that do not always fit well into the regular school year. In recent years, on-campus studies have been concerned with social and legal philosophy, war and morality, biomedical ethics, religion and science, and the computer revolution.

UNIVERSITY CORE REQUIREMENT

The general university core requirement of four hours in philosophy may be satisfied by any course offered except 100 *Reasoning,* 121 *Critical Thinking and Writing,* and 233 *Introduction to Logic.* A variety of 2-4 credit hour courses dealing with moral issues, 226 *Moral Problems,* 323 *Health Care Ethics,* 325 *Business Ethics,* 326 *Moral Problems in the Social Services,* and 328 *Philosophical Issues in the Law,* satisfy this requirement only if 225 *Ethical Theory* (2 hours) is also taken. The initial course in philosophy is customarily 101, 125, or 225, though rarely are these particular courses strictly a prerequisite for another course. 300-level courses are especially suited for students with particular interests. Faculty consent may be required for registration in some courses.

MINOR: 16 semester hours of approved philosophy courses; for transfer students, at least 8 hours must be taken at PLU. Students considering a minor should discuss their personal goals with departmental faculty. If they elect a minor, they should formally declare this with the registrar and the department chair.

BACHELOR OF ARTS MAJOR: Minimum of 28 semester hours, including 233 *Logic* and any two of the four courses in the history of philosophy sequence (331 *Ancient Philosophy,* 332 *Medieval Philosophy,* 333 *Modern Philosophy,* 335 *Contemporary Philosophy).* On approval of the department, one course (4 hours) in another field of study may be used for the philosophy major if it has a direct relationship to the student's individual philosophy program. Transfer students will normally take 16 or more of their 28 hours at PLU. Students intending to major in philosophy must formally declare this with the registrar and the department chair, and choose a departmental adviser.

HONORS MAJOR:

1. 28 semester hours in philosophy, including 233 *Logic,* at least two courses in the history of philosophy (331, 332, 333, 335), and 493 *Senior Research Seminar.*
2. a senior thesis (part of 493), a research paper under the supervision of one or more faculty members.
3. a comprehensive senior examination. Performance on this examination will determine one third of the student's grade in the *Senior Research Seminar.*
4. completion of the departmental reading program of primary sources. Honors majors in philosophy are expected to read and discuss a number of classical works under the personal supervision of various members of the faculty. Not all works will be additions to course materials; some will also be covered in regular courses, and these may be read and discussed simultaneously with class study. With departmental approval, the standard list may be modified in accordance with special needs or interests. The list should be secured at an early date from the departmental office. It is best that the reading program not be concentrated into a single semester but pursued at a leisurely pace over an extended period.
5. at least a 3.30 grade point average in philosophy courses.

COURSE OFFERINGS

100 REASONING

Development of reasoning skills and an appreciation for the diverse areas to which they apply, for example, in religion, literature, science, and computer language. Students learn how to ask clear questions, recognize and evaluate assumptions, and avoid errors of reasoning in arguments. Does not satisfy philosophy core requirement. I II (2)

Philosophy

101 PHILOSOPHICAL ISSUES
Perennial philosophical issues, systems, and thinkers; the nature of knowledge, the function of science, values, human nature and its social implications, religion and knowledge of God. Development of critical and systematic philosophical thinking about all issues. I II (4)

121 CRITICAL THINKING AND WRITING
Development of the ability to organize and write clear, direct English, and to evaluate explanations critically. The uses and abuses of language and argument among contentious, prejudiced, and superstitious people. Reasoning and writing about unusual natural phenomena, public policy decisions, and other topics of interest. Does not satisfy the philosophy core requirement. Does satisfy the English writing requirement. I II (4)

125 MORAL PHILOSOPHY
Major moral systems of Western civilization; intensive examination of some contemporary moral theories; critical application to selected moral problems. I II (4)

225 ETHICAL THEORY
Examination of major moral systems of Western civilization and some contemporary ethical theories. Must be taken concurrently with or before 226, 325, 326, 328, or 323-I, II, III, IV in order to use those courses for the philosophy core requirement. I II (2)

226 MORAL PROBLEMS
Critical application of major historic and contempoary ethical theories to a broad range of selected moral problems. For philosophy core requirement only when paired with 225. II (2)

233 INTRODUCTION TO LOGIC
A study of the principles of argument and proof using both natural deduction and axiomatic approaches. An introduction to the use of first order logic in ordinary reasoning and cognitive disciplines, and to the properties of formal systems such as consistency and completeness. Includes an introduction to inductive inference. Does not satisfy philosophy core requirement. I (4)

323 HEALTH CARE ETHICS
Moral problems in health care relationships and delivery systems, considered in relation to fundamental ethical themes and theories generally. Taught in 1-2 hour units, in divisions such as:

A. **Informed Consent.** Special settings of therapy, research, prisons, mental incompetence.
B. **Choosing Death.** Valuing life, defining death, "extraordinary means," "killing" vs. "letting die."
C. **Infants and Children.** Consent and valuing life in newborn care, prenantal diagnosis, child research.
D. **Distributing Scarce Resources.** Equal access rights, prevention/treatment, life-style effects, etc.

Not for philosophy core requirement unless paired with 225. I, II, and occasionally Interim (1-4).

325 BUSINESS ETHICS
An examination, in the context of various ethical theories, of the moral values implicit and explicit in the free enterprise system; an assessment of some particular moral problems confronted in employer-employee relations, advertising, managerial decisions, and corporate social responsibilities. For philosophy core requirement only when paired with 225. I (2)

326 MORAL PROBLEMS IN THE SOCIAL SERVICES
An examination of governmental social services in relation to moral justice, moral rights, and human well-being; particular issues such as abortion, suicide, welfare rights, and counseling methods. For philosophy core requirement only when paired with 225. II a/y (2)

328 PHILOSOPHICAL ISSUES IN THE LAW
An examination of philosophical issues in law using actual cases as well as philosophical writings. Topics include contract law, sentencing practices, tort liability, and various criminal law defenses. Philosophical themes include natural law and legal positivism, and moral reasoning about individual rights. For philosophy core requirement only when paired with 225. Pre- or co-requisite: one other course in philosophy or legal studies. I (4)

331 ANCIENT PHILOSOPHY
The development of philosophical thought and method from the Presocratic period to the end of the fourth century A.D. Special emphasis is given to the philosophies of Plato and Aristotle. I a/y (4)

332 MEDIEVAL PHILOSOPHY
The development of philosophy from Augustine to Ockham. Scrutiny of the sources and nature of the Thomistic synthesis, and the reaction to it in the work of Duns Scotus and William Ockham. I a/y (4)

333 MODERN PHILOSOPHY
The development of philosophy from the seventeenth through the early nineteenth centuries; continental rationalism, British empiricism, and German idealism; Descartes, Spinoza, Leibniz, Locke, Berkeley, Hume, Kant, Fichte, Schopenhauer, and Hegel. II a/y (4)

335 CONTEMPORARY PHILOSOPHY
The development of philosophy from the late nineteenth century to the present; may include pragmatism, empiricism, process philosophy, existentialism and analysis as developed by Mill, James, Dewey, Whitehead, Sartre, Russell, Ayer, and Wittgenstein. Prerequisite: one previous philosophy course. II a/y (4)

338 KIERKEGAARD AND EXISTENTIALISM
Modern existentialism, its main themes, and their relation to other philosophical traditions; its impact on such fields as theology, literature, and psychology. Life and thought of two key figures: Soren Kierkegaard and Jean-Paul Sartre; related thinkers including Nietzsche, Heidegger, Jaspers, Tillich, Buber, Camus, and Marcel. I a/y (4)

340 PHILOSOPHY OF SCIENCE
The general character, fundamental concepts, methods, and significance of modern science; some attention to specific areas of science: physical, biological, social; the implications of science and scientific methodology for ethical, aesthetic, and religious values. I a/y (4)

341 PHILOSOPHY OF MATHEMATICS: SET THEORY
A study of the historical development and basic concepts of set theory and the foundations of mathematics. The relationship of logic and set theory to the basic concepts of number and infinity; the philosophical implications of this relationship. Set theoretical paradoxes and proposed solutions. Prerequisite: MATH 128 or higher math course. Counts 2 hours toward philosophy core requirement when taken in addition to 225 or 233. II a/y (2)

342 PHILOSOPHY OF MATHEMATICS: GODEL AND TRUTH
A study of the traditional accounts of the nature of mathematical entities and mathematical truth according to logicism, formalism, and intuitionism. A study of Godel's Incompleteness Proof and its significance for these accounts. Prerequisite: 233 or consent of instructor. Counts 2 hours toward philosophy core requirement when taken in addition to 225 or 233. II a/y (2)

350 PHILOSOPHY OF RELIGION
Classical and contemporary views of traditional religious problems: the existence of God, religious experience, revelation, immortality, and others. Prerequisite: one previous philosophy or religion course. II (4)

351 THEORY OF VALUE
The nature of human values, contemporary discussion concerning the subjective or objective, absolute or relative character of such values as the good and the right, the beautiful and the holy; the origin of values, their place in a world of fact, human knowledge of them; the character and use of the language of evaluation. Prerequisite: 101, 125, or 225, or consent of instructor. II a/y (4)

352 AESTHETICS
Analysis of the aesthetic experience and its relationship to the fine arts, literature, science, and morality; the criteria and concepts employed in artistic expression and aesthetic evaluation. II a/y (4)

435 ADVANCED SEMINAR IN PHILOSOPHY
Topic to be announced at the time the course is offered, normally some aspect of contemporary philosophy. Prerequisite: consent of instructor. (4)

491, 492 INDEPENDENT READING AND RESEARCH
Prerequisite: departmental consent. I II (1-4)

493 **SENIOR RESEARCH SEMINAR**
The writing of a senior thesis and taking of a comprehensive senior examination. The work on the thesis constitutes two-thirds of the course; the exam, one-third. Each spring all students in the seminar will meet periodically to discuss their projects and present their final papers to each other. Final copy of thesis due May 1; examination to be taken May 10. For philosophy majors only. Prerequisite: at least 4 courses in philosophy. I II (4)

501 **TEACHING PHILOSOPHY TO CHILDREN**
An intensive workshop for training teachers and prospective teachers to introduce reasoning skills and the clarification of ideas to elementary and middle school age children. Participants will be coached in the conduct of classroom philosophical discussions and will participate themselves in the sort of philosophical reflection that the curriculum is designed to foster. Not for philosophy core requirement. No prerequisites; teaching experience preferred. (Cross-referenced with EDUC 501.) S (2-4)

School of Physical Education

The university's physical education program seeks to ingrain in each student a fundamental respect for the role of physical activity in living.

Instruction is offered in approximately 30 different physical education activities. The activity program is uniquely characterized by a timely response to student interests in recreational opportunities available in the Pacific Northwest.

The school's professional programs prepare prospective leaders for careers in physical education, health, recreation, athletics, and therapeutics.

Outstanding modern sports facilities include an all-weather 400 meter track, an Olympic-style swimming pool, six lighted tennis courts, a nine-hole golf course, two gymnasiums, racquetball and squash courts, a new fitness center, and an all-purpose astro-turf field house.

FACULTY

D. Olson, *Dean;* **Chase, Evans, Hacker, Hoseth, Kluge, Lundgaard, Moore, Officer, M. Seal, F. Westering; assisted by Adachi, Allen, Benson, Freitag, Gardner, Haroldson, Johnson, Larson, L. Marshall, S. Marshall, McCord, Nichol, Nicholson, Phillips, Poppen, Rice, Ryan, Swenson, Teodoro, Walcott, Weekly, Weible, Scott Westering, Susan Westering.**

UNIVERSITY REQUIREMENT: Four one-hour courses (100-259), including 100, are required for graduation. Eight one-hour activity courses may be counted toward graduation. Students are encouraged to select a variety of activities at appropriate skill levels. All physical education activity courses are graded on the basis of "A," "Pass," or "Fail" and are taught on a coeducational basis.

BACHELOR OF SCIENCE IN PHYSICAL EDUCATION (B.S.P.E.): 68-70 hours, including completion of program core requirements and one of two concentrations. **Core Requirements:** 34 hours, including Chemistry 104, 105, (or 105, 115), Biology 161, 162, 205, 206, Physical Education 277, 480, 481, 482, and 485.

Exercise Science Concentration: 34 hours, including Physical Education 329, 399 (8 hours), 478, Health Education 292, Math 128 or 140, Computer Science 220, Biology 323 or approved alternate, Psychology 221, 335.

Pre-Therapy Concentration: 38 hours, including Health Education 281, 382, Physical Education 399 (8 hours), Biology 201 or 323 or approved alternate, Math 128 or 140 or Statistics 231, Computer Science 220, Physics 125, 126, 147, 148, and 4 hours of electives in upper division psychology as approved by concentration adviser.

In addition to the requirements listed above, candidates for the B.S.P.E. degree must meet the foreign language requirement as stated by the College of Arts and Sciences.

BACHELOR OF ARTS IN RECREATION (B.A.Rec.): 48-56 hours, including completion of program core requirements and one of three concentrations. **Core Requirements:** 32 hours, including Physical Education 277, 287, 345, Recreation 330, 399 (8 hours), 483, Business Administration 281, and Psychology 335.

Administration Concentration: 16 hours, including Business Administration 350, 354; Communication Arts 285; and Computer Science 220. (Economics 150 and Statistics 231 are prerequisites for Business Administration 350.)

Programming Concentration: 20 hours, including Physical Education 285, 286, 322, 329, 334, and 6 hours of electives approved by program coordinator.

Therapeutic Concentration: 26 hours, including Biology 205, 206, Physical Education 329, 478, 480, 481, 482, Recreation 340 and Special Education 296, plus 2 hours of electives in special education approved by program coordinator.

In addition to the requirements listed above, candidates for the B.A.Rec. degree must meet the foreign language requirement as stated by the College of Arts and Sciences.

BACHELOR OF ARTS IN PHYSICAL EDUCATION (B.A.P.E.): 53 hours, including Biology 205, 206; Health Education 281; Physical Education 277, 283, 285, 286, 287, 288, 322, 328, 329, 345, 478, 480, 481, 482, 484, 485. In addition to the requirements listed above, candidates for the B.A.P.E. degree must meet the foreign language requirement as stated by the College of Arts and Sciences.

Students wishing to receive a Primary Endorsement in Physical Education K-12 (Teacher Certification) must meet all requirements established by the School of Education for teacher certification in addition to the requirements listed above for the B.A.P.E. At least one supporting endorsement is strongly recommended. Students receiving a B.A.P.E. *with certification* are not required to fulfill the language requirement as stated by the College of Arts and Sciences.

PHYSICAL EDUCATION/MINOR (K-12) SUPPORTING ENDORSEMENT: 19 hours, including Health Education 281; Physical Education 283; one course from among 285, 286, or 287; 288, 322, 328, 334, 345.

HEALTH MINOR (4-12) SUPPORTING ENDORSEMENT: 16 hours, including 260, 270, 292, 295*, 321, 323, 325, 327, plus 2 hours of electives approved by the program coordinator. (* Students not pursuing an education endorsement will be required to take 2 additional hours of approved electives to replace this course.)

AQUATICS MINOR: 18 hours, including Physical Education 275, 331, 399, Health Education 292, Business Administration 281, plus 4 hours of electives approved by the aquatics director.

COACHING MINOR: 16 hours, including Physical Education 334, 345, 410, 485, and Health Education 281. Electives: 6 hours, including at least one course in coaching theory, from among the following: Physical Education 308, 361, 370, 371, 372, 374, 378, and 478. Interim and summer courses may be included as electives with the approval of the dean. Health Education 292 is required for non-education majors.

DANCE MINOR: 19 hours, including Physical Education 242, 247, 250, 282, and 462. Electives: 12 hours from among the following: Physical Education 300 (interim dance course), 360, 401, 491, Communication Arts 356, Music 246 and 249. Interim and summer courses may be included as electives with the approval of the dance coordinator.

EXERCISE SCIENCE MINOR: 22 hours, including Biology 205 and 206; Physical Education 360/399 (2 hours), 478, 480, 481, 482, 485. Designed primarily for those with business backgrounds who might work in a fitness center. This program is not designed for B.A.P.E. students.

SPORTS MEDICINE (Specialization): 28 hours, including Biology 205 and 206, Health Education 260, 270, 281, 327, 382, and 4 hours of electives in health education, Physical Education 329, 480, 481, and 482. Also required are 1,500 hours of clinical experience, which may include a practicum or internship as required by N.A.T.A.. Recommended: A teaching major with the Professional Education Sequence and completion of all requirements for the Provisional Certificate.

SPORTS ADMINISTRATION (Specialization): 18 hours, including Physical Education 345; Physical Education 302 (or alternative with approval of adviser), 399 (8 hours), 410, and Health Education 292. Students must have a major in business administration, communication arts, or economics.

COURSE OFFERINGS

Courses in the School of Physical Education are offered in the following areas:

HEALTH EDUCATION

260 FOOD AND HEALTH
270 STRESS WITHOUT DISTRESS
281 INJURY PREVENTION AND THERAPEUTIC CARE
292 FIRST AID
295 SCHOOL HEALTH
321 FAMILY LIFE AND SEX EDUCATION
323 EMOTIONAL HEALTH/DISEASE PREVENTION
325 CONSUMER HEALTH
327 SUBSTANCE USE AND ABUSE
382 INJURY PREVENTION—ADVANCED
399 INTERNSHIP
425 HEALTH PROMOTION/WELLNESS INTERVENTION STRATEGIES
491 INDEPENDENT STUDY
501 GRADUATE WORKSHOPS
597 GRADUATE RESEARCH

RECREATION

330 RECREATION PROGRAMMING
340 THERAPEUTIC RECREATION PROGRAMMING
399 INTERNSHIP
483 RECREATION ADMINISTRATION
491 INDEPENDENT STUDY
501 GRADUATE WORKSHOPS
597 GRADUATE RESEARCH

PHYSICAL EDUCATION

275 WATER SAFETY INSTRUCTION
277 FOUNDATIONS OF PHYSICAL EDUCATION
282 RHYTHMS IN ELEMENTARY SCHOOL
283 TEACHING METHODS: GYMNASTICS
285 TEACHING METHODS: INDIVIDUAL AND DUAL SPORTS
286 TEACHING METHODS: TEAM SPORTS
287 TEACHING METHODS: RECREATION ACTIVITIES
288 TEACHING METHODS OF WEIGHT TRAINING
322 PHYSICAL EDUCATION IN THE ELEMENTARY SCHOOL
328 CURRICULUM DEVELOPMENT AND METHODS
329 ADAPTED PHYSICAL EDUCATION
331 AQUATICS MANAGEMENT
334 SCIENTIFIC BASIS FOR TRAINING
345 ADMINISTRATION OF SPORT PROGRAMS
360, 361 PROFESSIONAL PRACTICUM, COACHING PRACTICUM
370-379 COACHING THEORY
399 INTERNSHIP
401 WORKSHOP
410 COACHING—THE PERSON AND THE PROFESSION
462 DANCE PRODUCTION
478 MOTOR LEARNING AND HUMAN PERFORMANCE
480 EXERCISE PHYSIOLOGY LAB
481 EXERCISE PHYSIOLOGY
482 ANATOMICAL KINESIOLOGY
484 MEASUREMENT AND EVALUATION IN PHYSICAL EDUCATION
485 BIOMECHANICS
491 INDEPENDENT STUDY
501 GRADUATE WORKSHOPS
597 GRADUATE RESEARCH

100 PERSONALIZED FITNESS PROGRAMS

To stimulate student interest in functional personally designed programs of physical activity; assessment of physical condition and skills; recommendation of specific programs for maintaining and improving physical health. Should be taken as a freshman. I II (1)

150 ADAPTIVE PHYSICAL ACTIVITY

151-199 INDIVIDUAL AND DUAL ACTIVITIES

151 (Beginning Golf), 153 (Archery), 155 (Bowling), 157 (Personal Defense), 159 (Beginning Gymnastics), 162 (Beginning Tennis), 163 (Beginning Badminton), 165 (Racquetball/Squash), 167 (Roller Skating), 168 (Ice Skating), 170 (Skiing), 171 (Canoeing), 172 (Backpacking), 173 (Basic Mountaineering), 174 (Equitation), 177 (Weight Training), 178 (Body Toning), 180 (Bicycling), 182 (Low Impact Aerobics), 183 (Power Aerobics), 185 (Advanced Bowling), 189 (Intermediate Gymnastics), 191 (Intermediate Golf), 192 (Intermediate Tennis), 193 (Intermediate Badminton), 194 (Intermediate Equitation), 195 (Intermediate Racquetball/Squash), 197 (Advanced Weight Training).

200-219 AQUATICS

200 (Beginning Swimming), 203 (Synchronized Swimming), 205 (Skin and Scuba Diving), 207 (Basic Sailing), 210 (Intermediate Swimming), 212 (Conditioning Swimming), 214 (Advanced Swimming), 216 (Advanced Life Saving).

220-240 RHYTHMS

220 (Beginning Modern Dance), 222 (Beginning Jazz Dance), 224 (Current Dance), 226 (Folk and Social Dance), 230 (Intermediate Modern Dance), 232 (Intermediate Jazz Dance), 234 (Relaxation Techniques), 238 (Advanced Modern Dance).

241-259 TEAM ACTIVITIES

241 (Basketball and Softball), 243 (Soccer and Volleyball), 244 (Co-ed Volleyball), 245 (Team Handball), 247 (Lacrosse), 250 (Directed Sports Participation), 259 (Independent Study/Activity).

260 FOOD AND HEALTH

A study of the basic requirements necessary to maintain optimal health through wise food choices. Topics include nutrients and their metabolism, dietary guidelines, food fadism, labeling, additives, vegetarianism, obesity, nutrition-related diseases, nutrition during pregnancy, and nutrition for athletes. I II (1)

270 STRESS WITHOUT DISTRESS
Consideration of stress, what people should know about stress, how to reduce the harmful effects of stress, and the relationship of increased stress to disease problems. II (1)

275 WATER SAFETY INSTRUCTION
The American Red Cross Water Safety Instructor's Course. Prerequisite: swim test required. II (2)

277 FOUNDATIONS OF PHYSICAL EDUCATION
The relationship of physical education to education; the biological, sociological, psychological, and mechanical principles underlying physical education and athletics. Should be the initial professional course taken in the School of Physical Education. II (2)

281 INJURY PREVENTION AND THERAPEUTIC CARE
Prevention, treatment, and rehabilitation of all common injuries sustained in athletics; physical therapy by employment of electricity, massage, exercise, light, ice, and mechanical devices. I II (2)

282 RHYTHMS IN THE ELEMENTARY SCHOOL
Designing and conducting rhythmic activities for elementary school children. (2)

283 TEACHING METHODS: GYMNASTICS
Includes skill development, teaching opportunities, and safety techniques in tumbling and gymnastics. The course is designed for K-12 preparation. I (2)

285 TEACHING METHODS: INDIVIDUAL AND DUAL SPORTS
Planning, teaching, and evaluating these activities: tennis, badminton, track and field, bowling, archery, and golf. I (4)

286 TEACHING METHODS: TEAM SPORTS
Planning, teaching, and evaluating these team activities: basketball, soccer, volleyball, rugby, field hockey, softball, touch football, team handball. II (4)

287 TEACHING METHODS: RECREATION ACTIVITIES
Planning, teaching, and evaluating the following activities: outdoor education, various recreational sports, and rope skipping. Prerequisite: 277. II (4)

288 TEACHING METHODS OF WEIGHT TRAINING
Planning, teaching, spotting, and safety in teaching weight training. I (1)

292 FIRST AID
This course meets requirements for the American Red Cross Standard First Aid and Personal Safety. II (2)

295 SCHOOL HEALTH
Health concepts which relate to the total school health program, including instruction, services, and environment; relationships between health and all levels of education. II (2)

321 FAMILY LIFE AND SEX EDUCATION
A study of anatomy and physiology, sexual roles, reproduction, responsible relationships, respect for self and others, and physical and emotional well-being. Stress on responsible decision making concerning sexuality by providing accurate information and a variety of personal coping skills and by emphasizing a positive self-concept. Evaluation of school curriculum models. II (2)

322 PHYSICAL EDUCATION IN THE ELEMENTARY SCHOOL
Organization and administration of a developmental program for grades K-6; sequential and progressive programming; large repertoire of activities. Observation and/or practicum in public schools required. I, II (2 or 4)

323 EMOTIONAL HEALTH/DISEASE PREVENTION
Topics include interpersonal communication, cooperation, valueing, techniques leading toward a healthier lifestyle through preventive medicine, and related disease problems. II (2)

325 CONSUMER HEALTH
Information about consumption as it affects personal health. Examination of consuming habits to achieve greater control over total health status. I (2)

327 SUBSTANCE USE AND ABUSE
A study of drug use and abuse and the effect on the human body and mind. I (2)

328 CURRICULUM DEVELOPMENT AND METHODS
Curriculum development and general methods in physicaleducation. Developing curriculum, planning and teaching techniques in K-12 settings. I (4)

329 ADAPTED PHYSICAL EDUCATION
The study of physical education for people with metabolic, neurologic, cardiac, respiratory, and emotional abnormalities. I (2)

330 RECREATION PROGRAMMING
Supervising and administering recreational programs for the school or community. I (4)

331 AQUATICS MANAGEMENT
Topics inlcude training and supervising personnel, financing, programming, pool maintenance and operation, swim meet management, and safety and emergency procedures. Study of pool chemistry, filter operations, and maintenance. Visitation to local pools. (2)

334 SCIENTIFIC BASIS FOR TRAINING
Presents physiologic and kinesiologic applications to physical training. Topics include the development of muscular strength and endurance, and the relationship of nutrition, environment, sex, age, and ergogenic aids to athletic performance. I (2)

340 THERAPEUTIC RECREATION PROGRAMMING
Awareness and potentiality of leisure needs of the temporarily or permanently handicapped. Adaptation of recreation activities to provide opportunities for success and satisfaction by the handicapped. Study of leadership techniques and programming methods. II (2)

345 ADMINISTRATION OF SPORTS PROGRAMS
Administration of sports programs including budgeting, facility development, promotion, legal implications, and personnel supervision. Fulfills EDUC 421. II (2)

360, 361 PROFESSIONAL PRACTICUM, COACHING PRACTICUM
Assistant coaching teaching experiences; planning and conducting intercollegiate athletics and physical education instruction; students work under supervision of the head coach or physical education instructors. Prerequisite: departmental approval. I II (2)

370-379 COACHING THEORY
Techniques, systems, training methods, strategy, and psychology of coaching; 370 (Basketball), 371 (Football), 372 (Cross Country/Track and Field), 374 (Soccer), 378 (Softball/Baseball). I II a/y (2)

382 INJURY PREVENTION—ADVANCED
An advanced study in the recognition and treatment of specific athletic injuries and vulnerable body structures, with emphasis on evaluation, modalities of treatment, rehabilitation, and current issues. Prerequisite: 281. II (2)

399 INTERNSHIP
Experiences closely assigned to student's career and academic interests. Student identifies problems to be researched, experiences to be gained, and readings pertaining to this interest. An approved firm or organization is mutually agreed upon by the student and the coordinator of this program. Monthly progress reports, evaluations by the supervisor, and other measures of achievement are used to determine the grade. Prerequisites: declaration of major, at least sophomore status, and completion of at least 10 hours in the major. May be taken as Physical Education, Health Education, or Recreation credit. (4-8)

401 WORKSHOP
Workshops in special fields for varying periods. (1-4)

410 COACHING—THE PERSON AND THE PROFESSION
Personal and professional requisites of successful sports programs, including coaching styles, development of leadership qualities, recruiting methods, development of a philosophy of athletics, organization of pre-/in-/and post-season programs, award systems, and program evaluation. Consideration of relationships with staff, parents, players, faculty, administration, and media. Budgeting, purchase of equipment and maintenance, and facility planning and usage. I (2)

425 HEALTH PROMOTION AND WELLNESS INTERVENTION STRATEGIES
Examination of strategies for improving the state of wellness through healthier lifestyles. Topics include the holistic approach to health, behavioral intervention, nutrition and weight control strategies, health-related fitness, strategies to improve adherence toa fitness program, and the cost-effectiveness of health programs in business and industry. Includes computerized assessments; appraisals of health risks; prescriptions for nutrition, health, and activity; and a monitoring system and weight management program. (2)

462 DANCE PRODUCTION
An advanced choreography course combining choreography, costume design, staging, and publicity techniques for producing a major dance concert. Prerequisite: 310 or consent of instructor. (2)

478 MOTOR LEARNING AND HUMAN PERFORMANCE
Provides basic theories, research, and practical implications for motor learning, motor control, and variables affecting skill acquisition. I (4)

480 EXERCISE PHYSIOLOGY LAB
Emphasis on practical applications and teaching methods of materials taught in the theory course. Taken concurrently with 481. I (2)

481 EXERCISE PHYSIOLOGY
Scientific basis for training and physiological effect of exercise on the human body. Prerequisite: BIOL 205-206. I (2)

482 ANATOMICAL KINESIOLOGY
Deals with the structural and mechanical function of the musculoskeletal system. The kinesiological applications of anatomical information are given prime consideration. Prerequisite: BIOL 205-206. II (2)

483 RECREATION ADMINISTRATION
The organization, management, and direction of recreational services: legal basis, administrative procedures, financial aspects, personnel management, facilities, and internal organization. II (4)

484 MEASUREMENT AND EVALUATION IN PHYSICAL EDUCATION
The selection, construction, and interpretation of evaluation techniques related to the physical education program. Fulfills EDUC 467 certification requirement. II (2)

485 BIOMECHANICS
An application of physical laws to sports activities. Principles of motion, force, and equilibrium are stressed. Analyses of various sports skills are made. II (2)

491 INDEPENDENT STUDY
Prerequisite: consent of the dean. May be taken as Physical Education, Health Education, or Recreation credit. I II S (1-4)

501 WORKSHOPS
Graduate workshops in special fields for varying periods. May be taken as Physical Education, Health Education, or Recreation credit. (1-4)

597 GRADUATE RESEARCH
Open to graduate students whose minor is in the field of physical education. Prerequisite: consent of the instructor. May be taken as Physical Education, Health Education, or Recreation credit. I II S (1-4)

Physics

Physics searches out the fundamental laws of nature which govern the universe. Engineering uses these laws to provide an improved quality of life. As our society becomes more dependent upon technology, the value of an education in science and engineering becomes increasingly important.

The Department of Physics and Engineering offers programs in both basic and applied science. The department maintains degree programs in physics, engineering physics, computer engineering, and 3-2 or 4-2 engineering science. The 3-2 or 4-2 program is a dual degree program with the School of Engineering and Applied Science of Columbia University. Students also elect to implement the 3-2 option with Washington University of St. Louis, the University of Washington, Washington State University, and Oregon State University. Students may also minor in electrical engineering.

FACULTY
Greenwood, *Chair*; Adams, Clarke, Nornes, R. Parker, Tang, Taylor, Upton, Woo, Wrigley.

Students intending to major in physics or engineering are advised to examine the interrelationships between the career fields of physics and engineering. Physicists seek to answer the basic "why" questions of the physical universe by searching out the fundamental laws and principles which determine how it operates. Engineering is basically concerned with applying these laws to "practical" problems. (See the Engineering section of this catalog.)

PHYSICS

The physics major offers a challenging program emphasizing a low student-teacher ratio and the opportunity to engage in independent research projects. There are two introductory course sequences, *College Physics* and *General Physics*, which incorporates calculus, usually involving a more comprehensive analysis. *General Physics* is required for the Bachelor of Science major and usually for the Bachelor of Arts major as well.

BACHELOR OF SCIENCE MAJOR: 32 semester hours: 153, 154, 163, 164, 223, 331, 332, 336, 356, 421, 422. 497-498 may be substituted for 421-422 with consent of the department. Students planning to continue in a graduate physics degree program are strongly urged to take 401 and 406.

Required supporting courses: Math 151, 152, 253; Engineering 354; Chemistry 115; either Engineering 351 or Chemistry 341.

A typical B.S. physics major program is as follows:

Freshman	Physics 153, 154
	Physics 163, 164
	Math 151, 152
Sophomore	Physics 223, 336
	Math 253
	Engineering 354
Junior	Physics 331, 332
	Engineering 351 or Chemistry 341
	Physics 356
Senior	Physics 401, 406
	Physics 421, 422

BACHELOR OF ARTS MAJOR: 24 semester hours: 153 or 125, 154 or 126, 163 or 135, 164 or 136, 223, plus ten semester hours in physics. Required supporting courses: Math 151, 152.

MINOR: 22 semester hours, including 153 or 125, 154 or 126, 163 or 135, 164 or 136; three additional courses, of which at least two must be upper division.

ENGINEERING PHYSICS

The department offers a four-year engineering degree for students interested in an engineering related program that includes a substantial amount of basic science. It is more applied than a physics degree while at the same time more theoretical than the usual engineering degree. The B.S. degree in engineering physics prepares students for employment in many diverse industries or directly for graduate study in nearly all fields of engineering.

B.S. DEGREE IN ENGINEERING PHYSICS: 47-48 semester hours: Physics 153, 154, 163, 164, 223, 331, 356, 421, 422; Engineering 161, 162, 354, 382 plus four courses of engineering speciality, one of which must be an upper division course, from Electrical—271, 341 (including 347), 352, and 362, and/or from Mechanical—231, 232, 351, 442. Physics 336 may be substituted for Engineering 232. Chemistry 341 may be substituted for Engineering 351. Required supporting courses: Math 151, 152, 253; Chemistry 115; Computer Science 240.

A typical engineering physics program is as follows:

Freshman	Physics 153, 154, 163, 164 Engineering 161, 162 Math 151, 152
Sophomore	Engineering 231, 232 or Engineering 271, 341 and 347 Engineering 354 Physics 223 Math 253
Junior	Engineering 351, 271 or Engineering 352, 231 Chemistry 115 Physics 356 Computer Science 240
Senior	Physics 331, 421, 422 Engineering 382

COURSE OFFERINGS—PHYSICS

125, 126 COLLEGE PHYSICS
This course provides an introduction to the fundamental topics of physics. It is a non-calculus sequence, involving only the use of trigonometry and college algebra. Concurrent registration in 147, 148 is required. I II (4, 4)

135, 136 COLLEGE PHYSICS LABORATORY
Basic laboratory experiments are performed in conjunction with the College Physics sequence. Concurrent registration in 125, 126 is required. I II (1, 1).

153, 154 GENERAL PHYSICS
A calculus-level survey of the general fields of physics, including classical mechanics, wave motion, electricity and magnetism, and optics. Concurrent registration in 147, 148 and prior or concurrent registration in MATH 151, 152 is required. I II (4,4)

163, 164 GENERAL PHYSICS LABORATORY
Basic laboratory experiements are performed in conjunction with the General Physics sequence. Concurrent registration in 153, 154 is required. I II (1, 1).

205 MUSICAL ACOUSTICS
A study of musical sound using physical methods: vibrating sytems; simple harmonic motion; wave motion; complex waves; wave generation in musical instruments; physiology of hearing; architectural acoustics; electronic recording and reproduction. Laboratory and group tours. No prerequisite courses in either mathematics or physics are assumed. a/y 1989 II (4)

223 ELEMENTARY MODERN PHYSICS
A selected treatment of various physical phenomena which are inadequately described by classical methods of physics. Interpretations which have been developed for these phenomena since approximately 1900 are presented at an elementary level. Prerequisite: 154 or 126 or consent of the instructor. I (4)

331 ELECTROMAGNETIC THEORY
Electrostatics, dipole fields, fields in dielectric materials, electromagnetic induction, magnetic properties of matter, in conjunction with the development of Maxwell's equations. Prerequisite: 153, 154; corequisite: 356 or consent of instructor. I (4)

332 ELECTROMAGNETIC WAVES AND PHYSICAL OPTICS
Proceeding from Maxwell's equations, the generation and propagation of electromagnetic waves is developed with particular emphasis on their application to physical optics. Prerequisite: 331. II (4)

336 MECHANICS
Fundamental mechanics; a mathematical formulation of physical problems; particle motion in one, two, or three dimensions; motions of systems of particles; dynamics and statics of rigid bodies; moving coordinate systems; Lagrange's equations and Hamiltonian formulation of mechanics. Prerequisite: 154; corequisite: Engineering 354 or consent of instructor. II (4)

341 INTRODUCTION TO ELECTRONICS
See Engineering 341. II (2)

347 INTRODUCTION TO ELECTRONICS LABORATORY
See Engineering 347. II (1)

351 THERMODYNAMICS
See Engineering 351. I (4)

354 ENGINEERING ANALYSIS
See Engineering 354. II (4)

356 MATHEMATICAL PHYSICS
Boundary value problems, special functions, matrices and tensors, probability theory, eigenvalue problems, complex variables, contour integration, and their applications to physics. Prerequisite: EGR 354 or consent of instructor. I (4)

382 INTRODUCTION TO MATERIALS SCIENCE
See Engineering 382. II (4)

401 INTRODUCTION TO QUANTUM MECHANICS
The ideas and techniques of quantum mechanics are developed. Various quantum mechanical systems and phenomena are studied in order to demonstrate these ideas and techniques. Prerequisite: 331, 336, 356 or consent of instructor. I (4)

406 ADVANCED MODERN PHYSICS
Modern theories are used to describe topics of contemporary importance such as atomic and sub-atomic phenomena, plasmas, solid-state, and astrophysical events. The application of quantum mechanical techniques are used when appropriate. Prerequisite: 401. II (4)

421 ADVANCED LABORATORY I
Selected experiments from both classical and modern physics are performed using state of the art instrumentation. Corequisite: 331. I (1)

422 ADVANCED LABORATORY II
Continuation of 421 with emphasis on design and implementation of a project under the guidance of the physics staff. Prerequisite: 421. II (1)

442 TRANSPORT: MOMENTUM, ENERGY, AND MASS
See Engineering 442. II (4)

491, 492 INDEPENDENT STUDY (1-4)

497, 498 RESEARCH (1-4)

Political Science

Political science addresses one of the most difficult, yet fundamentally important human endeavors, the governance of people and societies. The student of politics seeks to understand how governments are organized and structured, how political processes are employed, and the relationship of structures and processes to societal purposes. Recognizing that government and political activity may embody and reflect the full range of human values, the study of politics must endeavor to understand the realities of politics while at the same time asking how well political systems work, what purposes are and ought to be served, and what effects result from political phenomena. Political science encourages a critical understanding of government and politics in the belief that a knowledgeable, interested, and aware citizenry is the root strength and necessity of a democratic society.

FACULTY

Spencer, Chair; **Atkinson, Dwyer-Shick, Farmer, Gabardi, Kelleher, Olufs; assisted by Bricker.**

The study of political science helps to prepare students for the exercise of their rights, duties, and opportunities as citizens by giving them a better understanding of American political processes and of alternative systems. Courses in political science explore various topics in American government and politics, international relations and foreign policy, comparative government and area studies, political philosophy and theory, and public policy and law. The department provides pre-professional training leading to careers in teaching, law, government, and related fields.

For the non-major, political science courses provide useful study for any student generally interested in public affairs and the workings of government. Moreover, the study of politics is supportive of any discipline or professional program whose substance becomes a matter of public policy. As such, political science complements such fields as the natural sciences, sociology, business, education, and economics. The study of politics touches upon other disciplines which inquire into human behavior and development, ranging from history and philosophy to psychology, communication, and cross-cultural studies.

Students of political science have the opportunity to combine the academic study of government and politics with practical experience by participation in one of the internship programs sponsored by the department. At present these are available in public administration, public law, and the legislative process.

The Department of Political Science is affiliated with several organizations providing for a variety of student involvement. These organizations include the Model United Nations, Center for the Study of Public Policy, and Political Science Club. The department further sponsors or otherwise encourages active student participation in political life through class activities and through such campus organizations as the Young Republicans and Young Democrats.

The political science faculty at Pacific Lutheran University share a breadth of experience in teaching and research, in professional associations and conferences in the United States and abroad, and in government decision making from the local to the international level.

There are no prerequisites for political science courses, except as noted. Prior consultation with the instructor of any advanced course is invited. Students wishing to pursue a major or minor in political science are requested to declare the major or minor with the department chair as soon as possible.

BACHELOR OF ARTS MAJOR: 36 semester hours. Required courses: 101, 151, 325, and either 495 or an internship (450, 458, 464, or 471); Distributional requirement: One course from each of Group A and Group B:

Group A — American Government and Public Policy: 345, 354, 357, 361, 363, 364, 368, 371, 372, 373.

Group B — International Relations, Comparative Government, and Political Though: 326, 331, 338, 347, 381, 384, 385, 386, 387

Electives: Minimum of 12 semester hours selected from the Political Science curriculum. Major programs are planned in consultation with a departmental adviser.

MINOR: Minimum of 20 semester hours including 101 and 151. Minor programs are planned in consultation with a departmental adviser.

CONCURRENT ATTAINMENT: No more than 8 semester hours taken to satisfy other major or minor requirements may also be applied to the political science major. No more than 4 such semester hours may also be applied to the political science minor.

RESIDENCY: A minimum of 12 semester hours for the major and 8 semester hours for the minor must be taken in residence.

MINOR IN PUBLIC AFFAIRS: 24 semester hours, including 345 (required) and 20 hours from political science, economics, sociology, and business administration or statistics.

This minor offers an interdisciplinary study designed to support many major pograms whose content has implications for public affairs, and is particularly useful to students contemplating careers in public service or graduate study in public administration, public affairs, and related programs.

The Public Affairs minor includes the following requirements: 1) Political Science 345, Government and Public Policy; 2) at least 5 additional courses from three of the following groups (courses which are taken as part of a major program may not also count toward the Public Affairs minor):

Political Science (minimum of 8 hours if this group is selected)
- 151—American Government
- 354—State and Local Government
- 357—American Bureaucracy
- 363—Government, the Media, and Public Policy
- 364—The Legislative Process

Economics (minimum of 8 hours if this group is selected)
- 150—Principles of Economics
- 321—Labor Economics, Labor Relations, and Human Resources
- 362—Public Finance
- 371—Industrial Organization and Public Policy

Sociology (minimum of 4 hours if this group is selected)
- 240—Social Problems and Policies
- 340—Crime and Delinquency
- 386—Equality and Inequality
- 450—Issues of Crime/Deviance

Business/Statistics (minimum of 4 hours if this group is selected)
- BUSA 281—Financial Accounting
- STAT 231—Introductory Statistics

On approval by the Public Affairs adviser, up to 8 hours may be earned through participation in an internship program as a substitute for courses listed above (except Political Science 345). Internship opportunities are offered through several departments and provide students with actual work experience in state and local legislative and administrative agencies. Students interested in internships are urged to consult with their academic advisers and with intern faculty advisers at an early date.

Students interested in the Public Affairs minor should declare the minor in the Department of Political Science and consult with the department's Public Affairs adviser.

MAJOR IN LEGAL STUDIES: 32 semester hours. For additional information, see the section of this catalog on Legal Studies.

MINOR IN LEGAL STUDIES: 20 semester hours. For additional information, see the section of this catalog on Legal Studies.

PRE-LAW: For information, see the section of this catalog on Pre-professional Programs.

BACHELOR OF ARTS IN EDUCATION: See School of Education.

COURSE OFFERINGS

101 INTRODUCTION TO POLITICAL SCIENCE
An introduction to the major concepts, theories, ideas, and fields of study relating to politics and governmental systems. Explores governmental structures and processes, political power and authority, conflict, decision-making, policy, and stability and change. (4)

151 AMERICAN GOVERNMENT
A survey of the constitutional foundations of the American political system and of institutions, processes, and practices relating to participation, decision-making, and public policy in American national government. (4)

170 INTRODUCTION TO LEGAL STUDIES
An examination of the nature of law, judicial process, and participant roles in the legal system. Particular emphasis given to legal culture including comparative systems, assessments of legal needs and legal services, the legal profession, philosophy of law, and judicial decision-making. (4)

210 GLOBAL PERSPECTIVES: THE WORLD IN CHANGE
A survey of global issues affecting the human condition in a rapidly changing and increasingly interdependent world; modernization and development; economic change and international trade; diminishing resources; war and resolution; peace and justice; and cultural diversity. These issues are examined in a multi-disciplinary light using case studies drawn from non-Western and Western nations. Emphasis on the development of a global perspective which recognizes human commonalities as well as diversity in perceptions, values, and priorities. (Cross-referenced with ANTH 210 and HIST 210.) (4)

231 CURRENT INTERNATIONAL ISSUES
A survey course in international relations with emphasis on current events. Examination of ideology, economic resources and development, national rivalries, military power, revolutionary movements, population pressures, alliance politics, and multilateralism. Relation of these factors to international relations theory. (4)

325 POLITICAL THOUGHT
A survey of the origin and evolution of major political concepts in ancient, medieval, and early modern times. Such ideas as state, obligation, authority, community law, and freedom will be studied developmentally. (4)

326 RECENT POLITICAL THOUGHT
A critical examination of the major ideologies of the modern world: democracy, conservatism, capitalism, socialism, anarcho-syndicalism, communism, racial and political elitism, nationalism, liberalism, Christian political thought, and contemporary problems. (4)

331 INTERNATIONAL RELATIONS
A systematic analysis of the international system highlighting patterns instate interaction. Provides students with the theoretical concepts needed to discern these patterns and make sense of international events. (4)

338 AMERICAN FOREIGN POLICY
The role of the United States in international affairs. An analysis of the major factors in the formulation and execution of United States foreign policy and its impact on other powers. (4)

345 GOVERNMENT AND PUBLIC POLICY
An integrated approach to the nature of public policy, with emphasis on substantive problems, the development of policy responses by political institutions, and the impacts of policies. Special attention to policy at the American national or sub-national levels, in international politics, or from a comparative perspective, as announced by the department. (4)

347 POLITICAL ECONOMY
An examination of the ways that politics and economics coincide. Topics include the development of capitalism, socialist approaches, international issues, regional examples, and methods of study. Prerequisite: 101 or ECON 150. (4)

354 STATE AND LOCAL GOVERNMENT
Governmental structures, processes, and policy at the state, local, and regional levels of the American system. Special attention to intergovernmental relations and the role of the national government. (4)

357 AMERICAN BUREAUCRACY
An examination of the politics of bureaucracy as encountered by citizens and employees. Topics include the growth of bureaucracies, legal bases, factors of leadership and power, relations between public and private organizations, and the relation between bureaucracy and democracy. (4)

361 POLITICAL PARTIES AND ELECTIONS
Study of party and electoral systems with particular emphasis on American parties and elections. Examination of party roles in elections and government; party financing; interest groups and political action committees; and voting behavior. (4)

363 POLITICS AND THE MEDIA
The role of mass media in American government, politics, and policy. Examines media coverage in contexts of news formation, expression, and effects. Attention to political culture, public opinion, polls and surveys, press freedom and responsibility, and governmental regulation, secrecy, and manipulation. (4)

364 THE LEGISLATIVE PROCESS
A study of theory, organization, and procedure of the Congress and other legislative bodies in the United States; special emphasis on the dynamics of conflict and compromise in the legislative arena including citizen and interest group participation and lobbying. (4)

368 THE AMERICAN PRESIDENCY
Study of the nation's highest political office in terms of the roles and expectations of the office, styles of leadership, Presidential decision-making, the powers and limitations and the interaction of personality and institution. (4)

371 JUDICIAL PROCESS
An examination of legal processes in various adjudicatory settings. Primary attention given to judicial processes focusing on American civil and criminal law. Includes an examination of administrative law processes among other quasijudicial forms of conflict resolution. (4)

372 CONSTITUTIONAL LAW
The constitutional basis of governmental powers in the United States with special emphasis given to judicial review, separation of powers, federalism, and interstate commerce. Includes an examination of the political and constitutional restrictions on governmental power. (4)

373 CIVIL LIBERTIES
Constitutional rights and liberties with special attention given to freedom of expression and association, religious freedom, rights in criminal procedure, due process, and equal protection. (4)

374 LEGAL STUDIES RESEARCH
Introduction to various methods of legal analysis, research, and writing. Includes an examination of primary and secondary sources, automated and non-automated research systems, and research strategies for public policy issues. (4)

381 COMPARATIVE LEGAL SYSTEMS
Study of legal systems around the world as they actually work within their respective political, economic, social, and cultural contexts. Attention to dispute definition and settlement, juridical participants and processes, and concepts of law and legal activities. (4)

384 COMMUNIST POLITICAL SYSTEMS
Comparative examination of Marxist political systems, particularly the U.S.S.R., eastern Europe, China, and Cuba. Special attention given to ideology and to the role of the Communist Party. (4)

385 CANADIAN POLITICAL SYSTEM
The government and politics of Canada, with special attention to federalism, national unity, political culture, and constitutional development. Conditions permitting, the course will include a field trip to Victoria, provincial capital of British Columbia. (4)

386 AFRICAN POLITICAL SYSTEMS
Comparative examination of the political systems of Africa. Exposition of pre-colonial, colonial, and contemporary influences with special attention to problems of decolonization, nation-building, and development. (4)

387 **THE MIDDLE EAST**
Contrasts the history and aspirations of the Arab Nation with the reality of European dominance and its legacy, the formation of the present Arab states and Israel. Events in the region are explained by examining five separate but overlapping conflicts: superpower rivalry, Arabs v. Israelis, progressive v. traditional Arab states, various interpretations of Islam, and agitation by non-state actors. (4)

401 **WORKSHOPS AND SPECIAL TOPICS (1-4)**

431 **ADVANCED INTERNATIONAL RELATIONS**
Examines various theories of international conflict management including in-depth analysis of historical examples. The development of international law and international governmental organizations are also considered. Prerequisite: 331. (4)

450 **INTERNSHIP IN POLITICS**
Internship in the political dimensions of non-governmental organizations. By departmental consent only. (4-12)

458 **INTERNSHIP IN PUBLIC ADMINISTRATION**
An internship with a government department or agency. By departmental consent only. (4-12)

464 **INTERNSHIP IN THE LEGISLATIVE PROCESS**
An opportunity to study the process from the inside by working directly with legislative participants at the state or local level. By department consent only. (Internships with the Washington State Legislature are open only to juniors and seniors with at least one year at PLU who have taken or take concurrently 364.) (4-12)

471 **INTERNSHIP IN LEGAL STUDIES**
An internship with a private or public sector agency or office engaged in legal research, litigation, or law enforcement. (4)

491, 492 **INDEPENDENT READING AND RESEARCH**
By department consent only. (1-4)

495 **SENIOR SEMINAR**
Intensive study into topics, concepts, issues, and methods of inquiry in political science. Emphasis on student research, writing, and presentation. By departmental consent only. (4)

501 **GRADUATE WORKSHOPS**
Graduate workshops in special fields or areas for varying periods of time. (1-4)

590 **GRADUATE SEMINAR**
Selected topics as announced. Prerequisite: consent of the instructor. (1-4)

591 **DIRECTED STUDY, (1-4)**

595 **GRADUATE READINGS**
Independent study card required. (4)

598 **RESEARCH PROJECT (4)**

599 **THESIS (4)**

Psychology

Through its curriculum, use of community resources, and research programs, the Department of Psychology provides students with a comprehensive and balanced exposure to psychology as a discipline, a science, and a profession.

The major helps prepare students for graduate work in psychology or for employment after graduation in a variety of settings. In addition, the psychology major is pursued by some students who plan to do graduate work in fields outside of psychology such as social work, law, business administration, or theology. The minor in psychology is designed to be a supplement to another major in the liberal arts or to a degree program in a professional school, such as business administration. The Department of Psychology also offers a broad range of courses which can be individually selected by a student once the *Introduction to Psychology* course has been completed.

As a supplement to academic learning, the department offers opportunities for students to have experience of a field-work nature in a wide variety of settings in the greater Tacoma area, such as: American Lake Veterans Hospital, Western State Hospital (including the Child Study and Treatment Center), Rainier State School (developmentally disabled), mental health clinics, special services departments of local school districts, and so on.

The laboratory classes offered by the department are small in size with maximum importance attached to individualized instruction.

FACULTY

D. Anderson, *Chair;* **Adachi, Baird, R.M. Brown, Hansvick, LeJeune, Moon, Moritsugu, Nolph, Severtson.**

BACHELOR OF ARTS MAJOR: 36 semester hours, including 101, 243, 340, 460, and 490. In addition, Statistics 231 is required.

MINOR: 20 semester hours of which at least 8 hours must be taken in residence. Statistics 231 may be included with departmental consent.

Neither 110 nor 111 may be counted toward the major or minor. Courses at the 500 level are primarily for graduate students; however, they may be taken by advanced undergraduates who receive the department's consent.

COURSE OFFERINGS

101 **INTRODUCTION TO PSYCHOLOGY**
An introduction to the scientific study of behavior; scientific methods for studying the behavior of living organisms; topics such as motivation, learning, emotion, intelligence, personality, adjustment, and social behavior. I II (4)

110 **STUDY SKILLS**
Effective techniques for college study. Note-making, study methods, examination skills, time management, educational planning. Class work supplemented by individual counseling. (May not be counted in the major or minor.) I II (1)

P

Psychology

111 COLLEGE READING
Improvement of college-level reading skills. Previewing, skimming, scanning, rapid reading, critical reading, and study reading. (May not be counted in the major or minor.) I II (1)

221 THE PSYCHOLOGY OF ADJUSTMENT
Problems in personal adjustment in everyday living. Prerequisite: 101. I II (2)

243 SCIENTIFIC METHODS
Basic research design and theory construction; applications to both laboratory and field. Special emphasis on perception and cognition. Lecture and laboratory. Majors must take four credit hour option. Prerequisite: 101. I II (2 or 4)

325 HUMAN SEXUALITY-EMOTIONALITY
Study of the psychological, biological, and cultural components of human sexual and emotional behavior. Topics include sexual identity, typical and atypical sexual behavior, reproduction, courtship, and affection. Prerequisite: 101. (4)

330 SOCIAL PSYCHOLOGY
Research and theory concerning the interaction between groups and the individual. Language, attitudes, aggression, leadership, person perception, and related topics are examined and their relationship to various types of social change and influences are discussed. Prerequisite: 101. I (4)

333 PSYCHOLOGY AND THE LAW
An introduction to the issues, research, professional and judicial practices generated by the growing mutual influence between the law and psychology. Psychological investigations of juror selection, eyewitness testimony and the jury process. Expert testimony by psychologists regarding the insanity defense, competence to stand trial, sentencing. Effects of court rulings on the mental health system. Development of psychological career options.(4)

335 DEVELOPMENT: INFANCY TO MATURITY
Physical, intellectual, social, and emotional growth from infancy through adolescence to maturity. Prerequisite: 101. I II (4)

340 HUMAN NEUROPSYCHOLOGY
The study of brain-behavior relationships. Topics include neuroanatomical and neurophysiological mechanisms underlying human behavior; psychological effects of brain damage; physiological correlates of languages, sensory and motor functions, and emotion; electrical stimulation of the brain. Prerequisite: 101. I (4)

345 COGNITIVE PROCESSES
The study of human mental activity. Topics include attention, perception, consciousness, memory, language, conceptual behavior, developmental aspects of cognition, individual differences, and applications (4)

355 ENVIRONMENTAL PSYCHOLOGY
Human behavior related to the physical environment. Behavioral basis for designing environments—including territorial behavior; environmental attitudes and perceptions; and stressors. Applications to built and natural settings ranging from rooms to the wilderness. (4)

399 INTERNSHIP
A practicum experience in the community in the clinical, social, and/or experimental areas. Classroom focus on case conceptualization and presentation. Prerequisite: sophomore standing plus one course in psychology and consent of the department. (1-6)

401 WORKSHOP
Selected topics in psychology as announced.

405 ADOLESCENT PSYCHOLOGY
Physical development, mental traits, social characteristics, and interests of adolescents; adjustments in home, school, and community. Prerequisite: 335. II (2)

420 PERSONALITY THEORIES
Strategies for the study of personality theories. Techniques of measurement and implications for counseling and/or psychotherapy. Prerequisite: 101. I II (4)

421 ABNORMAL PSYCHOLOGY
Etiology and treatment of abnormal behavior. Emphasis on treatment in community-based settings and institutions. Prerequisite: 101. I II (4)

422 COMMUNITY PSYCHOLOGY
Intervention strategies which focus primarily on communities and social systems. Particular stress on alternatives to traditional clinical styles of promoting the well-being of communities. Prerequisite: 101. (4)

430 CONSUMER PSYCHOLOGY
Social psychological principles applied to consumer attitude-formation and decision-making—e.g., perception of advertisements, influence of reference groups and opinion leaders, and learning effects upon repeat purchasing. Emphasis on audience, message, and media factors. (4)

450 PSYCHOLOGICAL TESTING
Survey of standardized tests; methods of development, standardization; limitations and interpretations of tests. Prerequisite: 243, a course in statistics, or consent of instructor. I (4)

452 PSYCHOLOGY AND MEDICINE
An introduction to the field of health care psychology. Psychosocial factors influencing health (e.g., stressors, personality, behavior patterns). Psycho-social impact of illness and its treatment. The role of psychologists in the health care system. (4)

460 LEARNING: RESEARCH AND THEORY
Experimental studies and theories of learning. Lecture and laboratory. Prerequisite: a minimum of 12 hours in psychology including 243. II (4)

482 INTRODUCTION TO CLINICAL PSYCHOLOGY
An introduction to the field of clinical psychology as an area of scientific inquiry and as an applied profession. Theories used by clinicians, methods of clinical research, and treatment. History and current status of the profession. Prerequisites: 420, 421, or 422 or consent of instructor. (4)

490 HISTORY AND SYSTEMS OF PSCYHOLOGY
Historical development, contemporary forms, and basic assumptions of the major psychological theories and traditions. Primarily for advanced majors and graduate students. I (4)

491, 492 INDEPENDENT STUDY
A supervised reading, field, or research project of special interest for advanced undergraduate or graduate students. Prerequisite: departmental consent. I II (1-4)

510 INDUSTRIAL/ORGANIZATIONAL PSYCHOLOGY
Human behavior in work settings. Applications or extension of psychological factors and principles to the problems of individuals operating within an organizational context—including human relations skills, human factors, individual and group differences, and role-related behaviors. (4)

570 EXTERNSHIP I
Supervised counseling/assessment/consultation experience in a professional setting. Requires 15-20 hours per week of supervised practice, together with participation in a weekly case presentation/supervision session. Prerequisite: 515, 516, 540, 541. (2)

577 EXTERNSHIP II
Advanced counseling/assessment/consultation experience in a professional setting. May be a continuation of the placement experience begun in 570, or may involve a more advanced placement in another setting. 15-20 hours per week of supervised practice, together with participation in a weekly case presentation/supervision session. Prerequisite: 570. (2)

591 DIRECTED STUDY (1-4)

595 GRADUATE READINGS
Independent study card required. (4)

598 RESEARCH PROJECT (4)

599 THESIS (4)

Religion

Religion is an attempt to understand the meaning of human existence. For Christians meaning is revealed in the love of God in Jesus Christ. The Department of Religion stands within and affirms this Christian context.

In a university setting this means the serious academic study of the Bible, of the history of the Christian tradition, of attempts to understand God's continuing activity, and of God's promises for the future.

The revelation of God in Jesus Christ likewise calls for other roles. It calls for open and authentic dialogue with other religious traditions, and thus seeks to understand a common humanity as each tradition adds its unique contribution. It calls for a critical yet constructive interchange with contemporary society. Finally, it calls for a sharing of insights with other disciplines in the university as each sheds light on the human condition.

To these ends the Department of Religion offers a wide range of courses and opportunities. Furthermore it calls students, majors and non-majors alike, to consider questions of meaning, purpose, and value in a society which all too often neglects these questions.

Lutheran Institute for Theological Education (LITE): The Department of Religion also participates in a program of continuing theological education for clergy and laity in the Pacific Northwest. Dr. Walter Pilgrim directs the LITE program.
For futher details contact Dr. Pilgrim.

FACULTY

Stivers, *Chair;* **Brock, Christopherson, Gehrke, Govig, Gross, Ingram, Killen, Knutson, Lundeen, Oakman, Petersen, Pilgrim.**

UNIVERSITY CORE REQUIREMENTS: 8 semester hours for students entering as freshmen or sophomores. Four lower division hours shall be taken before the end of the sophomore year. The second 4 hours may be selected from most of the other offerings in the religion curriculum. Transfer students entering as juniors or seniors are required to take 4 semester hours of religion unless presenting 8 transfer hours of religion from other accredited colleges or universities.

The Core I requirement in Religious Studies (8 hours) specifies that 4 hours must be taken from each of two lines, as follows:

1. Biblical Studies—111, 211, 212, 330, 331, 332.
2. Christian Thought, History, and Experience—121, 221, 222, 223, 224, 225, 226, 360, 361, 362, 363, 364, 365, 366, 367, 369.
3. Integrative and Comparative Religious Studies—131, 132, 133, 231, 390, 391, 392, 393.

Junior and senior transfer students need to complete only one course (4 hours) from lines 1 or 2.

BACHELOR OF ARTS MAJOR: 30 semester hours with at least 4 hours in each of the three lines plus either 404 or 405. Transfer majors must take at least 18 hours in residence. Majors should plan their program early in consultation with departmental faculty. Closely related courses taught in other departments may be considered to apply toward the religion major in consultation with the chair of the department.

MINOR: 16 semester hours with no more than 8 hours in one of the lines listed above. Transfer minors must take at least 8 hours in residence.

LAY CHURCH STAFF WORKER PROGRAM

A student who seeks to fulfill a vocation of service to the church and community as an unordained professional may prepare for certification by the appropriate church judicatory as a church staff worker. Positions currently filled by such workers include:

Church Business Administrator
Church Musician
Director of Christian Education
Christian Day School Teacher
Parish Worker
Youth Work Director
Church Associate (General)

A major in religion is normally required for this program, with supporting work selected in the appropriate department or school at PLU (for example, business administration, music, education, social sciences, or physical education). Many certification agencies require a period of full-time internship.

Students enrolled in the program will be advised as to those institutions, boards, and agencies within the church that may assist them in planning their educational programs and obtaining placement for internship and after graduation.

The department designates one of its members as coordinator and as adviser to its majors who are in this program. Other faculty members for related fields outside of religion and from the department assist in advising.

The Study Program

The religion major of a student in the Church Staff Worker Program must include courses which will insure basic acquaintance with (1) the Bible (ordinarily two courses: 211 and 212) and (2) denominational history, doctrine, and worship (for certification in The American Lutheran Church ordinarily one course: 224).

COURSE OFFERINGS

111 BIBLICAL LITERATURE: OLD AND NEW TESTAMENTS

The Bible as a whole; survey of the story of salvation; selected passages interpreted in contemporary contexts. (4)

121 THE CHRISTIAN TRADITION

The study of selected theological questions and formulations examined in their social and historical contexts. (4)

131 THE RELIGIONS OF SOUTH ASIA

Hinduism, Buddhism, Jainism, and Sikhism—their origins and development, expansion, and contemporary issues. Emphasis on primary sources in translation. (4)

132 THE RELIGIONS OF THE FAR EAST

Confucianism, Taoism, Chinese and Japanese Buddhism, Shinto, and the "new religions" of Japan—their origins, development, and contemporary issues. Emphasis on primary sources in translation. (4)

133 THE RELIGIONS OF THE WEST

Judaism, Christianity, and Islam—their origins and development, expansion, and contemporary issues. Emphasis on primary sources in translation. (4)

211 RELIGION AND LITERATURE OF THE OLD TESTAMENT

Literary, historical, and theological dimensions of the Old Testament, including perspectives on contemporary issues. (4)

212 RELIGION AND LITERATURE OF THE NEW TESTAMENT

Literary, historical, and theological dimensions of the New Testament, including perspectives on contemporary issues. (4)

221 ANCIENT CHURCH HISTORY
The origins, thought, and expansion of the Christian Church; rise of the Papacy, expansion in Europe and the growth of Christian involvement in culture; to the end of the Papacy of Gregory I (604). (4)

222 MODERN CHURCH HISTORY
Beginning with the Peace of Westphalia (1648), interaction of the Christian faith with modern politics, science, and philosophy; expansion in the world, modern movements. II (4)

223 AMERICAN CHURCH HISTORY
Introduction to the major religious themes in American history through the study of selected topics and periods, exploring the ways in which religion has shaped American culture, as well as the ways in which social change has influenced the religious experience of Americans. (4)

224 THE LUTHERAN HERITAGE
A study of Lutheranism as a movement within the church catholic: its history, doctrine, and worship in the context of today's pluralistic and secular world. (Majors in religion who are in the Church Staff Worker Program will be given enrollment priority.) (4)

225 FAITH AND SPIRITUALITY
A reflection on various Christian life-styles and their expression and understanding of commitment and discipleship. This course centers around the thological question, What does it mean to be a follower of Jesus? (4)

226 CHRISTIAN ETHICS
An introduction to the personal and social ethical dimensions of Christian life and thought with attention to primary theological positions and specific problem areas. (4)

231 MYTH, RITUAL, AND SYMBOL
An examination of the nature of myth and its expression through symbol and ritual. Attention given to pre-literate mythology, Asian mythology, and Occidental mythology and the role these mythological traditions have played in the development of modern ethical, social, and religious values. (4)

330 OLD TESTAMENT STUDIES
Major areas of inquiry: the Prophets, Psalms, Wisdom Literature, Mythology, Theology, or Biblical Archaeology. (4)

331 NEW TESTAMENT STUDIES
Major areas of inquiry: intertestamental, synoptic, Johannine, or Pauline literature, or New Testament theology. (4)

332 THE LIFE OF JESUS
A study of the life and teachings of Jesus; a historical survey of "Life of Jesus" research, form and redaction criticism of the Gospel tradition; the religious dimensions of Jesus' life and thought. Prerequisite: one lower division course or consent of instructor. (4)

333 BIBLICAL STUDIES
Study of a select Biblical theme, book, or group of books, such as theodicy (Job), apocalyptic (Daniel, Revelation), or methods of interpretation. (2)

360 STUDIES IN CHURCH MINISTRY
The church in human service: the congregation, the church-related college, contemporary contexts of world mission, and inter-church cooperation. (4)

361 CHURCH HISTORY STUDIES
A selected area of inquiry, such as American-Scandinavian church history, religious experience among American minority communities, and the ecumenical movement. (4)

362 LUTHER
The man and his times, with major emphasis on his writing and creative theology, such as the radical centrality of the Gospel and faith, the Word and Scripture, the sacraments, church and state. (4)

363 CHRISTIAN CLASSICS
Great classics of Christian literature, in such genres as devotion, theology, and poetry by such authors as Augustine, Thomas a Kempis, Juliana of Norwich, Luther, Calvin, Teresa of Avila, Wesley, Kierkegaard, Martin Luther King, Jr., and others. (4)

364 THEOLOGICAL STUDIES
A selected topic or movement within Christian theology such as understandings of God, the problem of evil, liberation theology, feminist theology, narrative theology, Christology, or interreligious dialogue. (4)

365 CHRISTIAN MORAL ISSUES
An in-depth exploration from the perspective of Christian ethics of selected moral issues such as peace and violence, the environment, sexuality, political and economic systems, hunger, and poverty. (4)

366 THE ARTS AND CHRISTIAN LIFE
The relationship of Christian spirituality to artistic creativity, including literature, architecture, and films in popular culture. (4)

367 MAJOR RELIGIOUS THINKERS
An in-depth study of one or two major figures in Christian theology, non-Christian religious thought, or contributors to religious understanding, e.g., Augustine, Bonhoeffer, Buber, Bultmann, Niebuhr, Gandhi, Radhakrishnan, Tillich, or Ricoeur. Fulfills either line 2 or 3 as appropriate. Prerequisite: consent of instructor. (4)

369 CHRISTIAN STUDIES
The study of an historical theme, theological problem. or ethical issue, such as salvation by grace, gender questions, world hunger. Cannot be combined with 333 to satisfy the general university core requirement in religion. (2)

390 STUDIES IN HISTORY OF RELIGIONS
An historical study of specific non-Christian religions such as the traditions of India and China, Judaism, and Islam. (4)

391 SOCIOLOGY OF RELIGION
A multi-cultural investigation of religious experience, belief, and ritual in relation to their social settings with particular attention to new forms of religion in America. (Cross-referenced with SOC 391.) (4)

392 GODS, MAGIC AND MORALS
The anthropology of religion; a survey of humanity's concepts of and relationships to the supernatural; examination of the varying personal and group functions that religions fulfill; exploration of rituals, beliefs, and systems of morality in religions both "primitive" and historical; origins of religion; science "versus" religion; the nature of reality. (Cross-referenced with ANTH 392.) (4)

393 RELIGION AND THE STAGES OF LIFE
Selected periods within the life cycle considered from a religious and social scientific viewpoint, e.g., healing and well-being, death and dying. (4)

403 ADVANCED SEMINAR IN RELIGION
Selected topics to be announced. For majors, minors, and students with at least three courses in religion. Priority to majors and minors. (4)

404 READING SEMINAR IN RELIGION
A survey of significant books in the area of contemporary religious studies, emphasizing recent books in Biblical theology, systematic and historical theology, Christian ethics, and dialogue between Christianity and the world religions. Students will review assigned books and share results with members of the course. For majors and minors, others with permission of the instructor. (2)

405 RESEARCH SEMINAR IN RELIGION
A faculty-directed research and writing project on a topic chosen by students in one of the methodological disciplines of religious studies, such as theology, historical studies, Biblical studies, ethics, history of religions, social scientific studies, or philosophy. For majors and minors, others with permission of the instructor. (2)

491, 492 INDEPENDENT STUDY
Intended for religion majors, advanced and graduate students; consent of the department is required.

Scandinavian Area Studies

Scandinavian Area Studies is a flexible program which draws on many university departments. It offers a broad perspective on Scandinavia past and present, while developing useful analytical and communicative skills. The program reflects both the Scandinavian heritage of the university and the dynamic profile of Scandinavia within the world community today.

Students enrolled in the Scandinavian Area Studies major are expected to demonstrate the equivalent of two years of Norwegian, Swedish, or Danish language instruction (16 hours). To gain a basic understanding of the region, they also take 6 hours in Scandinavian cultural history and 4 hours in Scandinavian literature.

Majors choose additional Scandinavian and cross-disciplinary courses in accordance with personal interests and goals and in consultation with the program coordinator (4 hours in cross-disciplinary courses, 2 hours in a senior project, and 8 hours of electives). A total of 40 semester hours is required. With the approval of the Scandinavian Studies coordinator, selected interim, summer, and experimental courses may be included in the major program. No more than 8 semester hours may be offered to meet both the Scandinavian Area Studies major and general university requirements or requirements for a second major. Such cross-application of courses must be approved by the Scandinavian Studies coordinator.

The cross-disciplinary courses listed below offer an opportunity to view the Scandinavian countries in comparison with other world regions. They are regular departmental offerings in which students enrolled in the Scandinavian Area Studies major focus their reading and work assignments to a significant extent on Scandinavia. Students must consult with the program coordinator concerning registration for these courses.

Students are encouraged, though not required, to study in Scandinavia as part of their program. Study opportunities are available at a variety of institutions in Norway, Sweden, and Denmark. Appropriate coursework completed abroad should be submitted to the Scandinavian Studies coordinator for approval toward the major.

Students interested specifically in Norwegian language study are referred to the description of the Norwegian major under the Department of Languages. All core Scandinavian courses are taught out of this department.

Courses Applicable to the Scandinavian Area Studies Major

Scandinavian Courses
Languages:
- Norwegian 101, 102—Elementary
- Norwegian 201, 202—Intermediate
- Norwegian 351—Conversation and Composition
- Norwegian 352—Advanced Conversation and Composition

Cultural History:
- Scandinavian 150—Introduction to Scandinavia
- Scandinavian 322—Contemporary Scandinavia
- Scandinavian 323—The Vikings
- Scandinavian 324—The Emigrants

Literature:
- Scandinavian 250—Masterpieces of Scandinavian Literature
- Scandinavian 421—Ibsen and Strindberg
- Scandinavian 422—Twentieth Century Scandinavian Literature

Cross-Disciplinary Courses
Anthropology 350—Women and Men in World Cultures
Anthropology 360—Ethnic Groups
Art 381—20th Century Design and Architecture
Economics 331—International Economics
Economics 381—Comparative Economic Systems
English 364—Special Topics in Children's Literature
English 381—Studies in Medieval Literature
History 323—The Middle Ages
History 325—Reformation
History 495—Seminar: European History
Philosophy 326—Moral Problems in the Social Services
Philosophy 338—Kierkegaard and Existentialism
Political Science 345—Government and Public Policy
Political Science 381—Comparative Legal Systems
Religion 223—American Church History
Religion 361—Church History Studies
Sociology 330—The Family

Scandinavian Studies Committee: Toven, *Chair & Program Coordinator;* **M. Benton, Christopherson, R. Jensen, Rasmussen, Ringdahl, Vaught Farner.**

COURSE OFFERINGS

495 SENIOR PROJECT
A research paper, internship, or other approved project. For Scandinavian Area Studies majors. I II (2)

Division of Social Sciences

The Division of Social Sciences is committed to teaching students to think critically about public and social issues from the perspective of several disciplines. Through classroom learning and applied settings such as supervised internships, students in the social sciences acquire an understanding of society while developing the analytical tools with which to provide solutions to a diverse range of social problems.

By providing an environment for inquiry that looks at issues and policies influencing the quality of life, the division organizes forums for discussion of such human problems as world hunger, third world development, child welfare, population growth, and aging. These forums afford an opportunity for students, faculty, and the community to analyze, probe, and evaluate our rapidly-changing world.

Several specialized programs sponsored or supported by the Division of Social Sciences strive to build further links between the students and faculty of the university and their community. Among the specialized programs are the following:

The *Center for Social Research and Public Policy* supports joint faculty-student research projects on a wide range of multidisciplinary topics related to public policy.

Legal Studies is a multidisciplinary program designed to study law as a body of knowledge within the context of a liberal arts education.

The *Center for Economic Education* works to raise the understanding of economic principles among teachers and students in the Pacific Northwest.

The *Women's Studies Program* serves a focal point for the study of women's issues, gender, and feminist scholarship within the university.

The division's *Graduate Programs* offer concentrations in the fields of organizational systems, marriage and family therapy, and individual study (see *Graduate Catalog.*)

FACULTY

Schiller, *Divisional Dean;* **faculty members of the Departments of Anthropology, Economics, History, Political Science, Psychology, Social Work and Marriage and Family Therapy, and Sociology.**

As a division within the College of Arts and Sciences, the Division of Social Sciences offers programs in each constituent department leading to the B.A. degree. Programs leading to the M.A. degree are also offered. Course offerings and degree requirements are listed under

ANTHROPOLOGY
ECONOMICS
HISTORY
MARRIAGE AND FAMILY THERAPY
POLITICAL SCIENCE
PSYCHOLOGY
SOCIAL WORK
SOCIOLOGY

See also the sections of this catalog on Legal Studies and International Education.

COURSE OFFERINGS

502 **SOCIAL SCIENCE THEORY**
An analysis of social explanation and the social science frame of reference. (4)

505 **SOCIAL SCIENCE RESEARCH METHODS**
Basic research concepts applied to laboratory, field, and bibliographic studies. Topics include formulating research questions, research designs, data gathering techniques, analysis of data, and theory construction. Emphasis on understanding and evaluating rather than conducting research. (4)

Social Work

Within a program that is firmly based in the liberal arts, the social work major is designed to prepare students for beginning professional social work practice. The curriculum provides an understanding of the roots and dimensions of social problems as well as the basic skills and knowledge necessary to work toward solving these problems. Social workers are involved in areas that are influenced by political and economic factors as well as social factors. To that end, the program stresses an understanding of social science theories and methods that adds an extra dimension to practical education. The result is a broad theoretical base to complement professional skills.

The social work faculty place a high value on the integration of academic and experiential learning. A major strength of the curriculum is the field experience component, and the program provides numerous opportunities for students to learn in community settings. In addition to field placements for advanced students, freshmen and sopho-

Social Work

mores are encouraged to test their interests in and aptitudes for social work through experiences in community agencies.

Social work majors are fortunate to have access to a rich variety of social service agencies in Tacoma and Pierce County that provide excellent placements for students. Students work with experienced, caring supervisors who help make placements a valuable learning experience. The Family and Children's Center, located in East Campus, provides social service programs for a variety of age groups and offers particularly convenient placements for students. The Social Work Department sponsors "Second Wind," a health promotion school for older adults, through the Family and Children's Center.

Social work majors should consult with a departmental adviser in selecting a minor area of study which supports the social work curriculum. Minors in psychology and sociology are particularly helpful. Students are also encouraged to include philosophy and foreign language courses in their studies as a knowledge of ethical theories and a second language are valuable assets in the social work profession. The faculty encourages students to take advantage of learning opportunities that emphasize multi-cultural awareness and diversity. In addition to specific courses within the Division of Social Sciences, the Service Learning Program and Study Abroad Programs are beneficial to social work majors.

The social work program is accredited by the Council on Social Work Education.

FACULTY

Gilbertson, *Chair;* **V. Hanson, Keller, Schiller, Storm, York.**

BACHELOR OF ARTS MAJOR: 38 semester hours, including 271, 332, 333, 377, 385, 472, 473, 475, 476, and 484. The following courses are prerequisites for entering the social work curriculum and may be taken to fulfill general university core requirements: Psychology 101, Sociology 101, and Biology 111. The Integrated Studies Program (Core II) also satisfies this prerequisite, since content related to the social, biological, and behavioral sciences is built into its interdisciplinary approach.

Unless otherwise stated, 271 or the consent of the instructor is a prerequisite for all courses in social work.

COURSE OFFERINGS

222 COMMUNITY SERVICES
Designed to provide an opportunity for freshman and sophomore level students to test their interest in the field of social work through a five to ten-hour week participant-observation experience in a local agency. The purposes are to provide opportunity for a self-evaluation of one's aptitude for and interest in the field, and secondly, to introduce the idea of evaluating the effectiveness of the agency in terms of achieving its stated goals. No prerequisites. Will not meet general university core requirements. I II (2-4)

271 INTRODUCTION TO SOCIAL WORK
The history, philosophical and value stance, practice methods and "settings" (i.e. services to children and youth, residential treatment, health care, corrections, services to older persons) of professional social work; opportunities for agency/institutional observational experiences. No prerequisites. I II (4)

332 SOCIAL WORK VALUES
An examination of the value system that underlies the practice of social work, such as client self-determination, regard for the worth of individuals, and an appreciation of the distinct characteristics of diverse populations. Students will have the opportunity to clarify their own values during the course. Prerequisite: 271. I II (2)

333 INTERVIEWING
A laboratory course that provides opportunity to learn basic interviewing skills and techniques through various experiential forms. Open to non-social work majors. Prerequisite for social work majors only: 271 and 332. I II (4)

377 FAMILY AND CHILD DEVELOPMENT
A social and psychological examination of family development using a systems approach. Study of family development throughout the life cycle. Consideration of emerging and alternative family structures. Prerequisite 271. (4)

385 SOCIAL POLICY AND ORGANIZATION
An examination of the impact that cultural values have on social policy and how organizational structures influence the implementation of social policies. Consideration of the influence that economic and political systems have upon social policy and the way in which the values operating in those systems impact social policy. Study of the effect that administrative and organizational structures at various governmental levels have on social policy implementation. The place of social services as an institution in society and the role that the social work profession plays in value formation and influence. Prerequisite: 271 or consent of instructor. II (4)

399 INTERNSHIP
A supervised learning experience in an agency setting with emphasis on acquiring an overview of the agency, in contrast to learning specific social work skills. Intended to provide the opportunity to apply and test out knowledge acquired in courses previously taken in the social sciences. Can be a useful complement to 475 and 476, which are more skill oriented. Prerequisites: 271, 333. I II (1-4)

472 SOCIAL WORK PRACTICE I
Provision of a theoretical base and requisite skills for direct service in social work. Within a generalist framework the following intervention models will be presented: the systems model, the task-centered model, problem-solving theory and the common human needs model. Prerequisites: 271, 332, 333, 377. I (4)

473 SOCIAL WORK PRACTICE II
A continuation of 472 with general emphasis on direct service. Focus on family therapy, ethical and value considerations in social work, and knowledge and skills related to systems change within a group process approach. Prerequisites: 271, 332, 333, 377, 472. II (4)

475 FIELD EXPERIENCE
Supervised field work within an agency or institution; application/integration of knowledge, theory, and understanding; development of techniques common to the social work field. Prerequisite: 271, 332, 333, 377, 385 to be taken concurrently with 472, and consent of instructor. I II (4)

476 FIELD EXPERIENCE
Continuation of 475. I II (4)

484 SOCIAL RESEARCH
Principles of research design and assessment of various research methods. Evaluation research will be given special attention. Primary emphasis on understanding and critically examining actual research. Prerequisites: 271, 332, 333, 385. (4)

491 INDEPENDENT STUDY
Prerequisite: departmental consent. (1-4)

Sociology

Sociology examines the processes and structures which shape social groups of all sizes, including friends, families, workplaces, and nations. The study of sociology provides students with unique interpretive tools for understanding themselves and others in a changing world. Sociology has broad appeal to those who are interested in developing practical skills and analytic talents. Some of the practical pursuits enabled by sociological training are in the areas of planning, program development, counseling, research, criminal justice, employment and training, and marketing. The academic preparation is valuable to those interested in pursuing further degrees in law, administration, social work, theology, or the social sciences.

The department's curriculum offers a wide variety of courses in sociological analysis while permitting an optional concentration in the specialized areas of family/gender or crime/deviance. The curriculum is deliberately flexible to permit students to study individual subject areas, or to pursue majors or minors in the field. Students majoring in business, nursing, education, and computer science find the sociology minor particularly useful for broadening their understanding of social rules and relationships, programs and solutions, and continuity and change.

The faculty is attentive to the individual needs of students in their efforts to provide academic excellence to a diverse student body. Faculty members have gained recognition for their professional activities at the community, regional, and national levels, and invite student participation in these activities.

FACULTY

Jobst, *Chair;* **Biblarz, Cochrane, McDade, Oberholtzer, Schiller, Swanson.**

BACHELOR OF ARTS:

General Major: 36 semester hours, including 101, 396, 397, 499; plus 16 semester hours in sociology approved by the department and distributed across the 200, 300, and 400 levels; and Statistics 231.

Major with Concentration in Family/Gender: 36 semester hours including 101, 330, 396, 397, 440, 451, 499; plus 8 semester hours in sociology chosen in consultation with the department.

Major with Concentration in Crime/Deviance: 36 semester hours including 101, 336, 340, 396, 397, 450, 499; plus 8 semester hours of sociology chosen in consultation with the department.

NOTE: 101 or consent of instructor are prerequisite to all 300 and 400 level courses.

MINOR: 20 semester hours, including 101 and 16 semester hours of sociology chosen in consultation with the department. Statistics 231 may be included in the minor.

BACHELOR OF ARTS IN EDUCATION: See School of Education.

COURSE OFFERINGS

101 AMERICAN SOCIETY

How does the individual relate to the group? Why do some people "have" power, prestige, or money while others "have not"? What contributes to social stability or social unrest? What is happening in schools, families, and religion? In answering, we turn the sociological eye on American society using concepts like these: life styles, interactions, groups, social structures, values, and change. (4)

223, 224 WOMEN AND MEN IN SOCIETY

An overview of topical issues involved in the changing roles of women and men. Discussion of local, national, and international issues by campus and community speakers. (1, 1)

240 SOCIAL PROBLEMS AND POLICIES

Factual and evaluative considerations in the definition, explanation, and resolution of social problems. Analysis and criticism of current approaches to social problems focusing on logical procedures and fallacies in thinking. Among issues to be included are mental health, poverty, crime, family disorganization, and work alienation. (4)

250 FARMS, CITIES, AND COMMUNITIES

The social, political, and economic forces that shape rural and urban life. Examination of the factors involved in peoples' quest for communities: What do people do in the country? How do cities grow? What happens when industries leave town or come to town? a/y (4)

260 RELATIONSHIPS

A study of the relationships of lovers, friends, enemies, acquaintances, couples, and strangers, with particular attention to patterns and problems of communication, personal identity and growth, and social networks and power. (4)

291 SOCIAL ISSUES

Analysis of selected social problem and policy areas. Topics will vary and be announced in each semester's time schedule. (2)

330 THE FAMILY

Analysis of the changing nature of the family as a system of social positions and roles. Examination of the family from a sociohistorical and cross-cultural perspective. Topics include love relationships, marriage, family positions and roles, family types, parenthood, socialization, retirement, divorce, and remarriage. (4)

331 CONTEMPORARY MARRIAGE

Examination of the nature of marriage in the United States today. Some of the questions to be addressed include: How do people get into marriage? What is love all about? What do people expect of marriage? How do people make marriage work? What is required of persons in marriage? How do people solve the problems that inevitably arise in marriage? Students will be given the opportunity to test their readiness for the marriage relationship through three standardized tests. (2)

336 DEVIANCE

A general introduction to a variety of nonconforming, usually secretive, and illegal behavior, such as corporate crime, drug dealing, prostitution, industrial spying, child abuse, and suicide, with emphasis on the conflict of values and life-experiences within a society. (4)

340 CRIME AND DELINQUENCY

A close look at adult crime and juvenile delinquency with attention to their social roots, development, social impact, and relationship to a society which both abhors and nurtures them. (4)

341 PSYCHOANALYSIS AND SOCIETY

A study of psychoanalytic theory and application to the understanding of various aspects of society and social behavior, including sex roles and the family, deviant behavior, social change, art and literature, religion, and power. (4)

350 GROWING UP IN AMERICA: FROM BIRTH TO DEATH
An examination of how individuals learn social roles and identities through various agents of socialization, including family, religious, peer, media, and occupational settings. Emphasis on adolescent and adult socialization and resocialization. a/y (4)

351 SOCIOLOGY OF LAW
An examination of the social control of law and legal institutions; the influence of culture and social organization on law, legal change, and the administration of justice. Includes examples of how law functions within the major theoretical models. (4)

380 CAREERS AND WORKPLACES
Approaches work experiences and organizational designs with sociological insights. Emphasis on issues like satisfaction, rewards, decision making, unemployment, and effects on families. (4)

382 COMPUTERS IN SOCIAL SCIENCE
Introduction to computer usage in social and behavioral analysis. Topics include information management, systems simulation, statistical packages, and communication languages. Hands-on experience will be included in the course. No previous computer or statistics course is required. (4)

386 EQUALITY AND INEQUALITY
Examination of the nature, origins, forms, and consequences of social equalities and inequalities. Focus on material circumstances, life styles, and life changes in social classes, including racial groups and other minorities. (4)

391 SOCIOLOGY OF RELIGION
An investigation of the American religious scene with particular emphasis on the new religious movements featuring insider accounts, along with attention to social settings and processes which these new religions reflect and produce. (Cross-referenced with REL 391) a/y (4)

395 POLITICAL/SOCIAL MOVEMENTS
Social, political, cultural, and other kinds of movements, and their relationship to established institutionalized behavior, to collective behavior, and to social change. Modern mass movements and the role of individuals and small groups within them. Theory of social movements, social reform, and revolution. (4)

396 MAJOR THEORIES
An analysis of the most famous and influential sociological theories of the 19th and 20th centuries with attention to the classic theories of Marx, Durkheim, and Weber, to the recent multitude of contemporary schools, and to the underlying patterns of thought which both unite and divide the sociological tradition. Required for junior majors. (4)

397 RESEARCH METHODS
Techniques for collecting, organizing, and interpreting information. Presents research designs to address different questions. Emphasis on becoming research consumers in an information society. Required for junior majors. (4)

399 INTERNSHIP
Demonstration of the implications of sociology, combining on-site work with in-class learning. The artful skill of using theory to solve problems and of handling the practicalities of working in agencies and businesses. Placements: criminal justice system, private and public social service organizations, local and state governmental agencies, businesses, and social research. Prerequisite: departmental consent. (1-4)

440 SEX ROLES
Examination of the work, family, interpersonal roles of women and men both in recent history and in the current era. Traditional and non-traditional views are included. (4)

443 SOCIOLOGY OF EDUCATION
Examination of schools and other educational institutions from a sociological perspective. Topics include such issues as class, race, religion, sex, and handicap, and how these characteristics influence education. (4)

450 ISSUES IN CRIME/DEVIANCE
In-depth analysis of selected crime and deviance issues. Both contemporary and historical sociological analysis will be involved. Students will be expected to pursue a specific aspect of crime and deviance issues in depth for class presentation and discussion. Topics will vary and be announced in each semester's time schedule. (4)

451 ISSUES IN FAMILY/GENDER
In-depth analysis of selected family and gender issues. Both contemporary and historical sociological analysis will be involved. Students will be expected to pursue a specific aspect of family and gender issues in depth for class presentation and discussion. Topics will vary and be announced in each semester's time schedule. (4)

491 INDEPENDENT STUDY
Readings or fieldwork in specific areas or issues of sociology under supervision of a faculty member. Prerequisite: departmental consent. (1-4)

499 PROJECT/THESIS
Individual investigation of a topic in sociology in the student's area of interest under the guidance of a faculty member. The topic must be approved by the department. The thesis/project culminates in written and oral presentations of a formal paper to the faculty. Required for senior majors. (4)

501 GRADUATE WORKSHOPS
Graduate workshops in special fields or areas for varying periods of time. (1-4)

514 ORGANIZATIONAL AND SYSTEMS THEORY
Examination of the nature, origins, and structures of organizations and bureaucracies. Classic and contemporary theories of organizations are reviewed and critiqued. The influence, power, and social responsibilities of large organizations are examined from a historical as well as a contemporary perspective. (4)

530 GROUP DYNAMICS: THEORY AND PRACTICE
Examination of concepts and principles of human behavior in groups. Topics considered include membership, leadership, authority, cohesiveness, goals, norms, and processes. The application and use of theory in applied settings are explored. (4)

534 SOCIOLOGY OF WORK: QUALITY OF LIFE
Evaluation of job satisfaction in terms of occupational stress, fair compensation issues, job enrichment, career advancement and performance. Exploration of techniques of job redesign and enrichment along with trends for future workplaces. (4)

551 INTERVENTIONS PRACTICUM I
Application of organizational change theory within an applied setting. Emphasis on identifying work situations for change and developing techniques for implementing change. (2)

552 INTERVENTIONS PRACTICUM II
Implementation and analysis of actual intervention within an organizational system or laboratory simulation with applied emphasis. Prerequisite: 551. (2)

590 GRADUATE SEMINAR
Selected topics as announced. Prerequisite: consent of the instructor. (1-4)

591 DIRECTED STUDY (1-4)

595 GRADUATE READINGS
Independent study card required. (4)

598 RESEARCH PROJECT (4)

599 THESIS (4)

Statistics Program

Statistics, a branch of applied mathematics, has become, and is expected to continue as an increasingly important area of inquiry. As society becomes more complex, the ability to gather, summarize, and evaluate data becomes more necessary for efficient and intelligent decision making.

FACULTY

Selected faculty from the Departments of Economics, Mathematics and Computer Science, Psychology, and Sociology.

STATISTICS MINOR: A minimum of 16 semester hours to include Math 341, either Statistics 231 or Math 342, Computer Science 110, 220, or 144, plus electives selected from the remaining courses in statistics. Students interested in statistics should contact the respective heads of the Department of Economics, Mathematics and Computer Science, Psychology, or Sociology.

COURSE OFFERINGS

231 INTRODUCTORY STATISTICS

Descriptive statistics: measures of central tendency and dispersion. Inferential statistics: generalizations about populations from samples by parametric and nonparametric techniques. Methods covered will include estimation, hypothesis-testing, simple correlation analysis, linear regression and chi square analysis. (Not applicable to mathematics credit.) I II (4)

334 ANALYSIS OF VARIANCE AND EXPERIMENTAL DESIGN (MATH 334)

Random sampling, factors which destroy experimental design, one-way analysis of variance, two-way analysis of variance, factored design, block and latin square design. Students will also critique published experiments and perform an experimental design project. Prerequisite: STAT 231 or equivalent. a/y II 1988-89 (2)

341 MATHEMATICAL STATISTICS I (MATH 341)

Introduction to probability (sample spaces, discrete and continuous distributions, expectation), Chebyshev's inequality, special distributions (binomial, Poisson, normal, gamma and chi square), statement of Central Limit Theorem, sampling distributions, multivariate, marginal and conditional distributions, confidence intervals, t-test, F-tests, hypothesis testing, survey of analysis of variance and regression. Prerequisite: MATH 152. I (4)

342 MATHEMATICAL STATISTICS II (MATH 342)

Statistical estimators and their properties, limiting distributions, moment generating functions and proof of Central Limit Theorem, convergence in probability and convergence in distribution, consistency, sufficient statistics and Lehmann-Sheffe Theorem, Bayesian statistics, order statistics and nonparametric methods, random walks, Markov chains and introduction to continuous time stochastic process. Prerequisite: MATH 341. a/y II 1990-91 (4)

343 OPERATIONS RESEARCH (ECON 343)

Quantitative methods for decision problems. Emphasis on linear programming and other deterministic models. Prerequisite: STAT 231 or equivalent. II (2)

344 APPLIED REGRESSION ANALYSIS (ECON 344)

Simple and multiple regression analysis as investigative tools. Course stresses construction of elementary linear models and interpretation of regression results. Prerequisite: STAT 231 or equivalent. I (2)

491 INDEPENDENT STUDY (1-4)

500 APPLIED STATISTICAL ANALYSIS (ECON 500)

(Will not count for Statistics Minor) An intensive introduction to statistical methods for graduate students who have not previously taken Introductory Statistics. Emphasis on the application of inferential statistics to concrete situations. Topics covered include measures of location and variation, probability, estimation, hypothesis tests, and regression. (4)

Graduate Studies

The Office of Graduate and Continuing Studies is an all-university division which coordinates graduate level work. The university offers the following graduate level programs*:

MASTER OF ARTS IN COMPUTER APPLICATIONS

A graduate degree program designed for students whose undergraduate work was not in computer science, but who desire to develop expertise in computers with specific study in computer applications for their discipline.

MASTER OF ARTS IN EDUCATION

1. *Educational Administration:* A program intended for teachers who desire to enter the field of school administration. The student who wishes to qualify for the provisional or standard principal's credential (elementary or secondary or general) will take a major in this field and complete courses in a supporting academic area of the university. Students may

major in this field without qualifying for a principal's credential.
2. *Counseling and Guidance:* A program designed primarily for students who wish to qualify as counselors in public schools (elementary and secondary), colleges, agencies, or clinics.
3. *Classroom Teaching:* A program for teachers who desire advanced work in classroom teaching. Along with the major field, the student is required to complete courses in a supporting academic area.
4. *Reading:* A program for elementary or secondary teachers who wish to achieve a concentration in reading.
5. *Educational Psychology:* A program for students who wish to achieve a concentration in educational psychology.
6. *Special Education:* A program for students who wish to achieve a concentration in special education.

MASTER OF ARTS IN MUSIC

A graduate degree program intended for qualified students to broaden and deepen musical knowledge and, with its required summer courses, to serve the needs of music educators.

MASTER OF ARTS IN SOCIAL SCIENCES

A graduate degree program with concentrations in three professional areas:
1. The *Organizational Systems* concentration emphasizes a social sciences approach to organizational theory, behavior, and change. The program enables students to become more effective in dealing with problems facing complex organizations.
2. The *Marriage and Family Therapy* concentration emphasizes academic study, rigorous evaluation, and direct supervision of clinical competencies in order to train individuals in the scholarship and clinical practice of marriage and family therapy.
3. The *Individualized Study* concentration is designed for students who want to pursue their own personal education goals, prepare for further graduate study, or prepare for careers or career advancement in a variety of fields, ranging from public service to social science research.

MASTER OF BUSINESS ADMINISTRATION

A graduate degree program designed to provide, through education, a foundation for responsible leadership in business.

MASTER OF SCIENCE IN COMPUTER SCIENCE

A graduate program intended for students whose main interest is advanced study in computer science.

MASTER OF SCIENCE IN NURSING
1. *Clinical Specialization:* A program to prepare clinical specialists for advanced nursing practice in selected areas.
2. *Nursing Administration:* A program intended to prepare nurses for leadership and administrative positions in the health care delivery system.
3. *School Nursing:* Provides a curriculum which is consistent with the State of Washington Administrative Code and which meets the requirements for continuing certification of school nurses as Educational Staff Associates.

* Details of these programs, including admission requirements, procedures, degree and research requirements, are contained in the *Graduate Catalog*, which is available from the Office of Graduate and Continuing Studies.

Affiliate Resources

CHOICE

The Center for Human Organization in Changing Environments is the community service and outreach branch of Pacific Lutheran University. The acronym, CHOICE, suggests its function and style: to initiate processes and programs both on and off campus which assist people to participate in making choices which may lead to improved quality of life.

CHOICE assists communities and organizations by providing linkages between the university and the public sector and community service agencies, and by offering channels for service involvement by faculty and students.

Chief vehicle for CHOICE in pursuing its objectives is the Family and Children's Center, which is housed in the university's East Campus. Faculty and students from many schools and departments participate in public services for the community. These include a Marriage and Family Therapy Center, "Second Wind"—an educational program for adults over 50, University Child Care, and the Wellness Clinic.

In the "changing environments" of the 1990s, CHOICE continues to serve as a vehicle to combine the teaching, research, and community service functions of the university.

KPLU-FM, NATIONAL PUBLIC RADIO

KPLU is licensed by the Federal Communications Commission to the University Board of Regents.

A network affiliate of National Public Radio, KPLU provides music and news seven days a week, 24 hours a day, with a full-time professional staff augmented by qualified students.

PLU is the only independent university in the Northwest operating a full power NPR station.

The KPLU main transmitter from West Tiger Mountain covers the Puget Sound area and eight translators cover the major population centers of western Washington from Bellingham to Vancouver.

CENTER FOR SOCIAL RESEARCH AND PUBLIC POLICY

The Center for Social Research and Public Policy is devoted to a better understanding by students and faculty of the public policy issues that confront contemporary society. The center functions under the auspices of the Division of Social Sciences and operates under the direction of the center committee.

The center sponsors three types of activity. **Community Research** includes two functions. One is the Tacoma-Pierce County annual survey, a research project identifying factors and trends important to shaping public policy. The second component is the publication of occasional papers reflecting faculty and student research interests. **Public Policy Symposia** are held to facilitate community discussion of policy issues. **Contract Research** is a program that seeks to solicit social and public policy research projects through groups and organizations external to the university.

Pre-professional Programs

HEALTH SCIENCES

The Division of Natural Sciences health science committee advises students aspiring to careers in the health sciences. Students having such interests are encouraged to obtain a health sciences adviser. Details are available in Room 159 of the Rieke Science Center. Summarized below are pre-professional requirements for many health science areas; additional information is available through the health science committee.

Dentistry, Medicine, and Veterinary Medicine

The overwhelming majority of students entering the professional schools for these careers have earned baccalaureate degrees, securing a broad educational background in the process. This background includes a thorough preparation in the sciences as well as study in the social sciences and the humanities. There are no pre-professional majors at PLU; rather students should select the major which best matches their interests and which best prepares them for alternative careers. In addition to the general university requirements and the courses needed to compete the student's major, the following are generally required for admission to the professional program: Biology 161, 162, 323; Chemistry 115, 116, 331 and 332 (with all laboratories); Mathematics 140; Physics 125 and 126 or Physics 153 and 154 (with appropriate laboratories). Check with your health science adviser for exceptions or for additions suggested by specific professional schools.

Optometry

Although two years of pre-optometry study is the minimum required, most students accepted by a school of optometry have completed at least three years of undergraduate work. A large percentage of students accepted by schools of optometry have earned a baccalaureate degree. For those students who have not completed a baccalaureate degree, completion of such a degree must be done in conjunction with optometry professional studies.

The requirements for admission to the schools of optometry vary. However, the basic science and mathematics requirements are generally uniform and include: Biology 161, 162, 323; Chemistry 115, 116; one year of college mathematics, including calculus (at least through Mathematics 151); Physics 125 and 126 or Physics 153 and 154 (with appropriate laboratories). In addition, each school of optometry has its own specific requirements; check with your health science adviser.

Medical Technology

The minimum academic requirements for entry into clinical training as published by the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS) are a minimum of 16 semester hours of biology to include microbiology and immunology, and one course in mathematics. The content of chemistry and biology courses must be acceptable toward a major in those fields of study; the mathematics requirement is met by courses recognized as prerequisites for admission to physics courses. In addition to these specific requirements, the student must have acquired a minimum of 90 semester hours of academic credit before admission to the clinical program.

Although the minimum requirements for medical technology are as outlined above, many of the clinical internship programs require or strongly recommend a baccalaureate degree in biology or in chemistry before admission to clinical training. Therefore, a student should consider first earning a bachelor's degree with either of these majors.

The student must complete a twelve-month medical technology training program in a clinical laboratory accredited by the American Medical Association. Upon completion of this program, the student is eligible to take the medical technology certificate examination given by the Board of Registry of Medical Technologists of the American Society of Clinical Pathologists and to receive the degree of Bachelor of Science in Medical Technology (B.S.M.T.).

The minimum required courses for the B.S.M.T. at PLU are: Biology 161, 162, 323, 328, 385, 407; Chemistry 115, 116, 331, 332, with laboratories); Mathematics 140. Very strongly recommended: Physics 125 and 126 (with laboratories). Also recommended: Biology 331, 346, 441; Chemistry 403. The remainder of the requirements for a major in biology or chemistry should also be fulfilled.

Pharmacy

Although the pre-pharmacy requirements for individual schools vary (check with your health science adviser), the following courses are usually required: one year of general chemistry; one year of organic chemistry, with laboratory; college level mathematics (often including calculus); one year of English composition and literature. Other courses often required include microbiology, quantitative analysis, and introductory courses in communication arts, economics, and political science.

For example, the University of Washington School of Pharmacy has approved the following courses as being equivalent to the first two years of its 5-year program leading to the Bachelor of Science degree in pharmacy: Biology 161, 162, 323, 328; Chemistry 115, 116, 331 (with laboratory 333), 332 (with laboratory 334); English 101 or 201; Mathematics 140, 151; electives from the humanities or social sciences. Total credits should not be less than 60 semester hours.

Physical Therapy

Acceptance to schools of physical therapy has become increasingly competitive in recent years, and students interested in physical therapy are strongly encouraged to meet with a health science adviser as early as possible to determine prerequisites for specific schools. Most physical therapy programs are master's degree programs. Therefore, potential applicants should plan on completing a baccalaureate degree in conjunction with satisfying admission requirements.

The requirements for admission to schools of physical therapy vary. However, the basic science and mathematics requirements are generally uniform and include: Biology 161, 162, 323; Chemistry 115, 116; Mathematics 140; Physics 125 and 126 (with laboratories). (Note: there are a few schools which accept Chemistry 104-105 and some that also require Chemistry 331 and 332). In addition to the principles of biology sequence, applicants must complete courses in anatomy and physiology. This admission requirement is met by either the combination 205 and 206 or the combination 361 and 441; biology majors should take 361 and 441, the clear preference of several schools of physical therapy. In addition to the science and mathematics requirements, the various schools have specific social science and humanities requirements. Check with your health science adviser regarding these requirements.

PRE-LAW

Pre-law at PLU is an advising system, not a prescribed major or curriculum. A major reason for this approach is that law schools generally prefer individuals with a sound liberal education. Therefore, regardless of their major, pre-law students are encouraged to pursue a broad range of liberal arts courses. Students are advised to undertake work in anthropology, economics, English, history, philosophy, political science, psychology, natural sciences, sociology, speech, and accounting. It is also recommended that students take one or two courses, chosen in consultation with the pre-law adviser, that will help them specifically to develop perspectives on the nature of law and the legal profession.

Students interested in law should register at the Pre-Law Center in the Department of Political Science. Information on the Law School Admission Test (LSAT), a circulating library of law school catalogs, a newsletter, and other resource materials are available. In addition, students should discuss their program with the pre-law adviser in the Department of Political Science.

THEOLOGICAL STUDIES

Pre-theological students should complete the requirements for the Bachelor of Arts degree. Besides the general degree requirements, the Association of Theological schools recommends the following:

English-literature, composition, speech, and related studies. At least six semesters.

History-ancient, modern European, and American. At least three semesters.

Philosophy-orientation in history, content, and methods. At least three semesters.

Natural Sciences-peferably physics, chemistry, and biology. At least two semesters.

Social Sciences-psychology, sociology, economics, political science, and education. At least six semesters, including at least one semester of psychology.

Foreign Languages-one or more of the following: Latin, Greek, Hebrew, German, French. Students who anticipate post-graduate studies are urged to undertake these disciplines as early as possible (at least four semesters).

Religion-a thorough knowledge of Biblical content together with an introduction to major religious traditions and theological problems in the context of the principal aspects of human culture as outlined above. At least three semesters. Students may well seek counsel from the seminary of their choice.

Of the possible majors, English, philosophy, religion, and the social sciences are regarded as the most desirable. Other areas are, however, accepted.

A faculty adviser will assist students in the selection of courses necessary to meet the requirements of the theological school of their choice. At the present time, increasing numbers of women are enrolling at selected Protestant seminaries in pursuit of the Master of Divinity degree. Consult the Religion Department chair for further information.

ARMY ROTC (MILITARY SCIENCE)

The objectives of the Army ROTC (Reserve Officer Training Corps) are to prepare academically and physically qualified college women and men for the rigor and challenge of serving as an officer in the United States Army—Active, National Guard, or Reserve. To that end, the program stresses service to country and community through an enhancement of leadership competencies which support and build on the concept of "service leadership."

Army ROTC is offered to PLU students on campus. The lower division courses are open to all students and do not require a military commitment for non-scholarship students. The upper division courses are open to qualified students. ROTC is traditionally a four-year program, but individuals with prior service, JROTC in high school, and summer basic camp attendees may complete the program in only two years. Normally, all students participate in one class day per week (two-three hours), three workshops (leadership labs) per semester, and one overnight field training exercise per semester. Physical fitness of all students is monitored.

Financial assistance in the form of two and three-year full tuition scholarships is available to qualified applicants. The scholarships pay tuition and fees and provide a book allowance as well as a monthly subsistence of $100. Students in upper division courses not on scholarship receive $100 subsistence allowance.

To be commissioned a student must complete the military science curriculum, including successful completion of a six-week advanced camp during the summer before the senior year.

Additional information on the Army ROTC program may be obtained by writing Army ROTC, Pacific Lutheran University, Tacoma, WA 98447, or by calling (206) 535-8740.

Faculty: Major Backus, Captain Berry.

The curriculum is designed to prepare students to become future leaders by developing their ability to demonstrate acceptable behavior in each of the following leadership dimensions: Initiative, Oral and Written Communications, Judgment, Decisiveness, Sensitivity, Technical Competence, Planning and Organizing, Administrative Control, Delegation, and Problem Analysis. Behavioral development occurs through course work in the areas of Professional Military Education, Military Knowledge, and Military Skills.

Professional Military Education courses are designed to develop the student's ability to communicate appropriately in writing, to understand the human aspects of command, and to become acquainted with the evolution of warfare and military theory with a particular emphasis on the place of military institutions in society.

Military Knowledge courses provide a foundation in such areas as leadership theory, ethics, roles and responsibilities of the officer, and military operations. Military skills are developed during the conduct of leadership workshops and field training exercises.

Leadership development occurs both in and out of the classroom by placing students in a variety of leadership positions. Oral presentations and writing requirements are incorporated in all classes as another means of developing desirable leadership behavior.

The Basic Course consists of two to three hours of academic instruction and military training per week each semester of the freshman and sophomore years. Students beginning the course as sophomores can compress the Basic Course by attending additional academic instruction. There is no military commitment for non-scholarship students in the Basic Course.

The Advanced Course consists of additional academic instruction and physical conditioning plus a six-week advanced summer camp at Fort Lewis, Washington.

Students are furnished with uniforms and necessary textbooks for Military Science courses.

Basic Course

MS 111, 112 *Introduction to Military Science*
An introduction to military science, roles of active and reserve units, and special programs associated with Army ROTC. Development of written and oral communication skills for the military leader. (2)

MS 211, 212 *Introduction to Leadership*
An introduction to leadership and military ethics and values. Through classroom simulations students are evaluated on their potential as leaders and managers. (2)

Advanced Course

MS 311, 312 *Leadership and Management*
A survey of leadership/management and motivational theories. An orientation on the competencies required of the small unit leader. Includes tactics, communications, and land navigation. (3)

MS 411, 412 *Professionalism and Ethics*
Covers Army values, ethics, and professionalism, responsibilities to subordinates, self, and country, law of land warfare, and the resolution of ethical/value dilemmas. Also covers logistic and justice systems and the interaction of special staff and command functions. (3)

NOTE: A maximum of 24 semester hours earned in ROTC programs may be applied toward a baccalaureate degree at PLU. Students receiving more than 12 semester hours of ROTC credit toward a PLU degree are required to take *one* of the following:

a) Philosophy 225 (Ethical Theory) 2 hours, and Military Ethics (Philosophy), 2 hours,
b) Religion 365 (Christian Moral Issues), 4 hours,
c) Integrated Studies 221 (The Experience of War), 4 hours, or
d) Integrated Studies 222 (The Prospects for Peace), 4 hours.

The Board of Regents

OWNERSHIP, SUPPORT, GOVERNMENT

The university is owned and operated by Pacific Lutheran University, Inc., a Washington corporation whose purpose is to maintain a Christian institution of higher learning.

With the formation of the Evangelical Lutheran Church in America (ELCA) on January 1, 1988, the PLU Corporation was reconstituted. The corporation meets annually on the PLU campus to elect regents and to conduct other business. The corporation consists of 37 regents and 125 delegates from the six synods of Region I of the Evangelical Lutheran Church in America. The Board of Regents includes eighteen representatives from the ELCA, nine regents-at-large, three regents representing the Alumni Association, six bishops from the synods of Region I, and the university president.

The policy-making and governing body of the university is the Board of Regents. On the basis of recommendations made by the president, it charts a course for the development of the total program of the university and strives to provide essential funds. The student body and the faculty have non-voting representatives who meet with the board.

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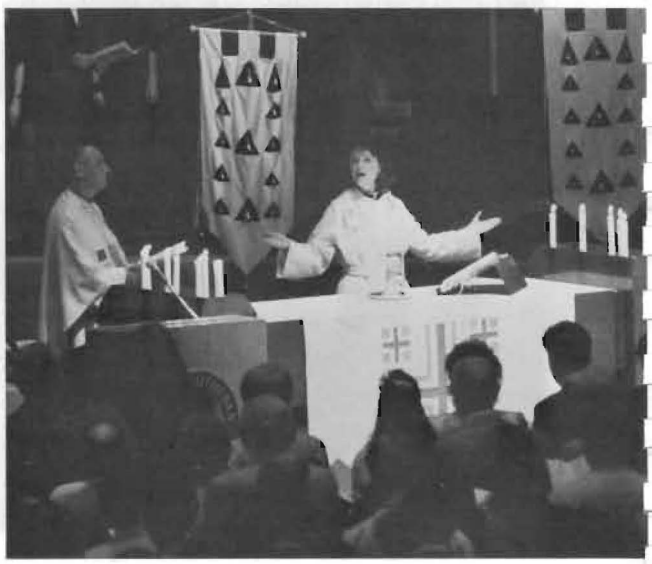

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DANIEL W. ERLANDER, *1986-, Campus Pastor;* B.A., Pacific Lutheran University, 1962; M.Div., Lutheran School of Theology at Chicago, 1966.

MARTIN D. WELLS, *1986-, Campus Pastor;* B.S.B.A., University of Denver, 1971; J.D., University of Puget Sound School of Law, 1976; M.Div., Pacific Lutheran Theological Seminary, 1981.

FACULTY ASSOCIATES

FAYE M. ANDERSON, *1981-, Director of the Center for Human Organization in Changing Environments and of the Family and Children's Center;* B.A., University of California, Los Angeles, 1961.

ALENE L. COGLIZER, *1978-, Associate Director, Counseling and Testing Services;* B.S.N., M.A., in Ed., Pacific Lutheran University, 1975, 1978; Ed.D., Seattle University, 1987.

CRISTINA DEL ROSARIO, *1978-, Director of Minority, International, Commuter, and Adult Student Programs;* B.A., M.A., Pacific Lutheran University, 1975, 1986.

LUCILLE GIROUX, *1960-, President's Executive Associate;* B.A., Jamestown College, 1947.

LAURALEE HAGEN, *1978-, Director, Residential Life;* B.A.E., M.A. in Ed., Pacific Lutheran University, 1975, 1978.

CYNTHIA MAHONEY, *1981-, Continuing Nursing Education Coordinator;* B.S.N., Simmons College, 1958; M.Ed., Ed.D., Seattle University, 1973, 1985.

MARTIN J. NEEB, *1981-, Executive Director of University Communications, General Manager, KPLU-FM;* B.A., M.Div., Concordia Seminary, St. Louis, 1955, 1958; M.A., St. Louis University, 1959; Ph.D., Northwestern University, 1967.

NAN NOKLEBERG, *1969-, Director of Graduate Programs and Fifth Year Adviser; Assistant to the Dean, School of Education;* B.A., M.A., Pacific Lutheran University, 1953, 1977; School Administration, University of Washington, 1957.

LAURA J. POLCYN, *1975-, Assistant Dean and Director, M.B.A. Program, School of Business Administration;* B.B.A., M.B.A., Pacific Lutheran University, 1974, 1979; Ed.D., Seattle University, 1986.

PATRICIA E. ROUNDY, *1986-, Director, AURA Program;* B.A., Bucknell University, 1972; M.A., Ph.D., University of Pittsburgh, 1974, 1979.

WANDA M. WENTWORTH, *1980-, Director, Academic Assistance Programs;* B.A., University Minnesota, 1973; M.A., Pacific Lutheran University, 1979.

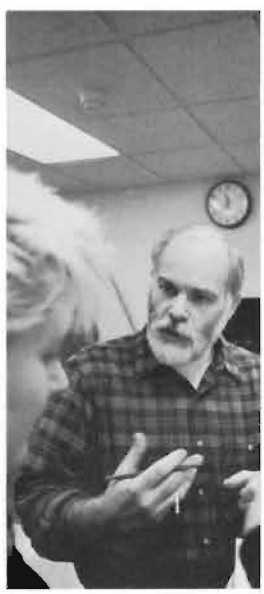
FACULTY EMERITI

Elvin Martin Akre, *1937-1970, History*
Miriam Ruth Beckman, *1964-1973, Reference Librarian*
W. Harold Bexton, *1965-1976, Psychology*
Grace Blomquist, *1939-1976, English*
Roy E. Carlson, *1962-1983, Physical Education*
Irene O. Creso, *1955-1971, Biology*
J. E. Danielson, *1960-1969, Director of Admissions*
Emmet E. Eklund, *1964-1982, Religion*
Gordon O. Gilbertson, *1954-1984, Music*
Perry B. Hendricks, Jr., *1973-1987, Vice President for Finance and Operations*
Lucille M. Johnson, *1953-1989, English*
Richard P. Jungkuntz, *1970-1989, Religion; Provost*
Gunnar Johannes Malmin, *1937-1969, Music, Latin, and Norwegian*
Katharine Monroe, *1967-1975, French*
Robert A. L. Mortvedt, *1962-1969, President*
Alice J. Napjus, *1963-1975, Education*
Milton L. Nesvig, *1947-1980, Vice President*
Robert C. Olsen, *1947-1973, Chemistry*
Clifford O. Olson, *1929-1948, Physical Education*
Burton T. Ostenson, *1947-1977, Earth Sciences*
Arne K. Pederson, *1956-1989, Education*
Kelmer Nelson Roe, *1947-1967, Religion and Greek*
George Roskos, *1950-1989, Art*
Lynn S. Stein, *1961-1981, Education*
Doris G. Stucke, *1967-1983, Nursing*
Paul G. Vigness, *1956-1965, Religion and History*
Lenora B. Weirick, *1973-1980, 1982-1987, Nursing*
Margaret Wickstrom, *1951-1978, Religion, Director, Foreign Students and Special Programs*
Rhoda Hokenstad Young, *1939-1968, Physical Education*

FACULTY STANDING COMMITTEES AND OTHER UNIVERSITY COMMISSIONS AND BOARDS

The president is an advisory member of all committees.

Artist Series: 3 faculty, 3 advisory members.
Athletic: 3 faculty, 3 advisory members.
Campus Ministry: 3 faculty, 2 advisory, 1 student advisory member.
Committee on Admission and Retention of Students: 4 faculty, 5 advisory members.
Committee on Committees: 3 faculty members.
Committee on Student Standards: 3 faculty, 1 advisory members.
Computer Committee: 4 faculty, 3 advisory, 2 student advisory members.
Educational Policies: 8 faculty, 1 advisory, 2 student advisory members.
Faculty Affairs: 6 faculty, 4 advisory, 3 faculty representatives to Board of Regents.
Interim: 6 faculty, 2 students, Interim Director (non-voting) members.
Judiciary: 3 faculty members.
Lecture and Convocation: 3 faculty, 3 students, 3 advisory members.
Publications: 3 faculty, 3 advisory members.
Rank and Tenure: 7 faculty (4 tenured, 3 non-tenured), 1 advisory, 2 student advisory members.
Student Activities and Welfare: 3 faculty, 3 students, 3 ex-officio members.
University Committee on Admission and Retention of Students: 4 faculty, 3 students, 5 advisory members.
University Campus Ministry Council: 3 faculty, 6 students, 2 administrators.
University Student Publications: 3 faculty, 4 students, 6 advisory members.
University Center Board: University Center Director, 4 students, 2 faculty, 1 advisory members.



PART-TIME LECTURERS 1988-89

DIVISION OF HUMANITIES

English
- Susan Donaldson
- Richard Frye
- Connie Hale
- Nancy Leigh
- Susan Sailer

Languages
- Katherine Hanson
- Josee Jackman
- Elsie Luettgen
- Barbara Sharon

Philosophy
- David Haugen

Religion
- Susan Briehl
- James Burtness
- Pierce Johnson
- Jack Olive
- Phillip Verhalen

DIVISION OF NATURAL SCIENCES

Mathematics & Computer Science
- John Blakeslee
- Ezra Dale Coons
- Roger Dobratz
- Ingrid Gintz
- Michael Imbruglio
- John Turner

DIVISION OF SOCIAL SCIENCES

History
- Robert Ericksen
- William Krieger

Political Science
- J. Arnold Bricker
- Donna Langston
- Michael Quatsoe

Psychology
- Douglas Henning
- Peggy Sargeant
- Julie Sisco

Social Work
- Nancy Carlson
- Gary Hiam
- Ted Johnstone
- Ronald Lewis
- Patrick Sheehy
- Robert Vincent

Sociology
- Kenneth Sylvester
- Ron Vignec

SCHOOL OF THE ARTS

Art
- Greg Bell
- Garrett Boge
- Cheryl DeGroot
- Becky Frehse
- Kathy Gore-Fuss
- Mark Gulsrud
- Agnes McLin

Communication Arts
- Wanda Adams
- Jody Brannon
- Sara Crickenberger
- Robert Dean
- Kirk Isakson
- Sheila Nolan
- Margaret Witham

Music
- Betty Agent
- Felicia Dobbs-Schwindt
- Zart Dombourian-Eby
- Terry Ewell
- Hilary Field
- Timothy Fink
- Motter Forman
- Daniel Gailey
- Brunetta Mazzolini Graham
- Kathryn Habedank
- Jane Harty
- Robert Holden
- Martin Kauble
- Sandra Knapp
- D. Patrick Michel
- Jane Moore
- Kay Nichols
- Doug Nierman
- Corinne Odegard
- Lisa Parce
- Gregory Peterson
- Normand Poulshock
- Karie Prescott
- Richard Pressley
- Bernard Shapiro
- Dorothy Shapiro
- Marjorie Talvi
- Rae Terpenning
- Wayne Timmerman
- Stephen Wall
- Stanely Williams

SCHOOL OF BUSINESS ADMINISTRATION
- Garth Blanchard
- Sue Cook
- William Crooks
- Jack Daniel
- Michael Gocke
- Clayton MacIntosh
- Edryce Reynolds
- Robert Sebastian
- David Shaw

SCHOOL OF EDUCATION
- Joanne Amberg
- Candyce Anderson
- Lois Bekemeier
- JoAnn Brauen
- Jeff Burns
- Karen Burns
- W. Lawrence Carney
- Lynn Hancock
- Virginia Haugen
- LeRoy Johnson
- Mary Kralik
- Ann Leighty
- Nancy McIlraith
- Brian Neufeld
- Bruce Nichols
- Ruthann Reim
- Carol Otterson
- Kaye Owens
- Leska Wetterauer
- Lynn Wharton

SCHOOL OF PHYSICAL EDUCATION
- Sei Adachi
- Margarete Freitag
- Doug Gardner
- Stacia Marshall
- Craig McCord
- Gary Nicholson
- David Nicol
- Jerry Poppen
- Mike Rice
- Donald Ryan
- Marvin Swenson
- Janice Teodoro
- Jan Walcott
- Ralph Weekly
- Jerry Weible
- Scott Westering
- Susan Westering

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Application Form

Uniform Undergraduate Application for Admission to Four-Year Colleges and Universities in the State of Washington

(Please remit $35.00 non-refundable application fee with application).

PACIFIC LUTHERAN UNIVERSITY

Section I PLEASE TYPE OR PRINT

☐ **Beginning Freshman** ☐ **Transfer** PLEASE ATTACH THE APPROPRIATE APPLICATION FEE.

1a. Application to Pacific Lutheran University, Tacoma, Washington 98447

1b. For admission to (check one term) ☐ Fall ☐ Spring ☐ January Interim 19____ ☐ Winter ☐ Summer ☐ Summer only Year

2a. Have you ever applied for admission to the institution to which you are now applying? ☐ No ☐ Yes Year_____ term_____

2b. Have you previously attended this institution? ☐ No ☐ Yes Year_____ ☐ Days ☐ Evenings ☐ Extension ☐ Correspondence

3. Name as you wish it to appear on your record ☐ Male ☐ Female Last First Middle

4. Former Name (if previous academic records under another name)

5. Social Security Number / /

6a. **Mailing Address (until)** mo yr Number and Street City County State Zip

6b. Phone (include area code) ( )

7a. Permanent Address if different Number and Street City County State Zip

7b. Phone (include area code) ( )

8. Birthdate Birthplace

9. Washington Resident? ☐ Yes ☐ No **Length of latest period lived in Washington (must be answered)** From ___/___ to ___/___ mo. yr. mo. yr.

10a. Country of Citizenship

10b. Type of visa or classification

11a. Are you a military veteran? ☐ Yes ☐ No

11b. Months of Active Duty?

11c. Separation Date

11d. Are you the child of a deceased veteran? ☐ Yes ☐ No

12. Religious preference (optional)

13. (Optional) Do you have a physical or learning disability? ☐ Yes ☐ No If yes, please describe._____

This information is being requested solely for the purpose of offering appropriate accommodations to disabled students, in accordance with the provisions of Section 504 of the Rehabilitation Act of 1973. Your response is voluntary and will be kept confidential. Failure to provide the information will not subject you to any adverse treatment.

14. Ethnic origin (optional) ☐ American Indian or Alaskan Native ☐ Asian or Pacific Islander ☐ Black Non-Hispanic ☐ Hispanic ☐ White Non-Hispanic ☐ Other_____

15a. High School attending or last attended

15b. Location of high school City State Date of graduation

15c. If you do not intend to graduate from high school, indicate highest grade completed and last year attended Grade_____ Year_____ G.E.D. test taken?_____ When?_____

16. **List all colleges/universities in order of attendance (no exceptions). If still enrolled in a college, indicate leaving date:** (mo.)_____ (yr.)_____

	Institution	City	State	Dates attended	Degree or diplomas completed or expected
1.				From ___/___ (mo. yr.) to ___/___ (mo. yr.)	
2.				From ___/___ (mo. yr.) to ___/___ (mo. yr.)	
3.				From ___/___ (mo. yr.) to ___/___ (mo. yr.)	
4.				From ___/___ (mo. yr.) to ___/___ (mo. yr.)	

17. Indicate your educational objective at the college to which you are applying ☐ First Bachelor's degree ☐ Second Bachelor's degree ☐ Courses for personal enrichment ☐ Certification ☐ Other (specify)_____

18a. Intended major area of study

18b. If undecided, what subject area or career interests you?

19a. Name of father or legal guardian Living? ☐ Yes ☐ No

20a. Name of mother or legal guardian Living? ☐ Yes ☐ No

19b. Address (Number and Street) (City) (State) (Zip)

20b. Address if different from father's

19c. Telephone number ( )

20c. Telephone number ( )

19d. Colleges attended by father Degrees

20d. Colleges attended by mother Degrees

(over)

21a. **APPLICANTS MUST COMPLETE:** if enrolled in high school, list all courses completed or to be completed during your senior year. Indicate number of years completed or to be completed.

	Total Years Completed	Additional Years To Be Completed	(Please indicate total number of years to be completed in each subject through grade 12.)
English			Comp/Lit_____ Other_____
Math			Alg 1_____ Geom_____ Alg 2/Trig_____
Science			Bio_____ Chem_____ Physics_____
Social Science			_____
Foreign Language			Span_____ Fr_____ Ger_____ Other_____
Fine and Performing Arts			_____

21b. If enrolled in high school or college, list all courses to be completed during the current academic year.

22. List your significant school and community activities and awards **(attach additional page if needed).**

23. Describe any special circumstances which you believe should be considered in connection with this application **(attach additional page if needed).**

24. Do you plan to apply for college residence hall accommodations?
☐ Yes ☐ No
If you plan to apply for college residence hall accommodations, you must contact the Housing Office of the specified college or university.

25. Do you plan to apply for financial aid from this institution?
☐ Yes ☐ No
If you plan to apply for financial aid from this institution, you must contact the Financial Aid Office of the specified college or university.

26. I understand failure to submit complete official transcripts from all schools, colleges, or universities attended may result in the denial of this application or my subsequent dismissal from this institution. I certify that to the best of my knowledge, all statements I have made in this application are complete and true. Permission is hereby given to release appropriate test score and academic records requested by said university or college.

NAME OF APPLICANT (print) _____ SIGNATURE OF APPLICANT _____ DATE _____

BEGINNING FRESHMEN MUST complete Section I and leave this application with your high school counselor or principal, who will complete Section II and forward it to the Office of Admissions of the institution you have named.
TRANSFER APPLICANTS NEED NOT complete Section II but should forward the application to the appropriate Office of Admissions and have the registrar of each college or university previously attended send an official transcript to the Office of Admissions. Some Washington colleges and universities require transfer applicants to submit a high school transcript and test scores. Check the admissions information section of undergraduate catalogs for this requirement.

Section II

(Beginning freshman only)
To be completed by high school official

Please complete the following, enclose an official transcript and forward to the institution to which the candidate is applying. Washington high schools may substitute the Washington Pre-College Test Guidance Report if the student has not completed the first term of grade 12. In case the applicant will need special consideration, a transcript should be included with the WPCT Guidance Report.

This will certify that the student named above ☐ was ☐ will be graduated_____ (month / year) ☐ or was not graduated

He/she has a grade point average of_____ and ranks_____ in a class of_____ Class average_____

Class rank and grade-point average above are based on grades earned through the_____th semester/trimester.

College Admission Testing Data **(Report standard scores only. Do not list percentiles.)**

1. WPCT Date taken_____ VC_____ QC_____ V_____ M_____
2. SAT Date taken_____ V_____ M_____ TSWE_____
3. ACT Date taken_____ Engl._____ Math_____ Soc. St._____ Nat. Sc._____ Comp._____
4. PSAT-NMSQT Date taken_____ V_____ M_____ Selection Index_____

Comments: This space may be used to list special circumstances that may be of assistance to admission officers in considering the student **(attach additional page if needed).**

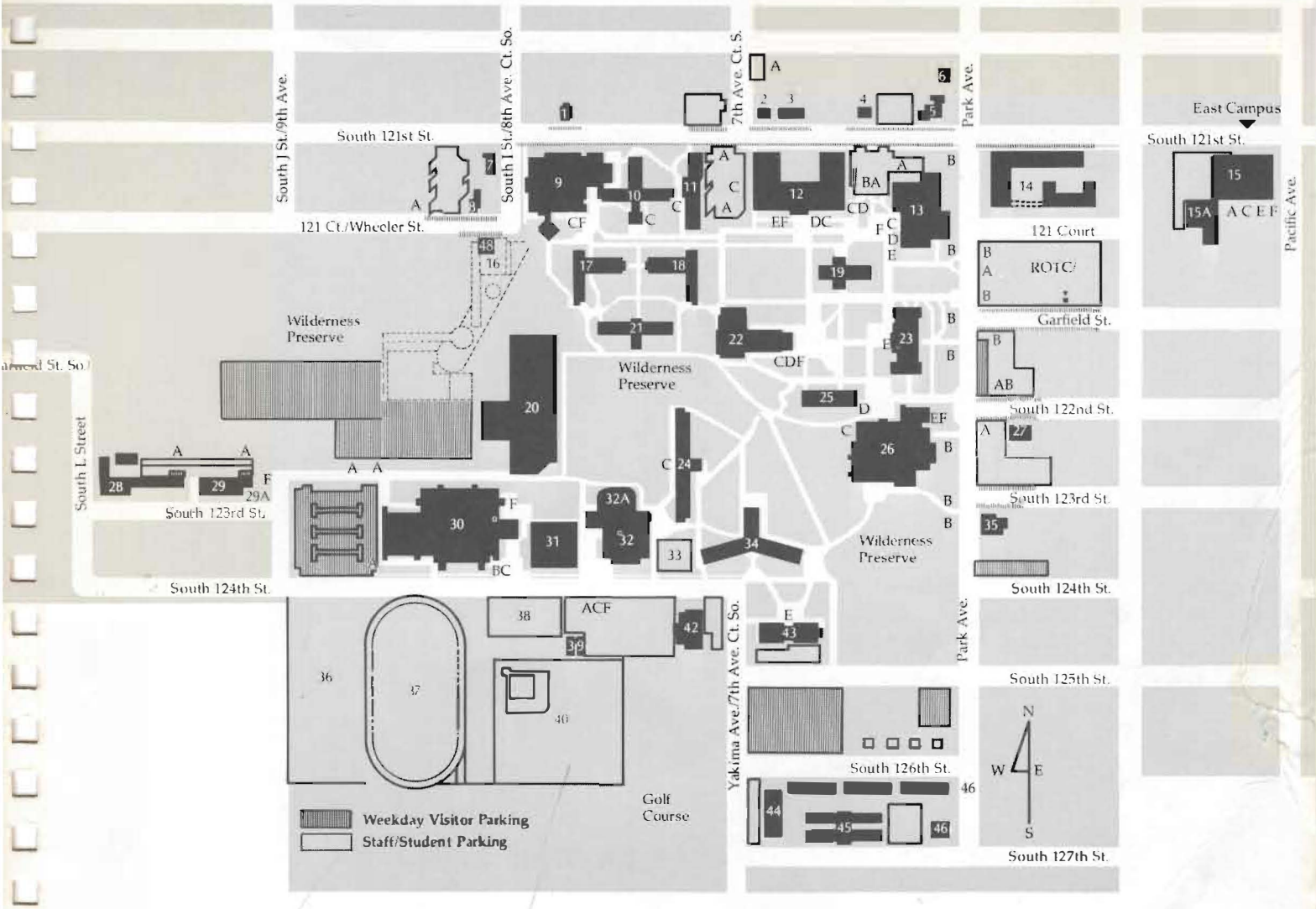
Name of high school _____ Signature of high school official _____ Date _____

Address of high school _____ Title _____

ETS/ACT School Code Number _____ WPC School Code Number _____ High school telephone ( ) _____

"Washington four-year colleges and universities subscribe to the principles and laws of the state of Washington and the federal government, including applicable executive orders pertaining to civil rights. These institutions are committed to the policy that all persons shall have equal access to programs and facilities without regard to age, color, creed, marital status, national or ethnic origin, physical handicap, race, religion, or sex."

Publications Rev 6-88



Campus Parking

Regular visitor parking is indicated on the map. Reserved parking slots may be used by visitors during non-working hours (5 p.m.-7 a.m.), and on weekends (some 24 hr. exceptions are indicated by signs). If you plan an extended visit, you may obtain a temporary permit from Campus Safety (Harstad Hall).

Disabled Access

A — Parking
B — Curb cuts
C — Ramps
D — Automatic doors
E — Elevators
F — Accessible restrooms

CAMPUS LOCATIONS

Administration Building 12
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General Services Building 29
Golf Course
Haavik House 7
Harstad Hall 23
Hauge Administration Bldg. 12
Health Center 5
Hinderlie Hall 21
Hong Hall 18
Ingram Hall 9
Knorr House 4
KPLU-FM 22
Kreidler Hall 17
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Office of Admissions
PACIFIC
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Tacoma, WA 98447-0003
(206) 535-7151

Catalog of Pacific Lutheran University • Tacoma, WA

1989-90